



CAHS Toronto Chapter Meeting

Sunday May 6, 2018

Reception from 4:00 pm || Dinner at 6:00 pm

\$50.00 per person

CANADIAN FORCES COLLEGE

Armour Heights Officers' Mess

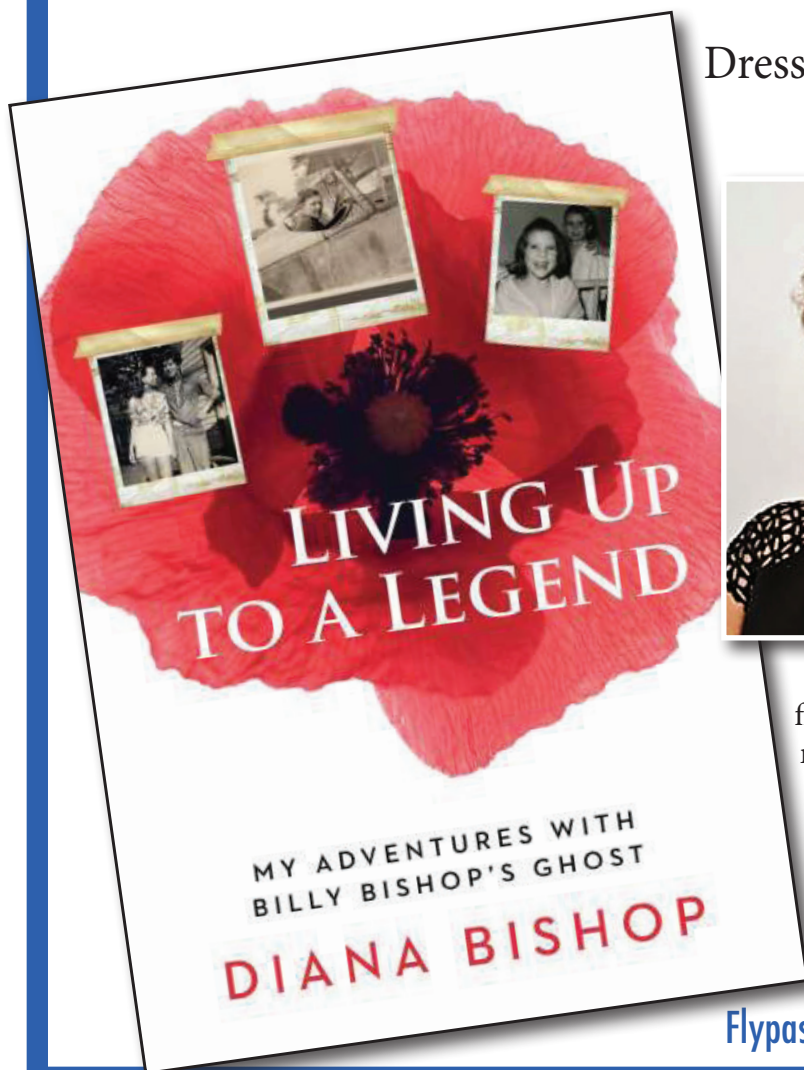
215 Yonge Blvd. at Wilson Avenue, Toronto

Special Guest Presenter: Diana Bishop

Topic: Living Up to a Legend

My Adventures with Billy Bishop's Ghost

Dress - Business Casual



Diana Bishop

Diana Bishop has spent twenty years as a TV news correspondent and independent film producer for CBC, CTV, Global Television and NBC News telling stories of some of the biggest news makers of the day. In 2002, she co-produced a documentary about her famous grandfather, First World War flying ace Billy Bishop, entitled *A Hero to Me*. Diana now runs a communications and personal branding business called *The Success Story Program*. Recently she wrote a book called, *Living Up to a Legend / My Adventures with Billy Bishop's Ghost*.

April 7, 2018 Meeting

Topic: The Development, History and Restoration of a Lockheed Hudson Bomber to Mark VI Configuration
Speaker: Chris Colton, Executive Director, National Air Force Museum of Canada
Reporter: Gord McNulty

Chris Colton provided an informative and much-appreciated overview of the Lockheed Hudson restoration project at the National Air Force Museum of Canada (www.airforcemuseum.ca) Chris previously gave a presentation to the Toronto Chapter on the NAFMC in October, 2013. He was introduced by Chapter Treasurer Brigadier-General (Ret'd) Paul Hayes, who has a long history with the NAFMC. As reported in Flypast Vol. 48, No. 2, Chris looked forward then to acquiring the Hudson that's now a reality.



