Wing Mate

Newsletter 408-437 Wing

Lockheed Ventura Mk.II
[B-34 Lexington]

Royal Canadian Air Force Association of Canada

January 2022

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.

2021 Executive

President..... Nick Czernkovich
ncz@aerosafety.ca 416-654-2832
401-21 Tichester Road, Toronto, M5P 1P3
Immediate Past President.....Kurt Abels
416-267-8874
Vice-President.....John Wreglesworth
416-231-0740
Secretary/Membership..... Margaret Cole
416-221-6412
Treasurer..... David Ouellette
416-449-0618
Wing Mate Editor.....Terry Sleightholm
tsleightholm46@gmail.com 416-208-7905
Events Coordinator.....John Wreglesworth
Program Speakers.....Jack Lumley
416-449-9389
Fellowship Chair..... Barbara Newman
416-223-7840

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.

January 2022

Bob McBain....January 13

Happy Birthday!

President's Report

Brothers and Sisters of the Blue cloth, here we are still with our thumbs up our, well still waiting. As you may have guessed there will be no Wing meeting meeting for the near future. But I will check with the Legion every month. Never-the - less I'm ever the optimist if nothing else just to irritate the *experts*. If one listens attentively, our collective hopes are already being cautiously bolstered by whis-pers that 'this' will peak by February and pretty much gone by the end of March. Because you know who said so. After all, 'a *person* is judged by one's deeds.' Hang in there this will end. Remember 'when things get tuff, the tuff gets a second cup of coffee and sips it slowly.'

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Warning: Descriptor used may be offensive to some sensitive readers. *The use of the masculine pronoun is not intended to insinuate gender designation*. Purely intended as a vehicle of expediency. This writer un-derstands that gender, is now fluid and multiple, is not restricted to at birth disorders.

*"Chicken Little"*_____ (insert name here) walked out of McDonald's last week and saw his shad-ow, thought oops, better for four more weeks of lock-downs.

Marg Cole has informed me that she will not stand for election to the post of Membership Secretary. Marg wishes to continue as Wing Secretary and re-main a member of the Executive. Marg has carried out membership duties as I recall at least since 2011. A long time to swing the whip and what a fine job she did too. I'm sure that some of our tardy members only needed one call from her to swing into action.

Marg, thank you!!

Government of Canada announces key milestone in process to replace Canada's fighter jets

December 1, 2021 - Gatineau, Quebec - Public Ser-vices and Procurement Canada

As part of its defence policy, *Strong, Secure, Engaged*, the Government of Canada is acquiring 88 advanced fighter jets for the Royal Canadian Air Force (RCAF) through a competitive process that will ensure the re-quirements of the RCAF are met while ensuring best value for Canadians.

Today, the Government of Canada announced that following evaluation of the proposals submitted, 2 bidders remain eligible under the Future Fighter Ca-pability Project competitive procurement process:

- Swedish Government—SAAB AB (publ)—Aeronautics with Diehl Defence GmbH & Co. KG, MBDA UK Ltd., and RAFAEL Advanced Defence Systems Ltd., and
- United States Government—Lockheed Martin Corporation (Lockheed Martin Aeronautics Com-pany) with Pratt and Whitney.

Proposals were rigorously assessed on elements of capability, cost and economic benefits. The evaluation also included an assessment of economic impact.

Over the coming weeks, Canada will finalize next steps for the process, which, based on further analysis of the 2 remaining bids, could involve proceeding to final negotiations with the top-ranked bidder or enter-ing into a competitive dialogue, whereby the 2 re-maining bidders would be provided with an oppor-tunity to improve their proposals.

The Government of Canada continues to work to-wards a contract award in 2022, with delivery of air-craft as early as 2025.

Continued on page 4

818 Toronto Falcon Squadron

Royal Canadian Air Cadets

With Jackie Johnston

The month of December, moving into the New Year hasn't been particularly busy for our Cadets and Staff. We concluded training in early December with 2 months of productive in-person sessions where we finally had to opportunity to bring in ALL of the cadets and allow our developing senior NCOs to take charge. It was a great start for everyone and hopefully it was a good foundation to build on in the future. During the holidays we have a newly minted tradition of writing letters and making cards to send to troops. Our cadets absolutely loved it. We made dozens of personalized letters and cards and mailed them out to veterans and active members overseas who were unable to spend the holidays with family. We even had one F/Sgt take her letters and personally deliver them to retirement homes where she personally knew a few military veterans. I am so proud of every cadet who took the time to spread some happiness and joy during the holiday season. Moving into the New Year, as most know, in-person training was cancelled. This pandemic is far from being an afterthought. We will be moving back to virtual training for a while, which is disappointing but the Staff has a few new ideas and tricks up its sleeves to help with motivation and virtual engagement. I hope everyone had a very pleasant Holiday and Happy New Year!

