

Wing Mate



Newsletter 408-437 Wing

Royal Canadian Air Force Association of Canada

Featuring the F 86 Sabre



May  2023

AIR FORCE ASSOCIATION of CANADA MISSION STATEMENT

The Air Force Association of Canada is a national aerospace and community service organization whose aim is to commemorate the noble achievements of the men and women who have served as members of Canada's Air Force since its inception, advocate for a proficient and well equipped Air Force and, support the Royal Canadian Air Cadets.

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Air Cadets
818 Squadron..... Jackie Johnston
110 Squadron..... Cécile Thompson



Sick and Visiting

Be sure to advise Barbara Newman, Fellowship Chair, if you are aware of a Wing member who is ill or in distressed circumstances.

Barbara can be reached at 416-223-7840.

May 2023

John Wreglesworth..... Apr 11
Gwen Smith..... April 15
Nick Czernkovich..... May 12
Paul Hayes..... May 28
Eve Skalozub..... May 29
We missed David Ouellette's
birthday on April 20th.



Happy Birthday!

General Meetings

Sheppard Ave. Legion Building

May 8th

Speaker: Carol Culhane

June 12

Speaker: Terry Sleightholm

BBQ @ AHOM

July 9th

President's Report



Dear members, a reminder that our May 8th general meeting will feature a speaker from International Food Focus Limited. Carol T. Culhane PHEc, MBA will speak on food packaging and labelling.

Please make it a point to attend. Lets have a good showing. I've heard her presentation, and it was very interesting. Hint: the 'best before' date usually applies to old boy friends.

Welcome back, Cécile Thompson, from your adventures in Japan. Cécile actually taught there for a few years. And we say Bon Voyage to John Wreglesworth and Barb Newman as they are off to cruise the Fjords across the pond.

Grandpa, Grandpa! Are you listening? Why are there airplanes? Well, sit here son and I'll tell you. Philosophers had debated and scientists had explored the possibilities of Man taking to the air since as early as the fourth century before Christ. It was not until after the successful experiments conducted by the Montgolfier brothers that a third dimension to Man's movements was finally added. .

On November 21 st , 1783, Monsieur Pilate de Rozier with the Marquis d'Arlandes as a passenger, successfully ascended to a height of half a mile, and remained aloft for twenty minutes in a balloon filled with hot air. The military value of his invention was recognized by the French immediately, and references were made to the employment of a hydrogen balloon by Napoleon's forces in the battle of Fleurus only eleven years later.

During the Franco-Prussian War of 1870, the French used free balloons to carry personnel as well as dispatches from the besieged city of Paris. Gambetta himself escaped from the city by balloon, and re-organized France's offensive in the outlying districts. As might be expected, the development of heavier-than-air craft necessarily had to follow a course independent of the experiments with balloon and airships. It soon became apparent that attempts to provide Man himself with artificial wings which he could manipulate by his own muscular efforts were demon-

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strated to be impractical for any but sporting purposes, even, if possible, as was demonstrated by the aeronautical engineering profession some years after powered flight had been achieved. The ratio of man's physical strength to his weight soon convinced early experimenters of the necessity of developing a completely mechanical means of remaining aloft.

Plans for a heavier-than-air craft were developed over one hundred fifty years ago by an English engineer, Sir George Cayley. His plan showed remarkable foresight, and even called for a special 'camber' of the wings – as essential portion of the design of the modern aeroplane. One detail only was lacking in Sir George Cayley's plans – no engine light enough and yet powerful enough for his purposes was available at the time.

The practical application of his design was probably first made by the early pioneers in gliding. About the middle of the nineteenth century, two engineers by the name of Henson and Stringfellow developed a model aeroplane from Cayley's plans. This model had a wing spread of twenty feet and depended on a miniature steam-engine for its power.

About 1870 Otto Lilienthal began to conduct some experiments with a motorless aeroplane and he continued these over a period of some twenty years. Although he lost his life in a crash of one of his gliders, his success had convinced other pioneers of the possibilities of the heavier-than-air machine. Their success was made possible by the development of the internal combustion engine – an invention that overcame the problems of lighter weight and increased power with which Sir George Cayley had been confronted. Five years latter the Wright brothers took their machine to Europe, where they created a sensation by flying fifty-six miles in one hour and thirty-one minutes. The next year, Louis Bleriot flew across the English Channel in a monoplane of his own design, and as a result of his success, this type of machine became extremely popular amongst flying enthusiasts. OK, can I have a hug now?



