

# 434 Niagara

## BULLETIN



Vol. 27 no 3 Jan-Feb, 2025

### General Meetings

3rd Saturday of each month at

Welland Optimist Club, 38 Patterson Ave., Welland, ON L3B 2C4

Future meeting dates will be advised by email and telephone.

# ***We proudly promote the glorious tradition of the RCAF***

## **434 Wing Board of Directors**

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1 st Vice Chair – Julie Sheppard.....	H - 905-734-6307
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Phone Committee - Jeanette & George  
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**Royal Canadian Air Force Association of Canada**

# ***Report from the Chair Nov-Dec 2024***

## **Bill Heron (Chair)**

As we enter 2025 I look ahead with the thought in mind as to how our organization overall might look considering the changes that will take place shortly.

Only a few short months ago the future of the RCAFA appeared to be in doubt but it seems that now things are looking somewhat more settled and I think we can all be a little optimistic.

I am going to take this opportunity to once again see if the membership will respond. As a Wing we don't do very much outside of our usual annual functions so I will throw these ideas to you for your consideration and please make your feelings known. only in this way can we hope to plan, here goes.

- (1) We have an opportunity to have a tour of the Bombardier facility in Toronto, obviously this would require a transportation arrangement which in turn would involve a cost (would need to be determined).
- (2) We could arrange a visit to CWH in Mount Hope and perhaps arrange with 447 to stop there and have something to eat.
- (3) We have talked about a visit to Elmvale where the full size replica of the Avro Arrow is now on display. this too would involve a cost and the museum there is only open to the public on weekdays and again would involve arranging transportation.

These are things that we could possibly do but naturally before committing and arranging we need to know how many might be interested in ANY or NONE of those mentioned or perhaps someone might have another idea we might consider, but I would like to see us do something together, let one of the Board know your feelings.

As always, I thank everyone for their help in 2024, without you stepping up nothing moves, nothing happens.

We will have some fundraisers down the road and volunteers will be needed, dates will be made available in advance so that members can plan.

This is your Wing let us hear your voice.

***Per Ardua Ad Astra***



# Christmas Luncheon 2024



Saturday, December 14, 2024 was a bright, sunny day which facilitated the attendance of all guests at the 434 Niagara Wing Xmas Luncheon held at Branch 613 RC Legion, Fonthill.



Norm Sonnenberg and Celebrity Star, Tom Vance



Janice, ready to party





Table of Prizes to be won







Make Your Ice Cream Sundae

## Birthdays

### January

Jeanette Lee

Deborah Wilkes Whitehall

Brian Heikkila

Michael Mascitelli



### February

Wesley Pierce

Julie Sheppard



# NATO Tigers 2024

NATO Tiger Meet offers a unique opportunity for Allied and Partner Tiger squadrons to train to NATO standards increasing flying skills and interoperability . From June 3 to 13, 2024, Allied aircraft participated in the annual NATO Tiger Meet at Schleswig Air Base, Germany. The long-standing NATO Tiger Meet saw over 60 aircraft from eleven NATO Nations plus Partners Austria and Switzerland, come together in a demonstration of capabilities in this iconic international exercise at the home of the Tactical Air Wing 51 in Northern Germany. Some nations fly their jets from their respective home bases, some participated as visitors and observers. A NATO Airborne Warning and Control System E-3A plane operating out of Geilenkirchen, Germany, controlled Tiger jets during their training missions.

The exercise has been organized annually by the NATO Tiger Association since 1960. This year saw Germany host the exercise for the twelfth time in its history and the third time from Schleswig Air Base.

A Turkish Air Force F-16 from 192 Filo at Balikesir



Photo courtesy French Navy

A Rafale from the French Navy Flottille 11F "les furieux "



Photo by Dwojak photography

The Tiger edition of a Czech Air Force JAS-39 Gripen



Photo by Cora Mohrdieck

An Italian Air Force Eurofighter from 12th Wing at Gioia del Colle



## NATO Tiger Meet 2024 continued



French Army Tigre Eurocopter



German Air Force Tornado

## NATO Tiger Meet of the Americas

The Tiger Meet of the Americas was inaugurated in 2001 in the Western Hemisphere to carry on the long established tradition of NATO Tiger Meet air combat training competitions held in Europe.