Stay positive and stay safe!

Daryl Abbott Captain CO 818 RCACS

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This procurement is the most significant investment in the RCAF in more than 30 years and is essential for protecting the safety and security of Canadians and meeting international obligations. The Government of Canada launched an open and transparent competitive process to acquire new fighter jets in 2017.

Officials conducted extensive engagement with suppliers, including Canadian aerospace and defence industries, to ensure they were well-positioned to participate in the procurement. A formal request for proposals was released to eligible suppliers in July 2019. It closed in July 2020.

Canada's Industrial and Technological Benefits Policy, including the Value Proposition, applies to this procurement. This is expected to generate high-value jobs and economic growth for Canadian aerospace and defence businesses for decades to come.

An independent fairness monitor is overseeing the entire process to ensure a level playing field for all bidders. An independent third-party reviewer was also engaged to assess the quality and effectiveness of the procurement approach.

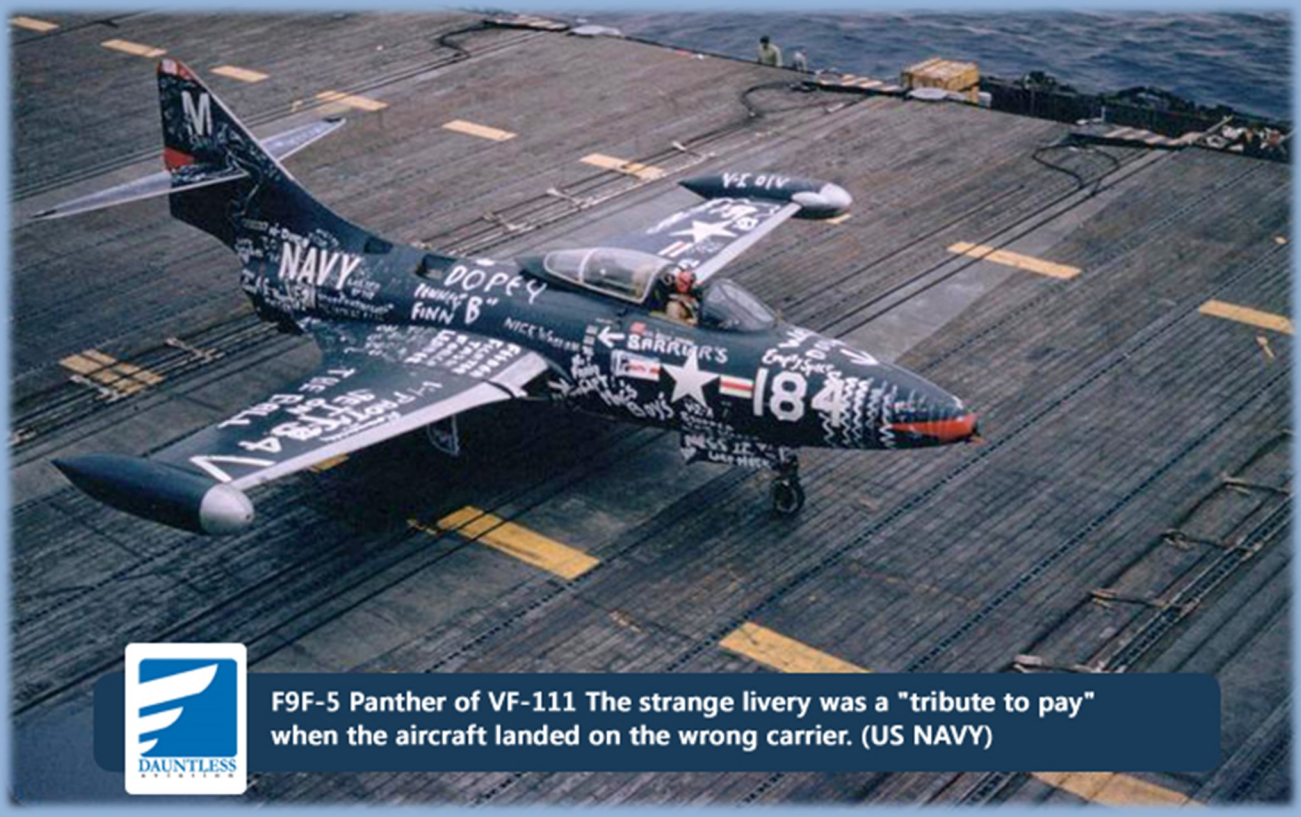
Saab Gripen

Lockheed Martin F-35

Flying Funnies

408-437 WING
RCAFA

"You've never been lost until you've been lost at Mach 3."