Nick

818 Toronto Falcon Squadron
Royal Canadian Air Cadets

110 Black Hawk Squadron
Royal Canadian Air Cadets



With Jackie Johnston



With Cécile Thompson

YOU ARE INVITED

50th Anniversary Dinner

818 TORONTO FALCON SQUADRON
ROYAL CANADIAN AIR CADETS

Sunday 4th June

Doors will open at 4:30 PM

Dinner at 6:00 PM

Military Mess Dress
Civilians Semi-Formal

Canadian Forces College Toronto
215 Yonge Blvd, North York, M5M 3H8

Please RSVP by 30 April 2023 on

Google Forms <https://forms.gle/cJ4yuofikhvKEueA9>



Our cadets were very busy this past month. Spring Field Training Exercises were held at Blackdown, CFB Borden(with rain gear). Selected cadets participated in our Band, Drill and RDT compétition at Denison Armories.

After the bus dropped them off, parents were counted on to do the pick ups.

Others took part in the Ontario Provincial Effective Speaking competition, and to top it all off, we had the best tag days ever with the cadets raising over \$ 33,000.

Congratulations to all.

Cécile Thompson



North American F-86 Sabre

The F-86, sometimes called the Sabrejet, is a transonic fighter aircraft, produced by North American Aviation. The Sabre is best known as the United States' first swept-wing fighter that could counter the swept-wing Soviet MiG-15 in high-speed dogfights in the skies of the Korean War (1950–1953), fighting some of the earliest jet-to-jet battles in history.

I remember well sitting in my Grade 2 classroom under the watchful eye of the teacher, “secretly” sketching this favourite aircraft of mine. The toughest part for me was the subtle line of the nose as I drew profiles of it. I still have a soft spot in my heart for this beauty of a jet with the swept-back wings.

Considered one of the best and most important fighter aircraft in the Korean War, the F-86 is also rated highly in comparison with fighters of other eras. Although it was developed in the late 1940s and was outdated by the end of the 1950s, the Sabre proved versatile and adaptable and continued as a front-line fighter in numerous air forces.

Its success led to an extended production run of more than 7,800 aircraft between 1949 and 1956, in the United States, Japan, and Italy. In addition, 738 carrier-modified versions were purchased by the US Navy as FJ-2s and -3s. Variants were built in Canada and Australia. The Canadair Sabre added another 1,815 aircraft and the significantly redesigned CAC Sabre (sometimes known as the Avon Sabre or CAC CA-27), had a production run of 112. The Sabre is by far the most-produced Western jet fighter, with a total



FJ-1 Fury U.S. Navy

production of all variants at 9,860 units. North American had produced the propeller-powered P-51 Mustang in WW II, which saw combat against some of the

first operational jet fighters. By late 1944, North American proposed its first jet fighter to the U.S. Navy, which became the FJ-1 Fury. It was an unexceptional transitional jet fighter that had a straight wing derived from the P-51. Initial proposals to meet a United States Army Air Forces requirement for a medium-range, single-seat, high-altitude, jet-powered day escort fighter/fighter bomber were drafted in mid-1944. In early 1945, North American submitted four designs. The USAAF selected one design over the others and granted North American a contract to build three examples of the XP-86 ("experimental pursuit"). Deleting specific requirements from the FJ-1 Fury, coupled with other modifications, allowed the XP-86 to be lighter and considerably faster than the Fury, with an estimated top speed of 582 mph, versus the Fury's 547 mph. Despite the gain in speed, early studies revealed the XP-86 would have the same performance as its rivals, the XP-80 and XP-84. Because these rival designs were more advanced in their development stages, it was feared that the XP-86 would be cancelled.

