

WARRIOR

Summer 2016



Your 'Highway to Heaven'

**RCNAS Shearwater Main Gate
and Main Road up to the Runways.**

Still in our Memory.

Sure it never will be Heaven, it's just RCNAS.

*Sure a little bit of Hades rose from out the sea one day,
And it settled down near Imperoil not very far away
And when the Navy saw it, sure it looked so bleak and bare
They said "Suppose we grab it, we can send the fly boys there".*

*They sprinkled it with pot holes, as the sailors came and flew
And here and there a hangar to obstruct the Tower's view
Now the Government supports us, as our twitch we all suppress
Sure it never will be Heaven, it's just RCNAS.*

*Now they said at SNAM, the old Avenger is a lovely kite'
So go and keep 'em flying lads all day and half the night.
We stayed at SNAM, a week, a month, a year and half a day
We tried to keep 'em flying but they spin the other way.*

*Still when we go out to Luna Park to case the Junior Prom
Then stagger down to old Pop's Grill to have a yarn with Mom
It's then we miss the old Avenger though it makes a fuss,
Sure it's so much more reliable than any old Bell's Bus.*

*They're building us a Living Block, although its still not there
But we're slowly making progress and the future it looks fair.
The WRENS have come to join us and they make our dull lives bright,
They charm us in the daytime, but where do they go at night?*

*Now we'll have a brand new Carrier, two years from now they say,
We believe them cause we want to, we're so gullible that way.
Till then, dear friends, Shearwater will be our fixed address,
Sure it never will be Heaven, it's just RCNAS.*

A wise nation preserves its records, gathers up its muniments, decorates the tombs of its illustrious dead, repairs its great public structures, and fosters national pride and love of country by perpetual references to the sacrifices and glories of the past..

Joseph Howe , 31 August 1871

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Submissions: Text submissions can be either paper, email or electronically produced - Word Perfect (preferred) or Word. ***We will format the text for you. No need to centre headings, indent paras etc.***

Graphics are best submitted electronically, they should be 300dpi and a .tif file. A jpg file at 300dpi is acceptable if no compression is used. We will attempt to use any pictures, whatever the format.

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Deadlines for receiving submissions are:

Spring	1 March
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**SUPPORT YOUR SHEARWATER
AVIATION MUSEUM FOUNDATION
JOIN US**

HMCS SHEARWATER **(*Royal Canadian Naval Air Station Dartmouth*)** **(1948-1968)**

Fixed Wing Aircraft

The fourth largest air force in the world during the Second World War the RCAF was in the process of downsizing to its peacetime complement in the post-war era. This included reducing the infrastructure and personnel at RCAF Station Dartmouth. However, the reductions conflicted with the RCN's fledgling Naval Air Arm which was building up to its authorized strength. Therefore, on 1 December 1948 the RCAF turned the air station over to the RCN and it officially became known as Royal Canadian Naval Air Station Dartmouth. The RCN followed the Royal Navy tradition of naming air stations after sea birds and simultaneously commissioned the air station HMCS Shearwater.

Building on the foundation established by the RCNAS, Shearwater became the new home for 803 and 883 Squadrons, equipped with Seafire aircraft and 825 and 826 squadrons flying Firefly aircraft. The sole purpose of Shearwater was to provide a shore base to support flying operations aboard the RCN's aircraft carriers. Also, No. 1 Training Air Group comprising 743 Fleet Requirements Unit and an Operational Flying Training School provided trained aircrew for the operational squadrons. Similarly, a Naval Stores Depot and the School of Naval Aircraft Maintenance provided spares and trained aircraft technicians.

In March 1948, HMCS Warrior was paid off and replaced by HMCS Magnificent, which arrived with the first batch of Hawker Sea Fury aircraft to replace the obsolete Seafires on 803 and 883 Squadrons. In 1950, the Firefly aircraft on 825 and 826 Squadrons proved to be unsuitable for the anti-submarine role that Canada agreed would be the RCN's specialty after becoming a signatory to the 1949 NATO agreement. Consequently, the Fireflies were replaced by Grumman Avenger aircraft purchased from the US Navy. In 1955, the acquisition of eight Airborne Early Warning Avengers brought the total number of Avengers to 125, the most numerous type of aircraft in the RCN's history.