In 2003 Cougar Squadron of 410 Wing Cold Lake hosted this event, which is aimed at promoting solidarity and operational understanding between NATO members.



RCAF CF-18 Hornet at 2003 Tiger Meet





## In the News

### Airbus to Provide 19 H135 Training Helicopters to RCAF

Airbus will provide 19 H135 training helicopters to the RCAF for the first time. Airbus signed a contract with SkyAlyne, the provider of the Future Aircrew Training (FAcT) program for the RCAF, to supply its twin-engine helicopters for the program. The H135 will be used for basic ab-initio training, advanced Instrument Flight Rules, and tactical training. In addition to the aircraft, the RCAF will receive a comprehensive support and services package, including support for the development of a Ground-Based Training Solution and advanced engineering assistance. The choppers will be customized with Canadian-developed Supplemental Type Certificates, which include modifications to the avionics suite and communications systems as well as custom



Airbus H135 Helicopter

development in the cockpit. Deliveries are scheduled for early 2026.

This contract marks Airbus Helicopters' successful entry into the Canadian military market," said President of Airbus Helicopters in Canada Dwayne Charette.

Work will be carried out at Airbus Helicopters' industrial facility located in Fort Erie, Ontario.

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### US Army HADES Program Receives First Global 6500 Jet From Bombardier Defense



Bombardier Global 6500

Bombardier has delivered the first Global 6500 aircraft to the US Army as part of the High Accuracy Detection and Exploitation System (HADES) program. US Army ISR Task Force Director **Andrew Evans** identified the Global 6500 as "the system that brings that strategy to life" during a handover ceremony at Bombardier's US headquarters in Wichita, Kansas.

Company VP **Steve Patrick** described the Global 6500 fixed-wing craft as "a high-performance platform that possesses the speed, endurance-at-range, and altitude capabilities to support deep-sensing for the Army of tomorrow." The aircraft can fly continuously with a maximum endurance of up to 18 hours. Additionally, it can operate for up to 750 flight hours before requiring maintenance.

Powered by Rolls-Royce Pearl engines, the Global 6500 flies at a top speed of Mach 0.9, a maximum range of 6,600 nautical miles (7,595 miles/12,223 kilometers), and an altitude reaching 51,000 feet (15,545 meters).

## In the News

### Indian Navy to sign order for 26 Rafale Marine fighters by early 2025



The Indian Navy is close to finalizing a landmark deal for 26 Rafale M naval fighter jets, with the contract expected to be signed by early 2025. “Rafale Marine is at an advanced stage of negotiations and is only one level short of taking it to the Cabinet Committee on Security,” Navy Chief Admiral DK Tripathi stated at the annual Navy Day press conference on December 2, 2024, indicating that the agreement could be finalized as early as the following month. The Rafale naval wing will equip the INS Vikrant, India’s first indigenously constructed aircraft carrier.

Designed for carrier operations, the Rafale M includes a reinforced undercarriage and an extended, strengthened nose. Despite these enhancements, the naval variant shares over 80% of its features with the 36 Rafale B and C jets already operated by the Indian Air Force. This commonality is expected to reduce training, repair, and maintenance costs across the two fleets.

Modifications specific to the Indian Navy’s needs include integrating indigenous weaponry, namely Astra beyond-visual-range missiles and Rudram anti-radiation missiles, and the domestically developed Uttam active electronically scanned array (AESA) radar. However, the integration of the Uttam radar is expected to take around eight years.



Indigenously constructed INS Vikrant

The Indian Defence Acquisition Council (DAC) approved the purchase on July 13, 2023, a day before Indian Prime Minister Narendra Modi’s visit to Paris as the guest of honor for Bastille Day celebrations. The Rafale M was selected over Boeing’s F/A-18E/F Super Hornet following a rigorous evaluation under the Multi-Role Carrier Borne Fighters (MRCBF) program.

