

April Meeting

Topic: “My Vampire Experiences”

Speaker: Col. Gerry Gilroy CD, RCAF (Ret'd)

Reporter: Gord McNulty

Our guest speaker was introduced by CAHS Toronto Chapter 2nd Vice-President Neil McGavock. Neil filled in for Chapter President Dr. George Topple, who sent regrets as he attended a family celebration of life for a nephew who passed away recently. Col. (Ret'd) Gerry Gilroy's first flying experience was in a Tiger Moth as an Air Cadet. The Cadet Commanding Officer persuaded the Air Cadet League to provide a scholarship for Gerry to start Aeronautical Engineering at the University of Toronto. Then the University Squadron's Commanding Officer put him in the Engineering List, making it necessary for Gerry to take a year out of university and transfer to the Auxiliary in order to transfer to aircrew. Pilot training also improved, for the balance of university, what had been a borderline financial situation for him. Col. Gilroy served in 400 Squadron (Auxiliary) from 1952 to 1966 and in Wing from 1966 to 1972. He was the 23rd Commanding Officer (CO) of 400 Squadron, a position he held from 1953 to 1967. He graduated from Aeronautical Engineering in 1955 and earned an MEng (Operations Research) in 1982. In civilian life he was employed in various positions as an engineer and in management.

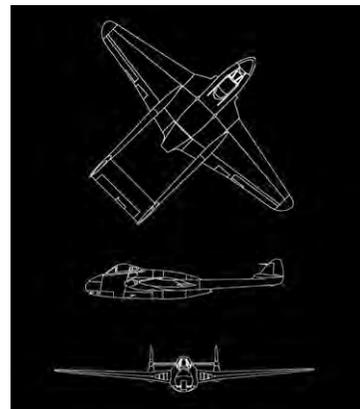


Speaker: Col Gerry Gilroy CD, RCAF (Ret'd)
Photo Credit: Neil McGavock

Describing Britain's de Havilland D.H. 100 Vampire as “a delightful little airplane,” Gerry noted how development of radar in the 1930s led the RAF to revise its defences against bombers. Traditional reliance on standing patrols along the coast had emphasized endurance. Radar, however, facilitated fighter scrambles emphasizing speed and rate of climb. Performance soared to new heights in Britain with development of the jet engine under Fl-Lt. Frank Whittle. In 1935 Whittle found sponsors who helped to facilitate Power Jets, the company formed to develop Whittle's engines with air ministry research money. It produced the W.1, which made its first successful run in June, 1939. However, the engine produced only 1,000 pounds when 3,000 was needed. Almost immediately a spec was issued to produce the second version, the W.2, with 3,000 lbs thrust. Gloster was to produce the aircraft, while Rover built the engine.

The Gloster G. 40 test bed, powered by the W.1, became the first British jet aircraft to fly on 15 May, 1941. This was almost two years later than Germany's Heinkel He 178, which first flew on 24 Aug., 1939. Power Jets ran into many problems such as supersonic shock waves at the compressor, engine surging, unstable flames and others. In one ten-day period they tore down and reassembled the whole engine five times. It was difficult for Whittle, who was battling his suppliers and ended up in the hospital twice from the strain. De Havilland entered the picture in 1941, when it received a specification for a single-engine experimental aircraft which led to the Vampire. De Havilland produced a practical engine that could contain friction and produce enough power within compact size, with the 2,700 pd thrust H.1 turbojet. Renamed Goblin H for designer Frank Halford, the engine first ran successfully in April 1942.

The Vampire featured a ground-breaking design. All previous jet aircraft had employed either externally mounted turbojets, necessitating twin engines, or a single unit with a straight-through flow arrangement. A single unit severely restricted internal space. To avoid the disadvantages of both layouts, the D.H. 100 had the turbojet installed in the rear of a short central fuselage nacelle, drawing air from wing-root intakes and exhausting between twin tailbooms. Originally, the Vampire was known as the Spider Crab. An engine had been sent to the U.S. for their Lockheed P-80 Shooting Star, but it was blown up on a ground test run. So when DH was ready to fly the prototype Vampire, they were ordered to send their engine to the U.S. and build another one. The first flight of the Vampire took place on 20 Sept., 1943, but another delay occurred.



The ministry wanted all the Mosquitoes it could get, so production was delayed pending a separate facility a year later. It was an interesting contrast to the Gloster G. 40, where production was authorized before there was a prototype engine. To get an engine for the G. 40, it was necessary to nationalize Power Jets and have Rolls-Royce produce the engine based on the Rover configuration. The Vampire F.1 was put into production at English Electric and was the forerunner of what proved to be a highly successful and versatile aircraft in service around the world. The Vampire entered service in 1946, two years after the twin-engined Gloster Meteor, the Allies' first operational jet fighter. The Meteor first flew on 5 March, 1943, powered by two Goblin H turbojets, and entered service on 27 July, 1944. Given the same priority, the Vamp would have beaten the Meteor or at least tied it.