In 1951, the squadrons were renumbered to better identify Canadian formations within the Commonwealth numbering system. Accordingly, the fighter squadrons, 803 and 883 were renumbered 870 and 871 respectively, while the anti-submarine squadrons, 825 and 826, became 880 and 881 respectively. As Canadian naval aviation became more closely entwined with the US Navy in continental defence, the Air Arm adopted the US Navy letter prefixes to squadron numbers in November 1952. Hence 870 and 871 Squadrons became VF 870 and VF 871, with "VF" indicating a fixed wing fighter squadron while 880 and 881 Squadrons were redesignated VS 880 and VS 881, with "VS" identifying fixed wing anti-submarine squadrons. In the same process FRU 743 became a fixed wing utility squadron designated VU 32.

Shearwater ushered in the jet age in January 1955 with the arrival of the first T-33 Silver Star jet training aircraft, loaned from the RCAF. In November 1955 the first of 39 McDonnell Banshees, purchased from the US Navy, arrived at Shearwater to replace the Sea Furies on VF 870 and VF 871 Squadrons. In

1959, VF 871 was absorbed into VF 870, which flew the Banshees from the aircraft carrier HMCS Bonaventure until September 1962 when the Naval Air Arm's first and last jet fighter was retired without replacement.

In October 1956, the first of 100 deHavilland-built Grumman Tracker aircraft arrived at Shearwater. The first version of the Tracker, the CS2F-1, was delivered to VS 881 in February 1957 and the squadron embarked in the newly arrived aircraft carrier H.M.C.S. Bonaventure in September 1957.

VS 880 received her Trackers in October 1957. After conversion training that squadron embarked in H.M.C.S. Bonaventure for their first Tracker operations in January 1959.

The following July, VS 881 merged with VS 880 to form the RCN's sole ASW squadron and the largest squadron in the Commonwealth with 24 operational CS2F-1's and 450 personnel. With the demise of H.M.C.S. Bonaventure as an aircraft carrier in 1968 the Tracker was re-rolled as a land based maritime reconnaissance aircraft and VS 880 was redesignated a Maritime Reconnaissance squadron, MR 880. Tracker operations ceased at Shearwater in the summer of 1981 when MR 880 was transferred to Summerside PEI. The Tracker was finally retired in 1990, 34 years after the first flight of the Canadian built CS2F.

Rotary Wing Aircraft

In August 1951, the RCN's first helicopters, three Bell HTL-4's, were delivered to Shearwater and assigned to the newly formed No. 1 Helicopter Flight. The HTL-4's roles included search and rescue, aerial photography, recovering ships' practice torpedoes and light transport. The RCN also required the HTL's for the newly commissioned icebreaker HMCS Labrador for ice reconnaissance. Later the RCN took an additional five HTL-6's on strength, which were used to train fixed-wing pilots who were to fly the larger HO4S helicopter in utility roles.

In April 1952, the helicopter inventory at HMCS Shearwater expanded with No. 1 Helicopter Flight taking delivery of three Sikorsky HO4S-2's. These helicopters were used primarily as a plane guard during flight operations from the aircraft carriers. On 1 December 1952 the helicopter strength had increased to the point where No. 1 Helicopter Flight was elevated to squadron status and designated VH 21.

In 1954, a third type of utility helicopter was added to VH 21's inventory when a number of ex-U.S. Army Piasecki HUP-3's were taken on strength at Shearwater. In April 1955, VH 21 was redesignated Helicopter Utility Squadron 21 (HU 21) to better reflect its role. The HUP-3's, flown by HU 21, were intended primarily for use aboard the ice breaker HMCS Labrador to provide a heavy (900 pound - 408 kg) lift capability. When not embarked on the icebreaker the HUP-3's were used for search and rescue and general naval utility as well as providing support to other government departments.

On 4 July 1955, a new helicopter squadron, HS 50, was formed at Shearwater to provide a rotary wing anti-submarine capability for the aircraft carrier, HMCS Magnificent. HS 50 was initially equipped with six HO4S's, which were fitted with dipping sonar and carried depth charges and homing torpedoes. HS 50 was

tasked to further study the use of helicopters in anti-submarine warfare by investigating the feasibility of operating helicopters from small destroyers. In 1958 the trials culminated with the first landing of an HS 50 HO4S-3 aboard a St. Laurent class destroyer. The HO4S's from Shearwater successfully pioneered what may be one of the most important innovations in naval aviation, the operation of helicopters from the small flight decks on destroyers. Navies around the world including those of the United States and Britain adopted the concept.

