

Dedicated to the people and projects of AVRO Canada & Orenda Engines Limited



The people in the aircraft from Avro and Orenda

The Pilots (at Avro):

Aircraft (other)

CF-105 Arrow

Collectibles

Downloads

Events

Links

Other Projects

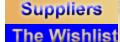
People

Places

Site Info

Peter Cope: joined A.V. Roe Canada in May 1951, flew as test pilot on 200 CF-100's and made five flights on the CF-105 Arrow. Peter left Avro on 6 July 1961 to join Boeing to work on the 747.

Chris Pike: Starting at A.V. Roe Canada in 1952 as a production test pilot, Chris flew nearly all of the CF-100's built!



Janusz Zurakowski: test pilot of the CF-100 & CF-105 - a native of Poland, Jan or "Zura" as he was known, joined Avro Canada on 22 April 1952 a day after he moved to Canada. He became chief experimental pilot and led the flight testing of the CF-100 and later the CF-105. Zura became the first person to break the speed barrier in a straight wing aircraft in a CF-100 (in a dive)! During World War II Zura flew with the RAF - he was credited with six kills of enemy aircraft as a Spitfire pilot in the Battle of Britian - Jan left us 9 February 2004 —

At 6:00pm, Monday February 9th 2004, Janusz Zurakowski - Jan or Zura as many knew him passed away at his home in Barry's Bay, Ontario with his wife, and two sons at his side

the funeral was held Thursday Feb 12 at St. Hedwig's Church in Barrys Bay.

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Born 12 September 1914 in Ryzawka, Russia (near what is today the Ukraine), Zura fled with his parents to Poland, in 1921, after the Russian Revolution, he became a fighter pilot in Poland, and fought with the Polish Air Force when the Nazis attacked Poland. He ended up in England flying with the RAF throughout the war, he was credited with six kills of enemy aircraft as a Spitfire pilot in the Battle of Britain, for which he was decorated. After the war, he was a test pilot in Britain at Gloster working under Bill Waterton, the Canadian who was the first test pilot of the Avro CF-100 Canuck. By this time he was also an accomplished air show performer having created the first new maneuver in 20 years.



Jan Zurakowski joined Avro Canada on 22 April 1952 a day after he moved to Canada. He became chief experimental pilot and led the flight testing of the CF-100 and later the CF-105. Zura became the first person to break the speed barrier in a straight wing aircraft, without rocket power, in a CF-100 (in a dive)!



As the chief test pilot of the Avro CF-105 Arrow and took it for its maiden flight on 25 March 1958. He retired from flying in 1959 and built a thriving resort business in Barry's Bay Ontario.

Awarded the McKee Trophy in 1958, appointed to the Canadian Aviation Hall of Fame in 1973, and many other honours including last year the Zurakowski Park in Barry's Bay dedicated to Janusz Zurakowski - through all the awards and fame he remained a very quiet, unassuming gentleman.

I had the honour to meet and talk with Zura at an Avro event and for that I am thankful please take a minute or two to remember a man who helped make Canada a leader in aviation and who was always willing to take a minute to chat - I am sure his wife and family will appreciate it.



At his funeral the one thing that was said time and time again from those who knew him best was the accomplishments which he was most proud of was not his flying career, it was his family - his wife, sons and grandchildren, I have been lucky enough to be able to meet most of his family, and I can tell you first hand that they all take after him, they are as friendly and humble as Janusz, he was right to be proud of his real legacy!



I have asked Bryan Knight a former co-worker of Janusz to share some memories of Janusz with us:

Jan, of course, was the more colourful of the two (Mike Cooper-Slipper being the other), although I had less to do with him at West Raynham or Malton than with Mike. In 1947 -48, he was working over at DFLS, training Allied squadron and flight commanders in day fighter battle tactics.