Crucially, the XP-86 was not able to meet the required top speed of 600 mph. North American had to quickly devise a radical change that could leapfrog its rivals. The F-86 Sabre was the first American aircraft to take advantage of flight research data seized from the German aerodynamicists at the end of WW II. These data showed that a thin, swept wing could greatly reduce drag and delay compressibility problems that had bedeviled fighters such as the Lockheed P-38 Lightning when approaching the speed of sound. By 1944, German engineers and designers had established the benefits of swept wings based on experimental designs dating back to 1940. A study of the data showed that a swept wing would solve their speed problem, while a slat on the wing's leading edge that extended at low speeds would enhance low-speed stability.

Despite stiff opposition, after good results were obtained in wind tunnel tests, the 35° swept-wing concept with automatic slat design based on that of the Messerschmitt Me 262 and an electrically adjustable stabilizer, another feature of the Me 262A were adopted.

Many Sabres had the "6-3 wing" (a fixed leading edge with a 6-inch extended chord at the root and a 3-inch extended chord at the tip) retrofitted after combat experience was gained in Korea.

The XP-86 prototype, which led to the F-86 Sabre, first flew on 1 October 1947 with George Welch at the controls, flying from Muroc Dry Lake (now Edwards AFB), California.

The F-86 was the primary U.S. air combat fighter during the Korean War, with significant numbers of the first three production models seeing combat.



Jackie Cochran in the cockpit of the Canadair Sabre with Chuck Yeager

The F-86 was also produced under licence by Canadair, Ltd, as the Canadair Sabre. The final variant of the Canadian Sabre, the Mark 6, is generally rated as having the highest capabilities of any Sabre version.

The F-86A set its first official world speed record of 671 miles per hour on September 15, 1948, at Muroc

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Dry Lake, flown by Major Richard L. Johnson, USAF. On 18 May 1953, Jacqueline Cochran became the first woman to break the sound barrier, flying a "one-off" Canadian-built F-86 Sabre Mk 3, alongside Chuck Yeager. Col. K. K. Compton won the 1951 Bendix air race in an F-86A. Average speed was 553.76 mph.



Sabres from the 51st Fighter Interceptor Wing "Checkertails" are readied for combat at Suwon Air Base during the Korean War.

Canadair Sabre Sales

Sabre Mk 1-one built, prototype F-86A

Sabre Mk 2-350 built, F-86E-type, 60 to USAF, three to RAF, 287 to RCAF

Sabre Mk 3-one built as test-bed for the Orenda jet engine

Sabre Mk 4-438 built, production Mk 3, 10 to RCAF, 428 to RAF as Sabre F-4

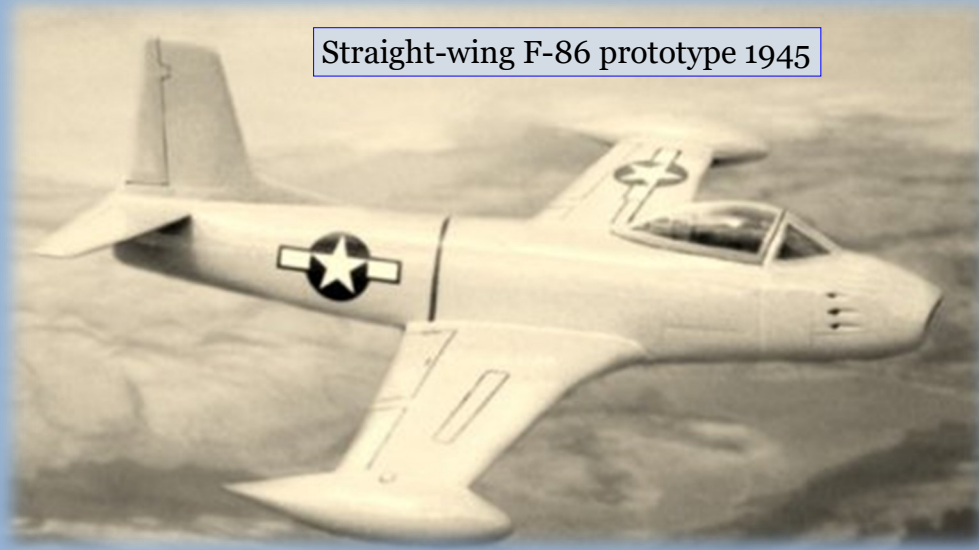
Sabre Mk 5-370 built, F-86F-type with Orenda engine, 295 to RCAF, 75 to Luftwaffe