In May 1963 the first of 41 Sea King helicopters arrived at Shearwater to replace the HO4S. The Sea King served with HS 50, HU 21, and VX 10, the squadron responsible for engineering development and testing. The Sea King operated at sea from both the aircraft carrier HMCS Bonaventure and from helicopter-destroyer escorts (DDH's). The carrier normally embarked four to six Sea Kings along with the normal complement of Trackers and a single HO4S plane guard. The St. Laurent and Annapolis class DDH's carried one helicopter whereas the larger Tribal Class DDH's accommodated two Sea Kings.

Shearwater continued as the home of naval fixed and rotary wing aviation until 1968 when Canada's armed forces were unified.

The Museum exhibits a CS2F Tracker, certified airworthy.

SHEARWATER AVIATION MUSEUM FOUNDATION CHAIRMAN



BGen (Ret'd) Paul J. McCabe, OMM, CD

I would like to take the time to introduce myself to the faithful readers of the Warrior. I have the honor of serving as Chairman of the Shearwater Aviation Museum Foundation (SAMF) and am excited to be working with the many members of the Foundation.

Working hand in hand with the Shearwater Aviation Museum (SAM) and its many volunteers, we are hoping for great and

positive things in the future to preserve our Maritime Air heritage.

I started my military career after graduating from the Royal Military College in May 1975 with a Bachelor's degree in Electrical Engineering and was commissioned in the Canadian Forces as an aerospace engineering officer. My first posting was at 12 Wing Shearwater as a junior maintenance officer on VU32 Squadron. I then served in the Base Aircraft Maintenance and Engineering Organization (BAMEO) supporting the Sea King fleet at first and second line. While serving at Shearwater, I met and married my wife Sandra (Squires), formerly of Stephenville, Nfld.

My career spanned some 36 plus years holding a number of leadership positions at various levels within the Air Force and at National Defence Headquarters (NDHQ) in Ottawa. I served in the Air Force Operational Headquarters in Winnipeg and held a number of Maintenance Officer positions at the Wing level. I had great experiences as a member of the Aerospace Engineering Test Establishment (AETE) in Cold Lake and as the Base Technical Services Officer (BTSO) at Portage la Prairie. During the 911 tragic event, I was serving as the Wing Commander at 5 Wing Goose Bay where we played host to five aircraft and 800 passengers. I retired in June 2008 while serving as the Director General Aerospace Equipment Program Management (DGAEPM) in Ottawa responsible for the in service support for all of the RCAF fleets.

Sandra and I and our son Geoff enjoyed a great career within the Air Force with a number of moves across the country and in between. We had the privilege of experiencing the great cultural diversity that is so much a part of Canada and made many friends and acquaintances along the way. Each posting was a new adventure to be embraced and enjoyed. Most of all, the people made the moves and challenges of military life worthwhile. We wouldn't change a thing.

I am currently employed as the Vice President of Programs at IMP Aerospace at the Stanfield International Airport. Sandra and I, reside in Truro. We have one son, Geoffrey, who lives with his wife Tara and their son Teagan in Saint John NB.

I appreciate the opportunity to be a part of the SAMF board and look forward to supporting the continued growth and development of the SAM. Our current goal is to raise sufficient funds to support a much needed expansion of the SAM to house the future Sea King exhibits to ensure the story of the venerable fleet gets told. So be on the lookout for more information from our fund raising committee as we step out with our campaign in the near future

BELT OF ORION CEREMONIES 9 JUNE 2016



Millie MacLean accepting the Belt of Orion Award from MGen John Madower on behalf of all the members of the RCN Air Branch with LGen Larry Ashley as her escort.

Millie then addressed the audience as follows:

This is truly a special evening and I am humbled and honoured to be here with so many of the Air Branch family. The award of the Belt of Orion for 2016 by

Canada's Aviation Hall of Fame was a dream of my late husband. It recognizes the sacrifice, dedication, commitment and professionalism of hundreds and hundreds of members of the Royal Canadian Navy Air Branch over a sustained period of the Cold War. I know that Bud is looking down this evening with us and other colleagues in the Delta as I accept this prestigious Award on behalf of every member of the Air Branch who served Canada so proudly. Thank you for this honour.