A naval version, the Sea Vampire, featured longer landing gear oleo struts, a 40 per cent increase in the flaps, and an arrestor hook. The Vampire F.B. 5 was a ground attack version of the F.3 which added some thrust and fuel capacity, modified wing tips and tail surfaces, and some hard points. A night fighter, first flown in 1949, had a longer and wider fuselage, an American A.I. Mk 10 radar unit in the nose, and a second seat for the radar operator. A two-seat trainer, the T.11, first flew in 1950. The armament and radar were removed, a second set of controls was added, and the thrust was increased in the Goblin to 3,500 pounds from 3,000. A derivative of the Vampire, the D.H. 112, Venom, first flew in 1949. Powered by a 4,850-pound thrust Ghost engine, the Venom featured a thinner wing and other modifications to take advantage of the increased power.

Experimental use of the Vampire was reflected in the D.H. 108 Swallow, built primarily to explore control and stability problems in swept-wing aircraft including the D.H. 106 Comet. Featuring the fuselage of a standard Vampire fighter, the Swallow was considered a delta and on 6 September, 1948 became the first British aircraft to break the sound barrier.

The Vampire established several records. On 3 December, 1945, a Sea Vampire became the first pure-jet aircraft to land on and take off from an aircraft carrier. On 23 March, 1948, a modified Mk 1 with extended wing tips and powered by a Ghost, set a world altitude record of 59,446 feet. On 14 July, 1948, the Vampire became the first jet to cross the Atlantic as six F.3s arrived in Goose Bay, Labrador.

Pilots liked the Vampire. Dave Campbell, a U.S.A.F. exchange pilot who commanded a Vampire standardization squadron at Oakington in England, had flown all American fighter aircraft from the P-40 to the F-4 Phantom II. "The Vampire was the most enjoyable airplane I ever flew," he stated. "It was pure pleasure every time I got in it." Others compared the Vampire to a sports car, a toboggan ride, or a kiddy car, but always in a likeable way. More quotes included: "The outstanding feature of the Vampire's handling characteristics was its incredible lightness and sensitivity of control;" "aerobatics in the Vampire were sheer joy and were strangely akin to those of light sporting aircraft, apart, of course, from the airspeed and the amount of sky used;" the small size contributed to a feeling of being an integral part of a delightfully sensitive flying machine."

Vampires, over the years, were involved in numerous close calls that Gerry described. A pilot returned to base, from an air to air gunnery exercise, with the target flag wedged in the starboard air intake. Another pilot, on a low level exercise over the Irish Sea, accidentally touched the water and immediately flamed out. Ditching was inevitable. The aircraft promptly dived under the surface and came to rest on the seabed, nine metres down. The pilot quickly released his harness and canopy and shot to the surface in the cockpit air bubble! Overall, the Vamp made quite an impression for a fighter of relatively diminutive size including a wing span of 12.2 m (40 ft), length of 9.4 m (30 ft., 9 in) and height of 2.1 m (6 ft. 10 in.) Its maximum speed was 880 km/hr (545 mph) or 0.78M.



The Vampire Engine - Goblin II Turbojet
Photo Credit - Wikipedia Commons

Canada acquired the Vampire Mk. III shortly after the Second World War, as described by Jerry Vernon in his *CAHS Journal* (Vol. 47, No. 2, summer 2009) account of Canada's first-generation postwar fighters. The RCAF had accumulated credits when surplus operational aircraft and equipment were returned to the RAF from disbanded RCAF overseas squadrons. The credits were used to acquire the Vampire, to help fill the gap that existed while Canada developed the CF-100 interceptor. A possible split between Meteors and Vampires was considered, with the Meteor generally thought to be superior to the Vampire in most respects except for range and visibility. Lengthy talks ended with the U.K. credit providing a fleet of 85 Vampires. RCAF Vampires were built at English Electric at Preston, test-flown

at Preston, ferried elsewhere to be dismantled, and packed and shipped to Downsview. De Havilland of Canada re-assembled, test-flew and turned them over to the RCAF. The Vampire served the RCAF well from 1948 through 1956, and together with the P-51D Mustang was instrumental in developing the Auxiliary squadrons to a strength and status they haven't enjoyed since.