From all accounts, rendered by my late, good friend Lt.Col. Dick Weller of the USAAC, (See the <u>xbrat47</u> articles for more info), he was a great pilot and instructor. The one "big story" I recall from those

days relates to an incident with a rather special Meteor ... Jan had sent several students in their Griffon-engined Spitfires, on a "train strafing"

mission to shoot up trains entering and leaving the Grantham railway tunnel. Right after they took off, he came over to our Test Flight hangar and "borrowed" Meteor EE348 ... I think that was its' number ... a

strange craft - it had extra length wings, and a funny chisel-shaped nose - looked sort of like a Tiger Moth without the prop. He took off, and set off in pursuit of the departing Spits ... his intent apparently to intercept the students and scare the living daylights out of them. He arrived over the tunnel area in time to see a couple of them doing a standard ground attack run on a train. Immediately he dove the Meteor at the two Spits, misjudged his approach speed, and overshot in his attack. Pulling

the Meteor up in a "high-G" barrel roll climb, prepatory When he figured it was time to repeat his dive attack, he found that the Meteor would not respond but kept climbing and rolling. Eventually it ran out of steam, turned nose down and headed for Mother Earth. Speed kept building up and one wing to another attack, he heard a loud bang behind him, but continued the rolling climb. peeled off at the engine junction as I recall the second wing soon followed! This being one of the earlier Meteors with the MB ejection system, he jettisoned the canopy and bailed out ... and made it ... the first pilot to

bail out of a Meteor and live! The reason? The bang he'd heard when he pulled out of his first attack, was the fuselage breaking in two right behind the wing trailing edge, hence no high T-tail to impale him!

Mike Cooper Slipper, DFC: born 11 Jan 1921 started at A.V. Roe Canada in 1947, filing jet blades for the Chinook at \$2.50 an hour. Flew as test pilot on the CF-100 and Lancaster test bed for Orenda engines, test pilot on B-47 with Iroquois

- Mike left us 23 February 2004 –



THOMAS PAUL MICHAEL COOPER-SLIPPER D.F.C. Passed away peacefully at Royal Jubilee Hospital in Victoria, B.C. in the early hours of Monday, February 23, 2004. With him and comforting him at his bedside were his beloved wife Rita and his adoring grand daughter Jessica and her companion Justin. Thomas Paul Michael (Mike) Cooper-Slipper was born in the West Midlands village of Kinver, Staffordshire, the first of three children to Thomas and Catherine on January 11, 1921. Following completion of Grammar School, Mike pursued his passion for flight and joined the Royal Air Force in 1938. Until his release from the R.A.F. in 1946 with the rank of Squadron Leader, Mike served in three theatres of combat. The United Kingdom, Singapore and North Africa and distinguished himself as a fighter pilot, an instructor pilot and a test pilot. In 1940, a young Mike was awarded the Distinguished Flying Cross for valor during the Battle of Britain. At just 19 years of age he was one of the youngest ever of Winston Churchill's 'Famous Few' to be awarded the D.F.C. In 1947, Mike immigrated to Canada and joined AVRO Canada at Malton, Ontario as an engine fitter. Not long after, Mike became the first post war test pilot hired by AVRO's fledgling Flight Test Department. Mike was assigned flight test duties on the Lancaster Jet