Belt of Orion Acceptance Remarks by Paul Baiden, National Chairman, Canadian Naval Air Group

It is a privilege to be standing here with Millie and knowing that her daughter Cindy is also here with us this evening while Millie accepts on behalf of the Royal Canadian Naval Air Branch this most prestigious award for excellence! As you are all aware this particular honour is not one that the Hall awards without considerable research and is therefore a testament to our Branch's historic accomplishments during the Cold War Era and acknowledges the ingenuity, dedication

and sacrifices of our naval air personnel that not only endured the hardships of the North Atlantic but did so while facing the ever prevailing threat of Soviet aggression. It is truly hoped that through recognition by institutes like the Hall, future generations of Canadians will acquire a better appreciation of our history and the sacrifices associated with Nation Building.

Canada's three aircraft carriers HMCS Warrior, Magnificent, Bonaventure and our renowned DDH's, with their Seaking Helicopters and their unique Canadian designed Haul Down System (Bear Trap) provided an ever formidable deterrent during these challenging times. As born out during the Cuban Missile Crisis, the outcome of this potentially catastrophic event was contained by Allied resolve and the judicious application of naval sea

power in which Canada played a significant role.

BUD's Dream:

In the late spring of 2007, with the Canadian Naval Centennial looming on the horizon, Commander Owen (Bud) MacLean launched one of his typical trial balloons to fellow naval aviators. His idea was to find a way to commemorate what he described as "the incredible accomplishments of the RCN Air Branch" during the turbulent period from 1945 to 1968. Bud was quite concerned that Canadian Historians would not adequately recognize the role played by our Naval Air Branch and he concluded that an initiative on our part was not just warranted but necessary. With his usual thoroughness, Bud set his sights on the Canada's Aviation Hall of Fame prestigious Belt of Orion for Excellence.

How Bud came to care so deeply about this project is not surprising, certainly not to those of us who had the pleasure of knowing and serving with him. As the driving force and principal architect of our submission, Bud had been one of the first two naval aviators to be highly decorated under the new Canadian Honours and Awards System and he personally experienced much of what he wrote about in what was a monumental and purposeful sifting of historical material. He was intimately involved from the early days in operational flight from aircraft carriers and destroyers, and mastered many of the aircraft types and the associated challenging operational conditions that earmark anti-submarine aviation at sea.

In his long career, encompassing service as an enlisted aircrew specialist right up to Command of an operational squadron he was personally involved in many of the important technical innovations that so distinguished the Royal Canadian Naval Air Branch from those of its allies and lived through (including a catastrophic ditching at sea) many of the significant events and innovations that are so well described in our submission. He also worked with, and later served widely in Canada's aviation industry so his understanding and appreciation of the critical interface between the two domains was well developed and soundly based on personal experience.

Over the course of the next few years, Bud approached many naval air colleagues and military historians and, encouraged by their support and enthusiasm, gathered together a team. Under his leadership, Stu Soward, Dave Tate, Gordon Moyer, Ted Forman, Bob Falls, Paul Manson, Larry Ashley, Peter Milsom, Dudley Allan, Richard Gimblett and myself began the arduous task of documenting the Naval Air Branch story. Everyone realized that this might become a long term project but no one knew the extent of the challenge. Our first submission to the Hall targeted the Belt of Orion award for 2010, our Navy's Centennial. However, it was 2015 before our goal actually came to fruition and by this time Bud MacLean, Dave Tate, Stu Soward, Gordon Moyer, Ted Foreman, Roger Piper and Bob Falls, all distinguished naval air branch members and authors of the submission had passed into the DELTA. And we salute each of them this evening.

The success and accomplishments of the RCN Air Branch throughout the Cold War were the product of operational savvy, technological vision, courage, risk taking, team work, high level sustained professionalism, dedication and individual and collective leadership. The contribution that the Air Branch made to the RCN in the accomplishment of its missions and to Canadian industry and to Canada and her Alliance partners during a challenging time in global history was extraordinary. Bud's quest for the Belt was a CNAG, Naval Centennial initiative, undertaken on behalf of all Canadian naval aviation personnel past and present. And therefore, we say to all the members of the Royal Canadian Naval Air Branch, this prestigious Belt of Orion is your award for excellence!

May we join in congratulating all the other recipients of tonight's awards and sincerely thank the entire Hall Staff for their excellent support in making Bud's Dream come to fruition. I would also like to thank Admiral Lloyd for joining us and in closing would ask that all past and present Naval Air Branch personnel stand and be recognized!