The acquisition of Rafale M jets is expected to significantly boost the Indian Navy’s air capabilities. The primary objective of this acquisition is to eventually replace the aging fleet of carrier-borne Russian Mikoyan MiG-29K Fulcrum-D fighters with a more modern and capable aircraft.

India is also considering the Rafale as part of the Multi-Role Combat Aircraft (MRCA) program, which involves the potential procurement of 114 additional fighters for the Indian Air Force.



## In the News

### Canada to acquire 19 Pilatus PC-21 aircraft for RCAF

Pilatus Aircraft completed its agreement with KF Aerospace, as part of its collaboration with SkyAlyne for the Royal Canadian Air Force's Future Aircrew Training program, which will include the acquisition of 19 Pilatus PC-21 advanced training aircraft.

The 19 PC-21s will be stationed at the air force base in Moose Jaw, Saskatchewan, from 2026. They will primarily be used to provide advanced training for aspiring military pilots. The 25-year Future Aircrew Training (FAcT) program, led by SkyAlyne, a joint venture of KF Aerospace and CAE, is designed to fundamentally modernize and expand the RCAF training capabilities.



Pilatus PC-21 (red) and PC-7MXX (white)

“The PC-21 offers numerous benefits over conventional training aircraft and is equipped with cutting-edge avionics to ensure a seamless transition to frontline jets,” explains SkyAlyne senior executive Kevin Lemke. “In addition, the PC-21’s innovative design delivers a significant reduction in operating costs and greater efficiency in training operations.

The PC-21 is fitted with a modern flight management system and mission computer coupled with a 'glass' cockpit including three multi-function displays and a heads-up display. The aircraft is equipped with a pressurized cockpit, air conditioning, an anti-G system and on-board oxygen generation.

### Spain Orders 25 Additional Eurofighter Jets

Spain is buying another 25 Eurofighter Typhoons, to replace some of its oldest EF-18 Hornet fighters, as part of a continuing modernization program for the Spanish Air and Space Force. Known as the Halcón II (Hawk II) program, the latest Spanish contract, which covers 21 single-seat and four twin-seat Typhoons, was announced in November. The agreement was signed between the Spanish government and the NATO Eurofighter and Tornado Management Agency (NETMA), based in Germany. Deliveries are due to start in 2030. Between them, Halcón I and II bring total Spanish orders for the Typhoon to 118. Like the earlier jets, the Halcón

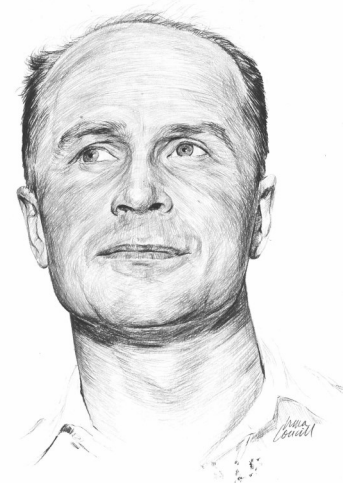


Eurofighter Typhoon

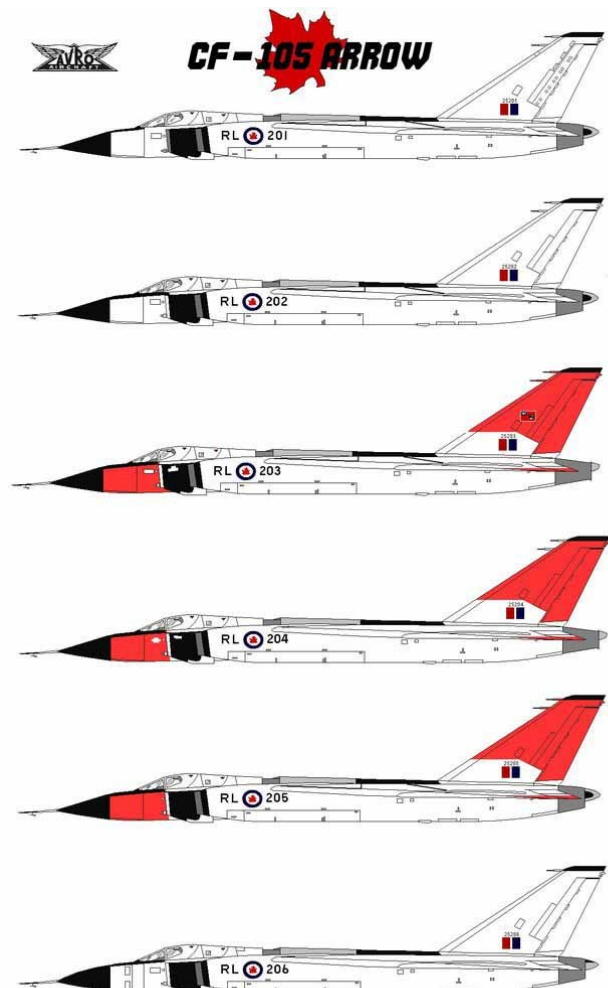
I and II Typhoons will be built locally at the Airbus plant in Getafe, near Madrid. Typhoons delivered under Halcón I and II will be considerably more capable than the Tranche 1, 2, and 3A aircraft already in service.