Engine test bed, the CF-102 AVRO Jetliner, the AVRO CF-100 all weather fighter and the Orenda powered Canadair F-86 Sabre. During this period Mike developed an expertise in aircraft engine development and when AVRO's Gas Turbine Division was spun off to form Orenda Engines, Mike became Orenda's Chief Test and Development Pilot in 1955. During production and development of the CF-105 AVRO Arrow. Mike's role was to flight test the Orenda Iroquois engine designed for eventual use in the Arrow. He did this along with his crew in a specially modified B-47 on loan to the R.C.A.F. and AVRO from the U.S. Air Force. Since the Arrow program was cancelled before the Iroquois could be fitted in the 6th production Arrow, Mike had the distinction of being the only test pilot to test the Iroquois engine in flight. Following the Arrow cancellation in 1959, Mike embarked on another career in aviation, this time in Aircraft Sales. Through 1972, Mike worked for a number of firms specializing in aircraft sales and technical marketing including de Havilland and Field Aviation. In 1972 Mike joined the Ontario Ministry of Industry and Trade as an International Industrial Development Officer. He remained in the Civil Service until his retirement in 1986 and traveled extensively promoting Ontario's aviation manufacturing capabilities and was instrumental in creating the Ontario Aviation Consortium. Mike and Rita then retired to Victoria, B.C. where he spent 18 wonderful years pursuing his passionate love of cameras and photography, his interest in aviation history and 'tinkering' with his prized vintage Alfa Romeo. In 2003, in recognition of a life's contribution to aviation, Mike was inducted into Canada's Aviation Hall of Fame at a ceremony in Halifax, N.S. commemorating the Centenary of Powered Flight. Mike is survived by his beloved wife Rita of 63 years of Victoria, his devoted and proud son Chris and daughter in law Pat of Toronto, his only and cherished grand daughter Jessica of Toronto, his sister Mary of Wales and countless friends and admirers around the world. A service in commemoration of Mike's life will be held on Tuesday, March 2, 2004 at 2 p.m. at First Memorial Chapel, 4725 Falaise Dr., Victoria, B.C. The family wishes to express their sincere gratitude to Dr. Walter Chow. The Reverend John Macquarrie and the very caring staff of 2 West, Royal Jubilee Hospital, Victoria. If so desired, a memorial tribute in Mike Cooper-Slipper's name may be made to The British Columbia Aviation Museum





I have asked Bryan Knight a former co-worker of Mikes to share some memories with

At CFE I spent a fair amount of time during work with Mike. He was our regular hack test pilot, and I flew quite a lot of the engine and ancillary system test flights with him during some of our routine development programmes ... mostly on Mosquitos ... he and I both survived a crash or two. Mike had a thing about never flying on Saturdays He much preferred to be heading for London and the bright lights I guess. So, if scheduled for a Saturday test, he would always arrive early, get in whatever the plane happened to be, and then decline to fly on the grounds that the engine(s) had excessive mag drop on run-up. (He later told me that he would momentarily blip the second mag switch while testing the "first").

Later, at Avro Canada, I found myself doing the CF-100 weight and balance test set-ups for Mike when we were both on the production night shift ... and under the 'old pals league' rules made quite a few unofficial flights with him in the other seat.

Mike Cooper-Slipper, DFC. 1921-2004

The Modest Hero by Don Kerley

On 23 February, Mike Cooper-Slipper passed way at Royal Jubilee Hospital. He is survived by his wife, Rita, son, Chris, and granddaughter Jessica.

Mike joined the RAF in 1938 at the tender age 17 1/2 years and trained as a fighter pilot on Hurricanes and Spitfires. He was the youngest pilot in their Squadron. Most of the other pilots had belonged to peacetime reserve units and were several years his senior. In May 1940, they had their baptism of fire in the Battle of France when RAF fighters went up against the more experienced Luftwaffe pilots, veterans of the Spanish civil war. The British Army was being pushed back to beaches near Dunkirk and France was dying. Mike's Squadron was engaged in deadly combat on every mission and suffered heavy casualties. After about a week of heavy fighting the Squadron was withdrawn and sent to Drem, near Edinburgh, to reform and train replacements.