Thank you for your dream Bud! Your inspiration, dedication and continuous optimism has now ensured that the historic accomplishments of our shipmates will be enshrined with all those other distinguished individuals and organizations that have done so much to make Canadian Aviation a "Hall Mark" within the aviation world.

FROM THE CURATOR'S DESK

By Christine Hines

I normally use this column to discuss big, hot-button items such as building expansions, aircraft restorations and volunteerism. All fabulous topics, and of course we wouldn't be a successful attraction without all of those wonderful things, but often the smaller collection types don't get too much notice in this column. Until now...

A colleague at another Canadian Forces museum recently transferred a small collection of sealed pattern flight deck jerseys to the Shearwater Aviation Museum. I was truly delighted because, as many of our supporters will know, we didn't have any in our collection. These items, even though they weren't worn, fill a large hole in the small artifact collection.

While we get offered many uniform items and photographs, some of the more interesting and unique items don't find their way into our collections. We are actively seeking the following objects: aircraft hand tools and tool boxes, flight deck jerseys (any colour), WWII-era RCAF uniforms (any order of dress, any rank), Canadian Sea King memorabilia (any era): photos, a Barker Bar or other safety system equipment, and personal stories or anecdotes for the oral history program would be appreciated. If you have items to offer us, please call me [(902) 720-1767] to discuss the museum's collection needs. Our small item storage rooms are filled to the gunwales with items we can't always use. As a result, we have to put a moratorium on accepting items that come in at the front desk without prior notice.

There has been much written in recent issues of the "Warrior" about museum additions and expansions to house the Sea Kings and related training equipment, as well as a dedicated restoration facility. We currently have three small storage rooms for small artifacts and the art collection. They are over-full, despite having acquired compact shelving systems to better manage the volume of material. Therefore, we have built in (no pun intended) to our expansion plan a small addition that will provide a much needed cataloguing workshop/small artifact collections storage and exhibit preparation space.



This is a sealed pattern yellow flight deck jersey for the RCN, ca. 1958

I look forward to hearing from you! Do not hesitate to

contact me at (902) 720-1767 or by email: curator@shearwateraviationmuseum.ns.ca

Thanks in

advance, and have a great summer!



Here is Jessica Goreham-Penney showing off our "new" storage room in 2009, when we got out our brand new compact mobile storage system installed.



As you can see, the acquired shelving systems are over-full.

FROM THE EDITOR Many of us who grew up with the military management practices of the 1950s and 60s are baffled by the fiscal based decision making of today. It's hard to know whether to laugh or cry - some of these things are so mind boggling to us. The following are just a few of the changes that exist at Shearwater today.

We were told a group of civilians called PSP (?) have taken the place of the P & R T side of the Military (Why?). If the Military didn't want the P&RT why bring in civilians to replace them, if funding is the problem.

PSP closed down the Shearwater Figure Skating Club an elite club of about 40 years. Why? I'm told the % of civilian skaters outweighed the military family skaters. Civilian skaters paid the government a special fee for becoming a member of the Club at Shearwater over and above the regular skating yearly fee. I wonder if this will affect Hockey?

Autoport in Eastern Passage leased Base property. (From? Another civilian company?) and ended up parking 8,000 cars on the long runway (16/34). A year ago last winter, storms were so intense Autoport vehicles were frozen into the ground with nowhere to park other cars that were still delivered by ships that just kept on coming. Although this past winter was not too stormy, Autoport was still using the Base and to this date, are still using the Base. I'm told the Base needed the funding. We were always made to understand, over the years, that security was paramount and civilians should not have unfettered access to the air drome.

Even here at the Museum there are problems. They desperately need another new building. After months of waiting for approval to build one - approval arrived. However, *approval for funding this venture was not granted* at this time.

Perhaps a minor thing to most but... Over the past many weeks, the telephone lines went u/s in the Museum. Still not repaired and no idea when they will be. (Funding?) In this day and age a solution to the problem cannot be made available?

There you have it. We are all doing our best with what we have. SAMF is working hard toward a new building. This is where you come in - when asked for your help, please dig deep and don't let me down. I, for one, am counting on you, again, my dear Naval Air Friends, for your help to keep your heritage maintained..