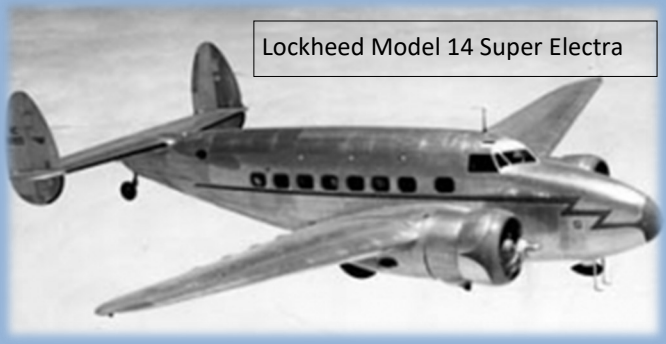


F9F-5 Panther of VF-111 The strange livery was a "tribute to pay" when the aircraft landed on the wrong carrier. (US NAVY)

Hudson

BOMBER

The Lockheed Hudson was an American-built light bomber and coastal reconnaissance aircraft built initially for the RAF shortly before the outbreak of the Second World War . The Hudson was a military conversion of the Lockheed Model 14 Super Electra airliner, and was the first significant aircraft construction contract for Lockheed Aircraft Corporation—the initial RAF order was for 200.



Lockheed Model 14 Super Electra

The RCAF was the second most important operator of the Hudson by numbers, receiving a total of 248 aircraft (Mk,1s, Mk. IIs, Mk. IIIs & IIAs, Mk.5s & Mk.6s). It entered service with No.11 Squadron RCAF in October 1939, and that squadron would be the last to use the aircraft, retaining it until September 1944. Eventually four squadrons would fly anti-submarine patrols from the east coast of Canada (No.11, No.113 and No.119) and one a squadron a squadron from the west coast (No.120). At the same time operated the Hudson with Coastal Command in the United Kingdom.

The Hudson served throughout the war with Coastal Command and RCAF's Eastern Air Command in an anti-submarine role but also in transport and training roles as well as delivering agents into occupied France.

The Hudson was also used by Nos.31, 34 and 36 Operational Training Units, No.1 Central Flying School and No.4 Air Observer School, RCAF. Not even training was entirely peaceful. On 4 July 1943 a Hudson from No.31 OTU attacked and probably damaged a U-boat during a training flight.

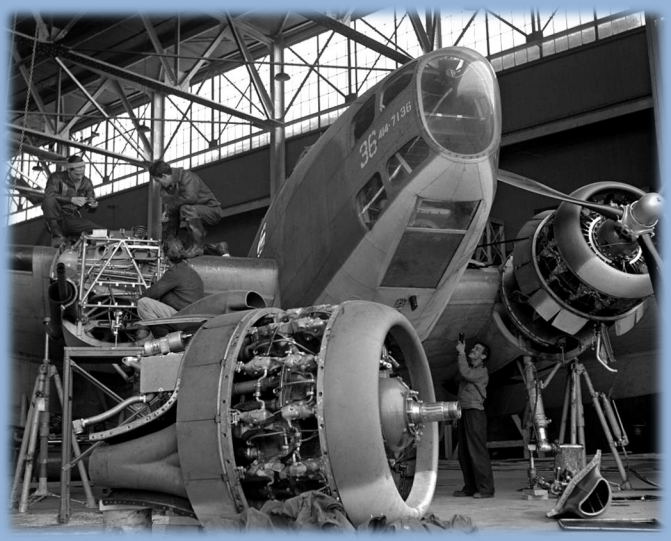
In the early morning hours of 11 November 1940, seven Hudson bombers landed in Northern Ireland. They had taken off the night before from Gander, Newfoundland, and they were the first aircraft to fly the Atlantic on a practical basis, the beginning of modern Transoceanic service over the Atlantic Ocean.