Speaker Chris Colton
Photo Credit - www.gusair.com



TCA's CF-TCM Lockheed Super Electra Model 14 - This design was developed into the Hudson Bomber.
Photo Courtesy - TCA- Air Canada

Born in St. Catharines, Chris obtained a private pilot's licence at age 16 through an Air Cadet Scholarship. In 1965, he enrolled in the RCAF at Centralia, ON and underwent pilot training at RCAF Station Gimli, MB. After graduation Chris remained at Gimli as a jet Flying Instructor until 1970, when he was posted to Vance AFB, Oklahoma, as a flight instructor and flight examiner. Returning to Canada in 1973 to CFB Trenton, he completed a four-year tour at 436 Transport Squadron, a four-year posting to Air Transport Group Headquarters and finally, a three-year assignment to 426 Transport Squadron as Chief Flying Instructor. The majority of his more than 7,000 hours flown to date are on the CC-130 Hercules.

After attending the Canadian Forces Staff College, Chris was promoted to Lieutenant-Colonel and appointed to the Directorate of Foreign Liaison at National Defence HQ in Ottawa. Moving to CFB Edmonton in 1987, he was appointed Commanding Officer of 440 Transport and Rescue Squadron. Two years later, he became Base Operations Officer. Moving to CFB Trenton in 1992, he served in various positions including international deployments to Djibouti, Qatar, Kuwait and Australia. He retired from the Air Force as the 8 Wing Operations Officer in December 2000 after a 35-year career. From 1997 to 2002, he was a member of the Board of Directors of the RCAF Memorial Museum. In August of 2002, Chris joined the NAFMC staff as the Executive Director. He is also a past member of the Board of Directors of Trenval, and Past President of the Rotary Club of Trenton. He has also held a position on the Smithsonian Air and Space Museum Mutual Concerns Committee in Washington, DC. Chris is married to Major Mickey Colton, a former Hercules pilot presently serving at 424 Squadron Trenton. In fact, she is the highest time Hercules pilot in the RCAF with more than 6,000 hours on the transport. Chris has been a resident of Quinte West for 38 years.



An original Uffa Fox Airborne Lifeboat MK I at the Classic Boat Museum Newport Isle of Wight UK.

Chris introduced the historical theme by showing a photo of the departure on Apr. 14, 2017 of the last CC-130E Hercules, tail number 10307, from Trenton to the Canada Aviation and Space Museum in Ottawa. Lieutenant General Michael Hood, the retiring Commander of the RCAF, was the navigator. NAFMC opened in 1984, moved to its current location in 1994, and expanded in 2004 in order to showcase the Halifax Mark VII NA337. Chris said the museum considers itself “the archive of the RCAF, the location where all of the stories gathered together are told by this museum.” The archive selection and storage are quite large, so the museum tries to rotate the displays throughout the facility. Virtually all the materials are donated by former members of the RCAF. Chris noted the NAFMC Hudson, FK466, is very special in being the only Mark VI example in the world. It also ranks as probably the first Hudson that flew search and rescue to be put on display. The Lockheed Hudson was a versatile American-built light bomber and coastal reconnaissance aircraft that served in many theatres of war, including extensive service with RCAF anti-submarine squadrons. It was derived from the Lockheed Model 14 Super Electra commercial airliner, first flown in 1937 before it entered service with Trans-Canada Airlines in 1938. The Hudson, first flown in 1938, was built initially for the Royal Air Force as a maritime patrol aircraft shortly before the outbreak of the Second World War. The Hudson achieved some significant feats during the first half of the war. On Oct. 8, 1939, over Jutland, a Hudson became the first RAF aircraft to shoot down a German aircraft. Hudsons also operated as fighters during the Battle of Dunkirk. A Hudson became the first aircraft of RCAF Eastern Air Command to sink a submarine, U-754, on July 31, 1942. The Hudson was initially powered by two 1,200 horsepower Wright Cyclone engines and later the Pratt and Whitney R-1830 Twin Wasp. In all, 2,584 Hudsons were built. The Hudson and the Electra series came from a family of Lockheed aircraft. The Model 18 Lodestar, first flown in 1939, was a larger, civil transport successor to the Model 14, while the PV-1 Ventura, first flown in 1941, was a larger, more heavily armed successor to the Hudson. The PV-2 Harpoon, with greater wing span and new tail, was a U.S. Navy patrol bomber.