Gerry's first flight in a Vampire took place on 7 Feb., 1953. It was important to watch the fuel. Gerry recalled being warned that a pilot could get a long way from home in a few minutes. His landing, "a piece of cake," was much better than the messy touchdown experienced by another squadron pilot on his first landing. Described by Gerry as a "handsome, white scarf type with a slight English accent," the pilot bounced the Vampire. It was knocked out of phase and "porpoised" all the way down the runway. Gerry also referred to Rob Guillot's account of flying the Vampire with 411 Sqdn. (Aux.) in the *CAHS Journal* (Vol. 43, No. 3, fall 2005). Guillot stated that "the history of the Vampire in RCAF service was marked by a rather large number of fatal accidents," though some were in no way related to its shortcomings.

A fatality occurred on 11 March, 1952, when F/O K.E. Cross was killed at Chatham. He was practising a ground controlled approach, landing as number two in a two-plane formation. It appears that in trying to avoid the jet wash of the first aircraft, he pulled up and stalled. His aircraft came to rest inverted on the runway. Whatever the challenges, Gerry enjoyed operational training, which Commanding Officer W/C Bill Stowe had requested of students in the squadron. The regimen included close and battle formation at various altitudes ranging from low level to 35,000 feet, high and low level navigation, one-quarter attacks on each other, air to air gunnery, air shows and more.

Gerry recalled Operation Tailwind, a big air defence operation where Vampires scrambled from St. Hubert to intercept B-36s that took off from Greenland headed west and then south as if coming from a Soviet base heading for New York City. CF-100s also participated. Several years later, Gerry was told the Vamps were faster on the intercept than the CF-100s, whose twin engines required more start-up time to get airborne. In the debriefing, G/C Somerville stated that 400 Sqdn. operations were better than he had ever seen in auxiliary squadrons. "That operation was the highlight of my career; more so than any

promotion or appointment,” Gerry stated. He paid much credit to W/C Stowe. Gerry enjoyed OTU for three summers, the first of which was the best summer of his entire life.

Gerry recalled considerable discussion about whether pilots should bail out or force land in the event of an engine failure. Some pilots survived bailouts, others didn't. It was the same with forced landings. As for bailouts, the danger was that if the pilot just climbed out, he would hit the horizontal tail plane with devastating results. The better way appeared to do what Gerry described as “the necessary housekeeping like disconnecting the oxygen and radio connection, releasing the harness and canopy, rolling the aircraft inverted and exiting.” It was crucial that before rolling to the inverted position, pilots had to set the trim full nose down.

Gerry described his experience of bailing out in a Vampire on 12 Feb., 1955. He was flying number two when he took off from Trenton in an air-to-air gunnery exercise. Radio contact was lost and he couldn't find the other aircraft. Returning to base, he suffered a flame-out due to fuel starvation but managed to successfully abandon his aircraft according to the logical step-by-step procedure. Gerry didn't have much altitude; maybe 500 to 1,000 feet. He disconnected the oxygen and headset, released the safety harness, ducked his head and released the canopy, trimmed the aircraft full nose heavy, rolled it over and allowed it to bunt him clear of the tail.

“The airplane was gone in a flash,” Gerry recalled. “The tailplane went past nowhere near me.” He did lose his “beloved WW II helmet with the string coming out of the padding around the ear,” as well as the shoes he was wearing. Gerry didn't wear his flying boots, and the shoes left his feet when the chute snapped open. He had to walk a half-mile over snow-covered ground in stockinged feet to the nearest farmhouse! He recalled, a few months later, being paraded in front of Group Captain Z. L. Leigh. Although Leigh had nice things to say about Gerry's conduct during and after the bailout, he added: “However, you did cause the loss of one of Her Majesty's aircraft, so you will have a ‘severe reprimand’ put on your record.” Gerry said that he resisted the temptation of suggesting that since the RCAF had decided to retire the Vampires, he had just saved the government a portion of their disposal problem.

The *Journal* articles indicated that the RAF had a higher accident rate with Vampires than the RCAF. Although more Vampires than Mustangs were written off in RCAF service, the Vampire would not seem to be particularly accident prone when compared to the Canadair Sabre. In any case, only 36 of the original 85 survived when the end came in the fall of 1956, and not all of those were airworthy.

Gerry concluded his detailed and informative presentation by answering several questions. Artist Charles Kadin presented Gerry with a small painting, depicting ‘The CKEY Letdown’ where Vampires employed signals from radio station CKEY, to land at Downsview in poor weather. Bob Winson, Programs Volunteer, thanked Gerry and presented him with a well-deserved surprise: orders on behalf of the Chapter and 16 Wing to report to Horizon Aviation at Pearson Airport for a 90-minute checkride in a Boeing 737 simulator.



RCAF Vampire in Flight
Photo Credit - Canadian Warplane Heritage