Outside of Spain, Eurofighter has secured follow-on orders from other core customers. Germany is buying 38 Tranche 4 aircraft and another 20 Tranche 4+/5 jets, 15 of which will be configured for electronic warfare missions. Italy is also adding to its fleet, with an order for 24 Tranche 4 aircraft.

February 20, 1959, Black Friday  
Canada's Interceptor Aircraft



The Avro Arrow, A Source of National Pride



June Callwood, Maclean's magazine:

"It was the most beautiful plane I will ever see . . . When it lifted straight up into the sky, a slim white arrowhead, it was poetry. I never saw it take off without my eyes stinging. . ."

More than 47,000 people worked at Avro, Orenda Engines, Bristol Aerospace in Winnipeg along with 30 major suppliers and 650 sub-contractors to make this dream come true.



## February 20, 1959, Black Friday continued



The Avro Arrow represented a symbol of Canadian technological prowess and innovation. It was at the forefront of aviation technology during its development. Canada had the opportunity to establish itself as a leader in advanced military aircraft design and production. More than 70 percent of all industrial research and development in Canada in the 1950s was carried out by A.V. Roe Canada.



### The CF-105 Avro Arrow was the:

- 1) **First a/c** designed with digital computers being used for both aerodynamic analysis and designing the structural matrix (and a whole lot more). \* (*The claim that it was the first aircraft designed/tested using the IBM 704 cannot conclusively be made. It is known that the unit at AVRoe was the only 704 sold in Canada.*)
- 2) **First a/c** design to have major components machined by CNC (computer numeric control); i.e., from electronic data that controlled the machine.
- 3) **First a/c** to be developed using an early form of “computational fluid dynamics” with an integrated “lifting body” type of theory rather than the typical (and obsolete) “blade element” theory.
- 4) **First a/c** to have marginal stability designed into the pitch axis for better maneuverability, speed and altitude performance.
- 5) **First a/c** to have negative stability designed into the yaw axis to save weight and cut drag, also boosting performance.
- 6) **First a/c** to fly on an electronic signal from the stick and pedals. i.e., first fly-by-wire a/c.
- 7) **First a/c** to fly with fly by wire AND artificial feedback (feel). Not even the first F-16’s had this.
- 8) **First a/c** designed to be data-link flyable from the ground.
- 9) **First a/c** designed with integrated navigation, weapons release, automatic search and track radar, datalink inputs, home-on-jamming, infrared detection, electronic countermeasures and counter-countermeasures operating through a DIGITAL brain. \* (*We are researching some of these claims. Stay tuned for an update.*)
- 10) **First** high wing jet fighter that made the entire upper surface a lifting body. The F-15, F-22, Su-27 etc., MiG-29, MiG 25 and others certainly used that idea.
- 11) **First** sophisticated bleed-bypass system for both intake AND engine/exhaust. Everybody uses that now.
- 12) **First** by-pass engine design. (all current fighters have by-pass engines).
- 13) **First** combination of the last two points with an “ejector” nozzle that used the bypass air to create thrust at the exhaust nozzle while also improving intake flow. The F-106 didn’t even have a nozzle, just a pipe.
- 14) **First** to use Titanium for significant portions of the aircraft structure and engine.
- 15) **First** to use of metal composites (not the first, but they made thoughtful use of them and were researching and engineering new ones).
- 16) **First** to use a drooped leading edge and aerodynamic “twist” on the wing.