The museum's Hudson Mark VI served with the RAF as Serial Number FK466 and US Army Air Force as Serial Number 42-47022. It was built at Burbank, California in September, 1942. A Lend-Lease aircraft, it was among the last batches of 450 that were Lend-Leased for delivery to British Commonwealth countries. FK466 was ferried from Burbank to Eastern Air Command at RCAF Station Debert, NS, in October, 1942. Designated for training aircrew to fly across the Atlantic, it was considered a BCATP asset and assigned to No. 31 (RAF) Operational Training Unit at Debert. A formidable challenge was presented by a wartime ferry flight across the Atlantic in a twin-engine aircraft as light as the Hudson, especially given the hazards of winter weather, the threat of icing, and more. Chris noted the Hudson couldn't fly very high and wasn't pressurized. FK466 remained at Debert until August, 1944, when it was transferred from the BCATP to the War Materials Office as "War Reserve," at No. 21 Repair Depot, Moncton, NB. At the time, Canada required an aircraft capable of both search and rescue. The Hudson was chosen as most suitable for initial search and rescue trials. FK466 was then modified to Air Sea Rescue configuration. The ASR conversion included modifying the bomb bay doors to attach an airborne, droppable lifeboat under the aircraft's fuselage. The lifeboat, an Uffa Fox, Mk. 1, was equipped with two gas engines, one sail and emergency rations. Chris said this really was the first example of the RCAF becoming involved in search and rescue. FK466, after conversion to the SAR role, was transferred to Eastern Air Command and assigned to No. 1 (Composite) Squadron at RCAF Station Torbay, NL on April 1, 1945. It provided target towing, search and rescue, and communications. SAR trials became increasingly important. Two Hudsons, FK466 and FK495, were modified for the role. One of these two Hudsons dropped a lifeboat for the crew of a B-24 Liberator that ditched off the coast of Newfoundland on July 6, 1945. The museum is trying to determine which Hudson was involved.



FK466 Arriving at Trenton from Nova Scotia
Photo Courtesy - NAFMC



Nose Section from a USAAF Lockheed A-29A acquired from Aero Trader of Borrego Springs, California.
Photo Courtesy - NAFMC

The SAR role lasted for only a few months. FK466 was flown to No. 1 Reconnaissance and Navigation School at Summerside, PEI, in September 1945. The school was moved to RCAF Greenwood, NS, in December, 1945. FK466 was utilized for general transport duties and eventually transferred to War Assets in November, 1947. The aircraft could be purchased for as little as \$175. It existed as a dismantled hulk at a scrap yard in Canning, NS, from 1980 to 1988, when it was found by Atlantic Canada Aviation Museum members. They transported the aircraft to the ACAM facility near the Halifax Stanfield International Airport in 1988, where it sat in their yard. In 2010, Chris convinced the ACAM to send the Hudson for restoration at NAFMC. The Hudson was noteworthy for its upper gun turret, capable of being rotated 360 degrees. It came as a

surprise to the Germans who encountered the Hudson early in the war! The aircraft had a good range of about three hours or more. Uffa Fox was a British boat designer and sailing enthusiast who invented the airborne lifeboat that carried his name. Other wartime British aircraft, including the Avro Lancaster

and the Vickers Warwick, were modified to carry the lifeboat. In Canada, only the Hudson carried it. The lifeboat was about 30 feet long and was very distinctive when mounted on the aircraft. FK466 displayed a white and grey scheme in Coastal Command service, circa 1943-1945. That's the traditional scheme chosen by the museum. The lifeboat was dropped through a tether system, eventually pulling out the ripcord for the parachute, as it dropped away from the aircraft into the sea toward the rescue target. The capability was fairly rudimentary compared to today, but the idea was sound. So far, there isn't a recorded case where airmen were saved using this system. Chris welcomed any research about the system in Canadian waters. FK466 never had an upper gun turret, as it always remained in a training role until converted to SAR.