Flying aircraft directly to England from North America was an incentive of Lord Beaverbrook, then Minister of Aircraft Production in Britain. He had used his contacts in Canada with the Canadian Pacific organization to establish an entity called ATFERO (Atlantic Ferry Organization) to begin this. They used the airport built at Hatties Camp, Mile 213 on the Newfoundland Railway (now Gander) built as a joint project by England, Newfoundland and Canada. When completed it was the largest airport in the world, but had almost no facilities besides runways and a weather station. By the wars end it would be the largest airbase in Canada with RCAF, RAF and USAAF sections.

Mk.III Hudson, Torbay, Nfld., 1944

The First Hudson Orders

In February 1938, Lockheed's design team learned of an impending visit of the British Purchasing Commission and, after five days and nights of rushed design work, proposed the B-14L, a reconnaissance bomber based on the Model 14. The British requested changes which were incorporated within 24 hours. Because the British were already impressed with the Model 14, and because the proposed Lockheed aircraft was cheaper than its competitors and could be delivered in quantity more quickly, on 23 June 1938 the British Purchasing Commission placed an order for Lockheed's proposed patrol bomber. This order specified 200 aircraft to be delivered by 31 December 1939, plus up to 50 additional aircraft if these could also be delivered by that date. All 250 were delivered well before that date (plus one replacement for an aircraft which was lost before delivery), at a price of about $100,000 each. The out-



break of war interrupted delivery because of a 1935 law which put an embargo on arms sales to belligerents. The Neutrality Act, signed by Roosevelt on 4 November, 1939, allowed the British and French to buy weapons on a "cash and carry" basis.

Performance improved so that the Hudson Mk IV was capable of 284 mph at 15,000 feet, and had a range of 2,160 miles at a cruising speed of 224 mph.

The Hudson Mk I began squadron service with the RAF Coastal Command's No. 224 Squadron in the Summer of 1939. By September, No. 233 Squadron was similarly equipped, while No. 220 Squadron had begun to replace its Avro Ansons with the Hudson Mk III. Not long after war broke out, Hudsons also equipped No. 206 and 269 Squadrons. These squadrons all flew maritime patrol and anti-shipping sorties from the British Isles. Additional squadrons were formed during the war until the RAF saw a peak of 17 Hudson squadrons. Other Hudsons flew reconnaissance missions over Germany, occupied Europe, and (in civil registration) southern parts of the Soviet Union.

The Hudson was considered a "hot ship", and was not an easy aircraft to master compared to the docile Avro Anson it replaced. There were many accidents during conversion training. A chief cause was the Hudson's propensity to swing off of the runway during take-off and landing. Pilots also found the cockpit layout inconvenient. In flight, the Hudson was well-behaved and comfortable.

The Hudson's first combat success was on 8 October 1939, when a Hudson Mk I of No. 224 Squadron shot down a Dornier Do-18 off Jutland. In a famous incident, a Hudson Mk III of No. 220 Squadron guided a British destroyer to the prison-ship *Altmark* in Norwegian waters, freeing 300 British sailors. Hudsons assisted in the Norwegian campaign and in the evacuation of Dunkirk.

By 1943, the basic Hudson had multiple Marks, Models, redesigns and names. It would take an expert to keep track of them all. Before production ended in May, 1943, total production came to 2,941 Hudsons. The Hudson remained in service with the RCAF until the last aircraft was withdrawn in December, 1948.

Ventura/PV-3, B-34 Lexington, Harpoon, etc

In September 1939 Lockheed proposed to the British representatives, a military development of the Lockheed 18 Lodestar, as a follow-up for Hudson. The Hudson itself had been hastily developed from the smaller Lockheed 14 Super Electra, but this time, a more extensive militarization was proposed. In June 1940, the proposal was accepted, and 675 aircraft were ordered.

The Lodestar, the Super Electra and the Hudson were all powered by either the Wright R-1820 or the Pratt & Whitney R-1830, in the 1000 hp to 1200hp class. But for the Ventura the Pratt & Whitney R-2800 Double Wasp was chosen, an engine in the 2000 hp class. (The number in the designation indicates the cylinder volume in cubic inches.) This engine change implied that range was sacrificed for speed, and was prompted by a British decision to consider the Ventura as a medium bomber rather than as a maritime patrol aircraft.