BTW if you are into prayers, and you should be, say one for our military - they need all the help they can get from the looks of things around here. *Kay Collacutt* Editor



Just when I thought I would quit venting, I received these photos by email. I would venture to say that nearly every member of the Senior Service (the RCN and Naval Air) did their Basic Training there at HMCS Cornwallis. Hang on to your memories of Cornwallis.

The new Main Gate at Cornwallis.





Aurora Technicians holding coveted Fincastle Trophy

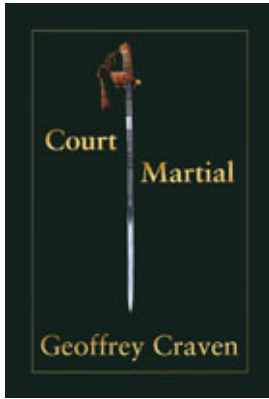
To me our aircraft technicians are the unsung heroes...

By Ernie Cable - Shearwater Military Historian

To me our aircraft technicians are the unsung heroes; forget the glamour moniker, these men and women thrive on professionalism and pride in keeping our aircraft in air. This was never more clearly demonstrated when one of my 405 Sqn crews was selected to represent Canada in the 1981 Fincastle competition in Australia. Our aircrew of 12 was supported by eight technicians. The new Aurora had been in service for only six months so both the aircrews and technicians were still learning about the aircraft's intricate details. This was also the Aurora's first out of country deployment and it was half way around the world, a long way from spare parts and technical advice at home.

Fincastle is an anti-submarine competition among Commonwealth maritime air forces to determine which country is the best in anti-submarine warfare. Crews are briefed that a submarine is located in a 100x100 km square and have a four-hour block to find and attack the

submarine. There are night and day sorties and the crew with the lowest average time to attack the submarine with smallest attack error is declared the winner. The technicians play a critical role because the the four-hour block has fixed start and stop times so if the aircraft is late because of technical problems or any other reason the time late is deducted from the four hour search and attack time, so if the aircraft is 30 minutes late there remains only 3 hours 30 minutes to find and attack the submarine. Our technicians encountered several aircraft unserviceabilities that were foreign to them, but through their ingenuity, determination and perseverance the problems were repaired and our Aurora made its assigned times in the four hour block. The technicians' efforts were rewarded when our aircrew won the competition; without the technicians' special efforts the aircraft probably would not have been able to take off, let alone win the competition. There were lots of photographs taken of the winning aircrew-technician team, but I was so proud of our technicians that I had a photograph taken of them alone holding the Fincastle trophy, emblematic of ASW supremacy among Commonwealth air forces.



Geoff Craven writes his first book and it will be coming soon. The Editor

PROLOGUE

In the last decades of the twentieth century project managers developed methods for keeping their jobs, surviving bureaucratic wars, and detecting and preventing threats to their projects. They divided their work into six phases: Enthusiasm, Apprehension, Panic, Search for the Guilty, Punishment of the Innocent, Praise and Honours for Non-Participants. Knowing what to expect made project managers' jobs seem easier; they could say to each other "See – I told you so." Describing the six phases of a multi-million-dollar Canadian naval fighter aircraft acquisition which might have taken place in the 1960s, this book is dedicated to all past, present and future project managers. Though striking, any perceived likenesses between the protagonists and managers involved in real projects then or now is unintentional and entirely coincidental.

The manager of this project made mistakes which resulted in his court martial, a career-limiting event all military officers try to avoid. Among other obstacles put in his path was a 'honeytrap' – security-speak for a young woman who involves herself in the project by exercising her charms (not an uncommon event when big money is at stake). I owe much of the atmosphere and drama of the court martial to my brief experience as Officer of the Court and Friend of the Accused at two courts martial, as president of a Board of Inquiry, and to Albert Camus' description of his mother's funeral in his book *l'Etranger*. While participating in Canadian government competition processes, I benefited greatly from mentoring by three professional government relations consultants, partners in one of Ottawa's first and foremost lobbying companies; and experience working with Canadian subsidiaries of major US and UK aircraft manufacturers who were my clients.