Air Chief Marshal Sir Hugh Dowding knew the Battle of France was a lost cause and wanted to save his pilots and their machines for the coming Battle of Britain. Mike's Squadron lost half of their pilots and most of their Hurricanes were badly shot up. Mike's Hurricane had 75 bullet holes in it as he flew north to Scotland. Mike survived these battles and had several narrow escapes but he had destroyed a Heinkle 111, a Junkers 87 and a Junkers 88. On the way to Scotland they spent a night a Shawbury, Shropshire, and they got a kick out of showing their battle damage to the student airmen there. That summer of 1940 seemed so unreal to Mike. People in the rest of the

United Kingdom were carrying on the their usual peaceful pursuits while, in that little area of the South Coast and parts of France and Belgium, thousands were dying in desperate battles. Churchill warned the British people and the world "The Battle of France is over. The Battle of Britain in about to begin. On this battle depends the survival of Christian civilization. The whole fury and might of the enemy must very soon be turned upon us. Hitler knows he must break us in this island or lose the war. Let us therefore brace ourselves to our duties, and so bear ourselves that if the British Empire and its Commonwealth last for a thousand years, men will say, "This was their finest hour"

In September 1940 the 605 Squadron moved from Drem to Croydon, south of London, and Mike, still a teenager became one of "the few" taking part in this epic struggle. He acquitted himself very well bringing down two Me 109s, three Do 17s, as well a sharing in the destruction of several others. There were two or three incidents during this time that is worthy of mention. The first one s a visit to the Squadron, at Croydon, by Winston Churchill, during the height of the battle. Churchill spotted this young, handsome, pilot and made a point of talking to him Mike took advantage of the occasion and got the 'great man' to sign his log book.

The second incident saw Mike chasing an enemy bomber racing for the Channel. In an attempt to increase its speed the bomber jettisoned its bomb load on the houses and fields in the local area. A few days later Mike attended a social event where he overheard an beautiful young lady telling friends about being nearly killed by bombs dropped from a bomber being chased by a Hurricane. Mike introduced himself as the pilot of the Hurricane. The girl was Rita, who later became Mike's wife.

The third event happened on September 15 when Mike's Hurricane became embedded in the tail of a Dornier 17. Was this the action of a rash young pilot, out of ammunition, but determined to bring down the enemy, or was it an accident of overtaking the target at too high a speed and getting tossed about in the bomber's slipstream? Take your pick! Mike parachuted to safety, landing in the Thames estuary. In November he was awarded the DFC. On September 15, celebrated ever since as Battle of Britain Day, the RAF and the Luftwaffe fought one of the war's decisive battles. In a daylight attack some two hundred bombers crossed the Channel escorted by a larger number of fighters. The RAF was ready and intercepted them before they reached London, shooting down many of them and dispersing the rest. In the afternoon the Luftwaffe returned in even greater strength and was again routed. In the evening RAF Bomber Command raided the enemy invasion fleet in the Channel ports inflicting heavy damage. Two days later, Hitler postponed the invasion of Britain and the Luftwaffe switched to night bombing raids.

In the next few months, Mike took an instructor's course and became a Flight Commander at the Naval Flying School. In July 1941 he was posted to 96 Night Fighter Squadron flying Defiants. In October 1941 he became Commanding Officer of 135 Squadron, a Hurricane Squadron, especially modified for operations from cold airfields in Russia. When Japan entered the war in December, his ship, loaded with the winterized Hurricanes, was diverted to Singapore. By the time they reached Singapore the area was under attack by the Japanese. When Singapore fell Mike took his airmen and most of the pilots to the dock area where the caught a boat to Sumatra. While there he managed to make two Hurricane sorties. In one of them he downed three bombers. The three were in formation and Mike fired at the middle one, which exploded taking down the other two as well. The next several months were the most arduous and most dangerous period of Mike's life.

Japanese paratroopers captured their airfield and Mike was taken prisoner. As darkness fell Mike escaped down the road to Palembang where he crossed the river

and joined a group of about twenty men and four nurses trying to reach the coast through the jungle. It was a terrible ordeal and only four of them made it to the coast where a freighter took them to Batavia (now Jakarta) in Java. A bomb exploded next to Mike's slit trench producing a concussion, which resulted in him being put on a hospital ship bound for Colombo. It wasn't really a ship, it was a Chinese river boat but the Japanese Navy gave it safe passage. He eventually arrived in India where he was treated for a fractured skull and malaria at a hospital in Poona. His weight was down to 100 pounds and he was the only one of his Squadron to reach India. After three months he was transferred to a convalescent hospital in Pietermaritzburg, South Africa, where, under skilled care, he gradually recovered.