FK466 fuselage restoration, with wings and tail from Lockheed CF-CEC added. *Photo Courtesy - NAFMC*

Chris's well-illustrated presentation included photos showing the badly deteriorated condition of FK466 when it arrived from the ACAM. The Hudson had been placed in storage in 1947, sat in a warehouse, then in a scrap yard until 1980, when it went to the ACAM. It sat outside for 30 years and there wasn't much left. It had been vandalized and some of the metal had been sold by the scrap dealer. A door disappeared just before the NAFMC acquired it. Fortunately, the NAFMC, with many friends and contacts, was able to organize a collaborative restoration. Five different organizations competed the task, starting with the ACAM supplying the fuselage section that was the minimum capable to begin. The NAFMC initially added a new tail section. Then a friend of Chris called to say he had a Hudson nose section, from an aircraft that crashed in 1943 at Pima, Arizona. All of the Hudsons built for the USAAF and the RAF were the same. The nose section of the Pima aircraft --- all the way to the cockpit including the glass --- had survived. With identification number 41-17739, the Hudson was still painted in original USAAF brown colours. The NAFMC then determined the correct attachment point to the fuselage, saving as much of the original nose as it could. Next, Byron Williams, one of the curators of the Reynolds-Alberta Museum in Wetaskiwin, AB, called to give their unwanted Lockheed Lodestar --- at least its components --- to the NAFMC. The Lodestar, CF-CEC, had been converted into a VIP passenger transport with picture windows. The aircraft was dismantled after arrival at Trenton, with the wings and the tail removed. The tail of a Lodestar was slightly lighter than that of a Hudson, which had been strengthened to handle the extra drag and weight



The world's only flying Hudson Bomber in Australia
Photo Courtesy - Temora Aviation Museum

of the turret. Ultimately, the NAFMC modified the Lodestar tail for its Hudson. It also used the Lodestar wing section. The P and W R-1830 engines, and propellers, were offered by none other than Buffalo Airways owner and president "Buffalo Joe" McBryan of Yellowknife, NWT. Three complete engines, with props, hubs, spinners, nacelles, etc. were picked up in Val-d'Or Quebec. "All Joe said was, 'Just give me a call when you're done and say thank you,'" Chris recalled.

From the project inception in 2010, it took the NAFMC about four years to make FK466 come alive again. A number of Lodestars still survive, so most of the interior cockpit parts are relatively common. Many original gauges couldn't be used because of the hazard of radioactivity. Second World War dials were painted with radium and as Chris noted, the museum has to be very careful when acquiring wartime aircraft up to 1958 vintage. As of today, FK466 has been cocooned and put outside the restoration shop for the moment. Virtually everything has been done. The engines are complete and ready for attachment to the engine mounts. To date, however, the museum hasn't found suitable engine mounts, anywhere in the world, to attach the engines to the firewall. It looks as if the museum will have to produce its own engine mounts to hang the engines. Chris expects the job will be done shortly. Then FK466 will go into the paint shop. Representing a search and rescue aircraft, it will have the bomb bay adapted for the Uffa Fox lifeboat, which the museum is now looking for. The lifeboat will be displayed beside the aircraft when it is brought into a brand-new, expanded museum twice the size of what it is today.



Edmonston Lancaster KB882 arriving in Trenton
Photo Courtesy - NAFMC

Chris, answering numerous questions, noted there is only one Hudson on display in North America: a Hudson Mark III at the North Atlantic Aviation Museum (www.northatlanticaviationmuseum.com) in Gander, NL. It's painted as T9422 to commemorate the first successful trans-Atlantic ferry flight from Gander in 1940 led by Air Vice Marshal Donald Bennett. The aircraft is exhibited outdoors with an Atlantic Ferry Pilot Memorial in recognition of that event and the many thousands of aviators and aircraft who have followed since then. A Hudson III is on display at the RAF Museum at the former Hendon Aerodrome, honouring the contribution of the Hudson in the United Kingdom. The Temora Aviation Museum in Australia flies a Hudson in Mark III colours that served with the Royal Australian Air Force during the war. A fully restored Hudson Mark IV is on display at Canberra Airport in Australia. Several Hudsons survive in New Zealand. The best example is a Hudson III in RNZAF colours at the Air Force Museum of New Zealand in Christchurch. Surprisingly, there isn't a Hudson on display in the U.S., although a Lockheed C-60A, a wartime military version of the Lodestar, is at the National Museum of the USAF at Dayton, Ohio. A number of Venturas are also on display in the U.S. Chris noted a Ventura is being restored at the Canadian Museum of Flight at Langley, BC.