The Ventura had an all-metal stressed-skin construction. The fuselage had an elliptical cross-section, but was less portly than that of the Hudson. The wing was built in three parts, the centre section constructed integral with the fuselage. Again, Fowler flaps of generous area were installed. The twin tailfins had the elliptical shape typical for Lockheed aircraft. Like the Hudson, the Ventura was provided with a dorsal turret, but it had a better field of fire. In addition, the lower rear fuselage was modified to create a step, so that a ventral gun position could be installed.

Production of the Ventura was undertaken by Vega, a subsidiary of Lockheed, later integrated into Lockheed. The first one flew on 31 July 1941. Deliveries to the RAF began in September. Normally there was a crew of four: pilot, navigator / bomb aimer, radio operator / gunner, and turret gunner, with the exception of 21 that were retained in Canada for use as trainers, and a few that were sent to South Africa. After 188 Mk.Is had been delivered, production switched to the Mk.II with 2000hp R-2800-31 engines and a redesigned bomb bay. After Pearl Harbour the US military seized all combat aircraft it could get, and of the 487 Mk.IIs built, 264 were taken over by the USAF and 27 by the US Navy, which called them PV-3. Although some US Venturas flew antisubmarine patrols, most were used as trainers. The Ventura had a high wing loading, and especially the later, heavier versions had a marginal take-off performance. Great care was required during take-off and landing. But it was fairly fast, especially at low level, and a fine aircraft to fly on instruments, in bad weather. The Ventura handled well with one engine out. While the Ventura was a superior combat aircraft than the Hudson, range was reduced. This was perhaps felt the most by the crews who had to make the transatlantic ferry flights: Even with extra fuel tanks added to a total of 1100 gallons, it could cross the Atlantic only with an average 25-knot tailwind.

Ventura Mk.V, 113 Sqn, RCAF, 1944

A number of Mk.IIs were retained in Canada, and over 100 were delivered to the South African Air Force. The next model was the Mk.IIA, which had American equipment and guns instead of British, because it was built to Lend-Lease contracts. The RAF received only 25, and 45 were sent to Canada. The next version was powered by 1700hp Wright R-2600-13 engines. The USAF initially called it O-56, reflecting its purpose as a reconnaissance (observation) aircraft. Before it flew, it was renamed B-37. The RAF called it Ventura GR Mk.III, but would receive none. Only 18 B-37s were built, because in the summer of 1942, the USAF agreed with the US Navy that the latter could take over land-based anti-submarine patrols, and acquire some land-based bombers. Part of the deal was that Lockheed would switch production from the B-34 and B-37 for the USAF, to the PV-1 for the Navy.

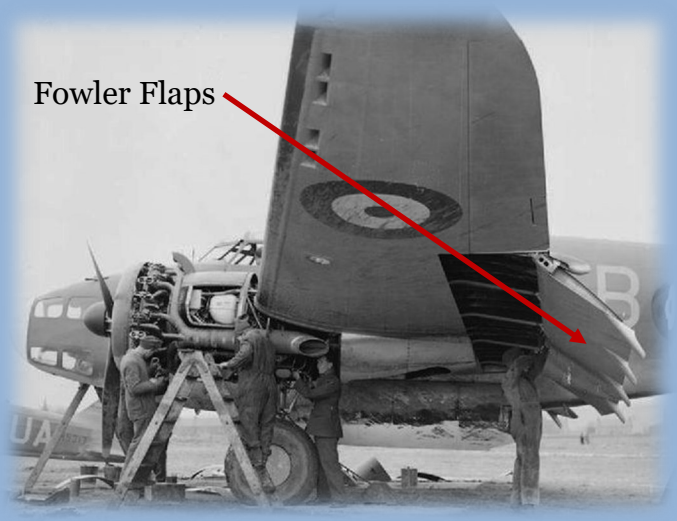
The first operational RAF squadron with Venturas was No.21, in May 1942. It was followed by No.464 (RAAF) and No.487 (RZNAF). All three participated in the first combat mission of the type, a low-level attack on the Philips factories at Eindhoven, Netherlands, on 6 December 1942. This was a disaster: Of the 47 Venturas 9 were shot down and only one escaped without damage. The Venturas switched to medium level bombing, but they were mediocre as bombers. In the summer of 1943 they were replaced by the Mosquito.

The Venturas were then converted to maritime patrol aircraft. Serving with No.519 and 521 squadrons in the Atlantic, and No.13 and 500 in the Mediterranean. The Ventura began to replace the Hudson as maritime patrol aircraft.