While in a transit camp in Cairo, Mike met an old acquaintance who asked him to help solve a problem. He wanted to stop a high-flying Junkers 86 from taking photographs from an altitude of 40,000 feet. The Engineering Department reduced the weight of a Spitfire IX and geared up the blower on the supercharger, which permitted Mike to fire on the intruder at 43,200 feet. The continuous high altitude flight caused Mike's health to break down again and he was restricted to flying no higher than 10,000 feet. In November 1944, after a absence of three years, Mike returned to England and to Rita, his young bride. He worked as a test pilot until he resigned from the RAF in 1946.

After he immigrated to Canada he began another distinguished career in aviation. He worked as a test pilot for Avro Canada and in June 1955 he became Chief Test Pilot for Orenda Engines Ltd. There he was involved in the development of engines for the CF 100 and the F86 Sabre, and on the Iroquois engine designed for use in the Avro Arrow. After the Arrow project was cancelled he worked for De Havilland for five years and for Field Aviation for five years. He also worked for the Government of Ontario prior to retiring to BC in 1986

In retirement Mike enjoyed a well-earned respite from an active life, filled with excitement, danger, and adventure. He and Rita adapted quickly to the laid-back atmosphere of Victoria and Mike continued his passion for photography, and watching auto-racing on the TV and tinkering with his vintage Alfa-Romeo. He was warmly welcomed as a member of the Vancouver Island Branch of the Aircrew Association and the members of this group are very proud to have such a fine gentleman as one of them. For us he was our one solid link to that moment of history when Britain and the Commonwealth had their Finest Hour.

The AvroLand.ca website has been long overdue for some major updates and we are currently working on getting them online to share more of the Avro story with everyone - there will be a number of stories posted about Mike's adventures at Avro as well as the release of a number of paintings and posters from Canadian aviation artist Graham Wragg - if you would like to be updated as to new additions to the site and special offers please email

Don Rogers: joined National Steel Car as a test pilot, stayed on during Victory Aircraft then becoming A.V. Roe Canada's chief test pilot in 1946 - flew as test pilot in C-102, CF-100 and Lancaster test bed for Orenda engines - became manager of flight operations during the Arrow program

It is with great sadness that we inform you of another loss to the Avro Family:

Donald Howard Rogers born in Hamilton 26 November 1916 passed away at his home 16 July 2006. He has now passed on to the airfield in the stars.

Don started his flying career on Tiger Moths at the Hamilton Aero Club - he earned his licence in 1936. A little known fact is his wife June had actually gone for a flight in an aircraft before Don!

He was a flying instructor at Mount Hope during the early years of the War and in December 1941 he moved on to National Steel Car's aircraft division in Malton (the site which would later be taken over by Avro Canada). Don flew the Avro Jetliner and CF-100 while with Avro - he was one of the people who spent time with Howard Hughes at Culver City, Califorina from April until September 1952. After leaving Avro, Don joined DeHavilland as a Test Demonstration and Delivery Pilot.

He was awarded the Trans Canada McKee Trophy in 1983, in June 1998 he was inducted into the Canadian Aviation Hall of Fame and in December of 1998 was admitted as a fellow of the Canadian Aeronautics and Space Institute.

I had the honour of being present at the service held on 27 Jul 06 at St. James Islington United Church (where Don had attended services for many years).