Continued

## February 20, 1959, Black Friday Continued

17) **First** to use engines at the rear to allow both a lighter structure and significant payload at the centre of gravity. Everybody copied that.

18) **First** to use a LONG internal weapons bay to allow carriage of specialized, long-range standoff and cruise missiles. (not copied yet really)

19) **First** to integrate ground-mapping radar and the radar altimeter plus flight control system to allow an interceptor/reconnaissance role. The first to propose an aircraft be equally adept at those roles while being THE air-superiority fighter at the same time. (Few have even tried to copy that, although the F-15E is an interesting exception.)

20) **First** missile-armed a/c to have a combat weight thrust to weight ratio approaching 1 to 1. Few have been able to copy that.

21) **First** flying 4,000 psi hydraulic system to allow lighter and smaller components.

22) **First** oxygen-injection re-light system.

23) **First** engine to have only two main bearing assemblies on a two-shaft design.

24) **First** to use a variable stator on a two-shaft engine.

25) **First** use of a trans-sonic first compressor stage on a turbojet engine.

26) **First** "hot-streak" type of afterburner ignition.

27) **First** engine to use only 10 compressor sections in a two-shaft design. (The competition was using 17!!)

By 1959, follow up Arrows were on the drawing boards. The **Arrow Mark 2A** would have a much greater range due to increased fuel storage. The **Mark 3** would be capable of Mach3+ dash performance over 70,000 feet altitude. It would have featured variable geometry intakes and the use of heat resistant materials in sensitive areas of the airframe and engines. Canada's future aircraft were ensured. With the pool of talent assembled at Avro, Canada's future fighters could be adapted to meet changing conditions for many years. Canada's independence and continued sovereignty were assured.

### February 20, 1959



Canadian leaders did not have the courage or the vision to forge a coherent defence policy independent of the United States.

**Broken Arrows**

**Broken Dreams**

**Broken Nation**





# The Last Flight



Hurricane and Bf-109 from the Ed Russell Aviation Group

Ed Russell attained notoriety from a successful law suit against Disney

## ***“Canadian wins \$240 million suit against Disney”***

*CBC News · Posted: Aug 11, 2000 10:05 PM EDT | Last Updated: November 10, 2000*

*“A jury in Florida has ordered the Walt Disney Co. to pay a Canadian architect and his partner at least \$240 in damages for stealing their ideas for a sports complex.*

*Edward Russell and Nicholas Stracick of All Pro Sports Camps Inc. had accused Disney of fraud, theft of trade secrets, misinterpretation, breaking an implied contract and breaching a confidential relationship.*

*On Friday the six-member jury agreed with all of the accusations except fraud.*

Ed Russell employed funds from the lawsuit to create his own airport and build his own fleet of aircraft on Sodom Road in Niagara Falls. The Ed Russell Aviation Group consisted of :

Spitfire Mk. IX, Harvard Mk.IIB , Bf-109 E, Hurricane

434 Niagara Wing is so grateful for the support we have received from Ed and his wife Fran, who is also a member of 434 Niagara Wing. Over the years Ed and Fran have always showed an interest in activities of 434 Niagara Wing. They allowed us to have banquets at their hangar and hold meetings with speakers, participate in their fly-ins and air shows. They have supported Air Cadet gatherings at their airport. The RCAFA AGM was held one year at their airport. Ed and Fran allowed the use of their hangar for the assembly of the replica Silver Dart and Ed participated with other 434 Niagara Wing members to help build the Silver Dart. They have contributed items for our kit shop sales.

**434 Niagara Wing member Ed Russell left us in December.**



June 30, 1936 to December 16, 2024



Spitfire in Russell hangar

Silver Dart Assembly at hangar



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