Sabre Mk 6

655 built, 390 to RCAF, 225 to Luftwaffe, six to Colombia and 34 to South Africa

Canadair Mk.6 Sabre





Straight-wing F-86 prototype 1945



XP-86 Sabre Prototype 1947



F-86D "Sabre Dog" All-weather interceptor 1949



FJ-2 Fury 1947 U.S. Navy



Sabres in Korea







408-437 WING
RCAFA

**Nash Thought of the Children, too,
in the World's Finest Travel Car!**



USE CAR'S EXHAUST TO CLEAN CUSHIONS



Using the exhaust gas of the automobile to clean the upholstery is the accomplishment of a recently invented device. An aluminum attachment is fastened to the exhaust pipe and the engine is allowed to idle. As the exhaust gas passes through this device suction is created at the inlet hole. Collected by a nozzle, the dust and dirt are drawn through the hose and expelled into the air at the rear of the car. It is made in three models, for cars of different size.

With the car's engine idling, gas from the exhaust creates a vacuum that cleans the cushions

Disposing of used engine oil can be a problem. Solution: Dig a hole in the ground with a posthole digger and fill it with fine gravel. Then pour in the oil. It will be absorbed into the ground before your next change. Cover the spot with soil.

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Canadair Mk.6 Sabre





Aces



Robert Wendell "Buck" McNair

Buck McNair was born in Springhill, Nova Scotia, on May 15, 1919, and grew up in Saskatchewan. During the summers of 1937 to 1940 he worked for Canadian Airways Ltd. as a ground wireless operator, relaying weather and other information necessary for the safety of bush pilots operating in the north.

He joined the RCAF in June 1940, graduating as a Sergeant-pilot in March 1941. He was sent to No. 411 Squadron in England and while flying a Spitfire in September and October, he downed a Bf 109 and damaged two other enemy aircraft.



McNair was transferred to No. 249 Squadron in Malta in March 1942, a posting which included a flight from the deck of aircraft carrier HMS Eagle delivering new pilots and aircraft into Malta. The addition of a belly fuel tank extended the Spitfire's range. Increased lift for take-off was accomplished by inserting small wooden wedges between the flaps and the underside of the wings. When the aircraft was taking off, the wedges held the flaps in a slightly open position for extra lift. When the flaps were retracted, the wedges were released.

In the 4-month tour McNair destroyed five enemy aircraft and damaged eight others. He was awarded the Distinguished Flying Cross and promoted to Flight Lieutenant. He rejoined No. 411 Fighter Squadron in the U.K. in July of 1942 and damaged several more enemy aircraft during a fierce air battle over Di-eppe in August, 1942.

In September, 1942 McNair, now a Flight Commander, was sent on a six-month coast-to-coast promotion of Canada War Bonds, returning to England in 1943 and became Squadron Leader of 416 and then 421 Squadrons. He added eight more victories and received two Bars to his D.F.C.

On July 20, 1943, as he was leading a patrol along the Dutch coast, his Spitfire's engine began to lose power. He left the squadron and turned for home with his

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wing man. Twelve miles from the French coast his engine burst into flames and his aircraft dived out of control. At 5,000 with his face badly burned, he bailed out. The parachute was partially burned, but he freed himself from the jammed harness and landed in the water, supported only by his Mae West. He was rescued within a few hours, and was flying again within three weeks.

McNair became Wing Commander of 126 RCAF Wing, the leading Fighter Wing in the Second Tactical



Air Force. In April 1944, he was awarded the Distinguished Service Order. When his combat days were over, McNair had destroyed at least 16 enemy aircraft and damaged many others. He became the RCAF's second-ranking ace of World War II. McNair commanded of No. 17 Sector in 1944 and attended the first post-war course at RAF Staff College. After classes at the Empire Central Flying School course in 1946, he was sent to Fakenham, Norfolk, to fly the first British operational jet, the Gloster Meteor. In 1947 he was awarded the French Croix de Guerre with Palm Leaf and the Chevalier of the Legion of Honour.