It was clear that Don touched the lives of many people there. He was remembered as not only an aviation leader but as a loving husband to June for 66 years, father to Raymond, Stephen (deceased), and Constance, grandfather of Anthony, Kelly, Trevor, Catherine and Scott, and as an uncle and friend. Brian Willer who's father worked with Don at Avro, shared memories of Don as did one of Don's nephews. Memories of flights in a Lancaster, days at the cabin, home movies and time on the water sailing were among the things people will remember Don for.

Stan Haswell: starting at A.V. Roe Canada in 1952 as a production test pilot, Stan flew nearly all of the CF-100's built and was one of the few to be a passenger in the VZ-9 Avrocar! Some of the photo's on AvroLand were donated by Stan.

Glen Lynes: CF-100 test pilot who lost control of aircraft 18514 (Mk.5) and even though he did manage to eject, he was too close to the ground and died at the age of 36 on 20

Oct 55

Syd Howland - co-pilot on the C-102 when it was flown to California for Howard Hughes

W. O. "Spud" Potocki - test pilot on the CF-100 and CF-105, Spud flew the Arrow at 1,320 mph or 1.98 Mach with the J-75 engines.

Bill Devine: pilot, air transport section Bill Devine joined Avro in December 1954, and was assigned by Don Rogers to captain Avro's DC-3, CF-DJT. Bill was fresh out of a career in the RCAF Air Transport Command where he flew DC-3s and C-119s.

Along with Denny Young his very able co-pilot/engineer and Paddy Ferguson his second AME, ran the "Air Transport Service for Avro until October 1959.

The carried passengers such as Avro's James C. Floyd and Ernie Alderton, Air Marshall Curtis and Air Vice Marshall Plant to name a few.

On February 2, 1959 Bill and Don Rogers went in Avro's DC-3 to Trenton to pickup Peter Cope and return him to Toronto after the Arrow had landed there because of the TCA Viscount folded its undercarriage and slid to a stop at

Malton. The following day they returned to Trenton with Spud Potocki on board so he could bring RL-204 home.

After Avro he filled the job of Chief Pilot at the now defunct Sarnia Airlines, Chief Pilot of Domtar in Montreal on Hawker Siddely 125 jet type and finally as Captain on Lockheed Jetstar, Vickers Viscount and Beech Kingair with Transport Canada Executive flight.

He transported the Prime Minister Cabinet Ministers until his retirement in 1986.

Now resides in Ottawa, Ontario, Canada.



Denny Young: co-pilot and engineer

The "other" test pilots:

Jimmy Orrell: C-102 test pilot from Avro in the UK

Bill Waterton: born in Camrose, Alberta Bill worked as a test pilot on the Meteor at Gloster Aircraft in the UK - Bill was the first test pilot of the CF-100 and stayed with A.V. Roe Canada until 7 February 1951 (pictured in front of the C-102)

F/L Bruce Warren, DFC - RCAF test pilot for the CF-100 second prototype (18102). He was a graduate of the Empire Test Pilot's School at Farnborough and was granted two years leave from the RCAF to assist in the flight test program of the CF-100. He had flown 28 different types of aircraft and logged over 2,200 air hours. Bruce died on 5 April 1951 when 18102 crahed near London, Ontario

Len Hobbs - came in from England as co-pilot of the B-47 powered by the Iroquois

Jack Woodman: born on 14 May 1925 in Saskatoon,
Saskatchewan - test pilot on F-86 Sabres, CF-100 Canuck, and the only RCAF pilot to
fly the CF-105 Arrow. In June 1955 Avro sent three CF-100's to the Paris Air Show Jack and two other RCAF pilots (F/L Roy Bennett and S/L Phil Etienne) we the pilots
sent. Jack flew in Arrow 1, 2 and 3 on a total six flights. Jack died of cancer on 16 May
1987 at the age 62, in California. On 1 June 1995, Jack Woodman was named to
Canada's Aviation Hall of Fame.

Fred J. Drinkwater III - NASA Ames pilot on the VZ-9AV Avrocar, Fred was also a test pilot for the Ryan VZ-3RY