The PV-1 was very similar to the B-34, but it had reduced defensive armament and more fuel. The bomb bay was redesigned again, to enable the PV-1 to carry a torpedo. A radar was installed in the nose. A bomb aiming window was initially retained, but later deleted in favour of the additional forward-firing machine guns in a pack under the nose. The PV-1 became the most built model, and the first of 600 flew in November 1942. The PV-1s were extensively used in the Pacific. Because of its good performance and the lack of more suitable alternatives, the Ventura was also briefly used as a night fighter.

More than half the production of the PV-1 was diverted to RAF and Commonwealth forces, where it was known as the Ventura GR Mk.V. It entered service at a time when the balance was shifting in favour of the Allies. Illustrative is the experience of U-960: It was spotted by two destroyers on 17 May 1944, in the western Mediterranean. The destroyers did not attack, but five destroyers were sent to the area, and about 70 aircraft were called on for support, most of them Wellingtons and Venturas. This tactic was known as “The Swamp.” The next night, a Wellington GR Mk.XIV reestablished contact. U-960 was hunted by aircraft and chased by two destroyers throughout the next night. In the morning the destroyers reached her and attacked with depth charges. The submarine was forced to the surface, where she was bombed by a Ventura and shot at by the destroyers. It was quickly sunk. Only 20 of her crew of 51 were rescued.

The final twist in the development of the Ventura was a major redesign, the PV-2 Harpoon, first flown in December 1943. The PV-2 had larger outer wing panels with integral fuel tanks, and a larger tailplane and tailfins. The bomb bay was redesigned again to enable it to carry more bombs than the Ventura, as well as an enclosed torpedo. These changes were intended to make the aircraft more suitable as a patrol aircraft, by increasing range, at some cost in speed. Unfortunately, the original wing design was unsatisfactory. The first 69 aircraft, designated PV-2C, could only be used as trainers. A complete redesign of the wing cured the problem, but only 35 aircraft could be delivered before the end of the war.



Hudson Quasi-Slots & Fowler Flaps

The Hudson used Lockheed-Fowler Flaps between the ailerons and fuselage. They slide back 42 inches in streamline guides for more total wing area and camber. The ailerons are inter-connected to droop with the flaps. There are low-drag slots in each wing-tip in front of the ailerons.

The Hudson has a highly tapered wing planform which is prone to stalling at the wingtip, (not good!), which can render the ailerons ineffective and induce a lack of lateral control. At high angles of attack, the slot allows high pressure air from under the wing, just behind the airflow stagnation point, to pass up through the wing to the upper surface where it adds energy to that low pressure flow, delaying the breakaway that causes the wing to stall. On the leading edge of the wings are air flow intakes (quasi-slots). Normal slots could not be used due to de-icers (those black elements on the leading edge of the wing).


Lockheed PV-2 Harpoon

Canadian Airmen Airwomen

Lt George Urkuhart Hill

George Hill intended to study medicine but his parents lacked the money. In September 1939 he decided to join the RCAF, became a fighter pilot and earned his wings in March 1940.
After having served as an instructor for some time, he was transferred to Europe in 1942. His first operational sortie was over the beaches of Dieppe during Operation Jubilee where he scored his first victory. Soon afterwards he was transferred to Tunisia and posted to 111 Treble One Squadron.

On May 21st, 1943, he was awarded the Military Cross. His citations read as follows:

"Flight Lieutenant Hill is a skilful leader whose ability has been well in evidence during recent operations. He has participated in many sorties and has destroyed four enemy aircraft."

Following a posting on Malta he was stationed in England and flew in Johnnie Johnson's squadron. Due to signs of battle fatigue he was granted leave which he spent in his hometown Pictou in Canada. Back in England, his Spitfire got damaged during a sortie in April 1944 when his long range fuel tank hit the propellor while being jettisoned. Hill performed an emergency landing in France, hid in the forests and made contact with the Resistance.
May 1944 he had just boarded a train in Paris which was to take him to the south of France in order to escape from there when Gestapo agents boarded the carriage, went straight at him and arrested him. The Germans, suspecting him, because of his rank of knowledge of an imminent invasion, subjected him to interrogations, solitary confinement and a diet of one cup of watery soup a day for months on end.
Following the liberation of the camp, Hill returned to Canada, took up the study of medicine and worked as a physician for many years.
In 1969 he lost his life in a car crash.