Post war, Colonel McNair served in Washington, DC, Quebec, and Tokyo and often flew and evaluated the latest jet aircraft. In 1953 he was awarded the Queen's Commendation for Brave Conduct for his actions during a crash landing of a North Star Transport at RCAF Sea Island, Vancouver. He was a passenger, but he conducted the evacuation of the aircraft. Although injured and his clothing soaked with gasoline, he returned to the wreckage until all of the passengers and crew were accounted for.

In 1956, he was promoted to Group Captain and commanded No. 4 Fighter Wing in Baden-Soellingen and in 1961 was assigned to North American Air Defence (NORAD).

He was inducted as a Member of Canada's Aviation Hall of Fame in 1990 in Alberta. Terry Sleightholm



Today's RCAF

The Royal Canadian Air Force is dealing with a high number of inexperienced personnel, as well as shortages of staff in key jobs, while at the same time trying to bring in new-generation stealth fighter jets and drones. The result is going to be “significant disruption to the RCAF” and an unsustainable situation for the future, according to a Nov. 15, 2022, briefing package for senior air force leaders.

The introduction of the F-35 jet, the purchase of a drone fleet, and the modernization of fleets of other existing aircraft will transform the RCAF, the generals were told. But those initiatives will also create an unprecedented challenge and a “significant internal demand for talented and experienced people” as well as “significant disruption to the RCAF.”

“The RCAF is under-resourced with a high inexperience burden resulting in an unsustainable model to deliver expected outcomes and capabilities for current and future demands,” leaders were told. The ongoing sexual misconduct crisis, concerns about toxic leadership and a lack of interest in the military among young people has hindered recruitment, according to various Canadian Forces reports. At the same time, skilled personnel are leaving, fed up by a lack of affordable housing near their military posts as well as with inadequate pay and benefits. In addition, there is a lack of work for spouses of military personnel in some locations.

The ongoing issues are compounded by the fact the RCAF is competing with the commercial aviation sector, which also needs skilled personnel, according to the Nov. 15 briefings. RCAF commander Lt.-Gen. Eric Kenny talked about challenges the service faces with the introduction of new aircraft during an interview published Feb. 13, 2023, by The Canadian Press.

But the Nov. 15, 2022, briefing package obtained by this newspaper was more blunt in its assessment: There is “insufficient intake (of personnel) to address traditional attrition and growth,” the briefing package noted.

“Intake is lowest at the RCAF officer trades which may cause issues in the future given heavy reliance on this trade for NORAD staffing,” the briefing added. It recommended examining whether the “NORAD footprint can be adjusted.”

To solve the ongoing problems, the RCAF leaders were also told they need to “foster agility,” military training, and be flexible on when that training is delivered. Earlier this year, Defence Minister Anita Anand announced that Canada would purchase 88 F-35 fighter jets. The first four aircraft will be delivered in 2026 and the next six in 2027.



In late March, Canada also announced plans to move ahead with the acquisition of another new aircraft fleet. The Liberal government made a formal request to the U.S. asking it to offer an American-built fleet of Boeing P-8 surveillance aircraft. Recruitment and retention is an issue all elements of the Canadian Forces are dealing with. In 2022, this newspaper reported that defence chief Gen. Wayne Eyre and other senior leaders had received a briefing that the Canadian military was facing its highest attrition rate in 15 years and would need more than a decade to get numbers of personnel back up to needed levels.

“Compensation and Benefits are directly related to CAF members (quality of life), and are a key driver in both Recruitment and Retention,” that briefing for the Armed Forces Council noted. It acknowledged the military is facing a “workforce crisis” and pointed to a plan put in place for what Eyre is calling the “reconstitution” of the Canadian Forces. That plan is supposed to unfold over the next eight years to bring staff levels back to proper levels. But the briefing warned Eyre and other senior leaders that it is likely it will take another three years beyond that, for a total of 11 years. According to the Armed Forces Council briefing, a number of military health-related jobs, as well as aviation technician and air operations, army telecommunications and cyber operations positions, have dropped to “critical staffing” levels.

David Pugliese, Ottawa Citizen, April 21, 2023