Chris mentioned the Lancaster Mk X, KB882, formerly owned by the City of Edmunston, NB, that was acquired by the NATFM after more than 50 years as an outdoor landmark. The Lancaster arrived at Trenton this past fall. This aircraft flew 11 wartime operations in 1945. It will be restored the way it served post-war in the aerial reconnaissance role, to recognize RCAF crews who flew Cold War missions from 1946 to 1964. It will be housed in the museum's new building. "We're in the process of ensuring that it will be ready to go by 2024," Chris noted. He added there will be space to accommodate the museum aircraft now displayed outdoors. The ultimate goal is to put all 28 aircraft inside, where they should be. As of July this year, the museum will receive a Lockheed CP-140 Aurora, tail number 102. A Sea King, tail number 405, will arrive as well. Paul Hayes, thanking Chris for a fascinating presentation, presented a cheque for the museum on behalf of the Toronto Chapter. Chris can be reached at director@airforcemuseum.ca or 613-965-2208.

Chapter News & Views May 2018

You are invited to check out Blogs / Research on the Chapter Website www.torontoaviationhistory.com At the suggestion of Chapter members several new blogs have been added including, "The Peoples' Mosquito" (Another restoration), Bomber Command Museum – Nanton and the very excellent website of the museum at Windsor, Ontario (Also restoring a Mosquito).



Canadair-cl-600-challenger-600-01



Canadair CRJ-200



Bombardier-CRJ-700-large_tcm87-3706



Saunders ST-27 CF-YBM-X

CAHS Moments in History - Part 2

by Contributing Editor Geoff Pyne

Secondly, Canadair/Bombardier were also busy during these months, again in chronological order. May 26, 1978 saw the roll-out of the Challenger CL-600 in Montreal. Powered by Avco Lycoming ALF 502L turboprops of 7500 lbf thrust each, the CL-600 was based on Bill Lear's "Learstar 600" concept, but extensively changed to include a "wide-body" cabin and a supercritical wing. It first flew in November 1978. About 1100 Challenger developments in various configurations have been sold to date.

May 10, 1991 marked the first flight of the CRJ-100, which had been developed from the Canadair CL-600 Challenger with a 19 feet, 5 inch stretch. Followed quickly by the CRJ-200 which had higher performance and more fuel-efficient General Electric CF34-3B1 engines. Seating up to 50 passengers, with over 1000 eventually delivered, this aircraft was in the forefront of fan-jet powered commuter business and allowed many airlines to flourish in the 1990s.

Another aircraft first flight, on May 27, 1999, was the Bombardier CRJ-700. Once again, this variant is a "stretch" of the popular CRJ-200 and features a new wing with leading edge slats, a fuselage stretched by about 18 feet and a slightly widened fuselage, with two General Electric CF34-8C1 engines. Variants seat 68 - 78 passengers. Approximately 340 aircraft have been delivered to date.

Last for this month, but not least, a small, now defunct Canadian manufacturer made the first flight of their prototype. Saunders Aviation, Gimli, Manitoba flew the Saunders ST-27 CF-YBM-X on May 28, 1969. The aircraft was designed as a conversion of the four-engine de Havilland Heron 2. The conversion included lengthening the cabin by 8 ft. 6 in. to provide accommodation for up to 23 passengers, incorporating a redesigned main spar and replacing the four Gipsy engines by two 750 shp Pratt & Whitney PT6A-34 turbo prop engines. Twelve units were built but unfortunately, production ended in 1976 when financial backing was withdrawn by the Manitoba Provincial government.

More next month.....!



Governor - General Julie Payette receiving her RCAF Wings November 2017 - Eagle Wings with a silver maple leaf above the Terrestrial Symbol
Photo Courtesy - AHOM.



CAHS Toronto Chapter Executive 2017-2018

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The Chapter is a proud sponsor of the “**Don Rogers Memorial Scholarship**” at Georgian College.

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