A note of historical interest: the Holy Grail Report to which Commander Prescott refers in Chapter One was a definitive study of fifteen high-performance fighter aircraft the Department of National Defence considered for replacement of the Royal Canadian Navy's F2H3 Banshee aircraft operating in the late 1950s and early 1960s. The Holy Grail team found three to be acceptable: Douglas's A4 Skyhawk, North American Aviation's FJ Fury, and Northrop's CF5. Financial considerations precluded the government from buying new aircraft, and the Navy's obsolete Banshees were removed from service in 1962. If another decision had been made, the competition project described herein might have occurred.

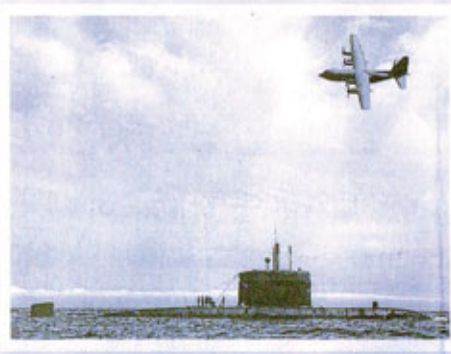
I apologize to non-aviators for tedious details of flying in some chapters of this book; I wanted to describe accurately the techniques, atmosphere, sensations, language, risk and adrenalin which characterize high-performance naval aircraft operations at sea and ashore. I have taken some liberties in chronology and in simplifying the organization of the Canadian military and the Ottawa federal bureaucracy; I hope my former colleagues will forgive me. **G. Craven, November 2015**



A Douglas A4 being hoisted on board Bonaventure with the ship's crane - the frontispiece for my book.

From the Editor: I really want to pass on "The Admiral's View" as shown in a recent local newspaper. I am assuming you have heard of Rear Admiral John Newton. This article would have been perfect, in my books, had the photo with it shown the Magnificent, Bonaventure or any aircraft from this 'Lost Generation'. Any comments?

The Admiral's View



THE LOST GENERATION

**By Rear-Admiral John Newton,
Commander Joint Task Force
Atlantic and Maritime Forces Atlantic**

Suspended over the seabed, Able Seaman Newton could see little. His slow motion movements stirred clouds of mud and blackened what little light illuminated the bottom. Suspended deep below his diving tender, he searched by feel. He swallowed his fear as discoveries were made, in time a landing gear then the cockpit dashboard. The violence of the crash had ripped the Avenger anti-submarine warfare plane apart, sending debris tumbling across the surface of the picturesque cove.

Newton's partner would eventually discover Lieutenant Milovick's body still strapped to his seat. It was a tragedy that marked a bad flying day for the Canadian Naval Air Group in June, 1952. There is little I could find written about Mike Milovick. He perished while conducting low-level training, and aside from my father's memories of the ensuing search, his story and the endeavours of his navy in that era have pretty much disappeared from our consciousness.

Standing on the hillside above Prospect recently, dad pointed out the beach where he hauled wreckage ashore. We explored the wharf where his diving tender moored, the North Atlantic visible just beyond rocky islets. There was sadness in my father's storytelling that is greater than a lament for one lost shipmate all those years ago.

Dad grew up in the Royal Canadian Navy of the Cold War, a service seasoned by the heroic Battle of the Atlantic. Veteran sailors instilled discipline and grit in the generation enlisting in the post-war years. Throughout the rapid demobilization, the RCN sustained a significant contribution of ships to the Korean War. They offered punchy contributions to amphibious landings, emergency evacuations and disruption of Communist resupply efforts. The emerging Cold War would demand even more from them.

My father's ultimate career experience occurred while serving as Chief Boatswain's Mate in HMCS *Bonaventure*. While dad stomachached the turmoil of the integration of the army, navy and air force, his heart was broken when the navy abandoned carrier aviation. Overnight, the power projection and sealift that the *Bonnie* afforded our nation was significantly diminished. No matter the role that HMCS *Magnificent* played in the normalization of the Suez Crisis, nor the mobility around NATO's northern flank afforded the army by *Bonaventure*, heavy decisions were taken to diminish the operational effect and size of the RCN. Chief Newton's retirement followed not long after *Bonnie* was decommissioned.

A few years back, I was asked to represent naval leadership at a Canadian Naval Air Group Christmas Reunion. And these past two years I have joined Air Bosuns, another large community whose fellowship of service and operational effect were abruptly terminated in 1970 with *Bonnie's* retirement.

I was mesmerized watching their flying exploits on large screen projections and listening to their stories. They were fantastic flyers, mechanics, armament specialists, deck crew and sailors. They pushed aircraft into the skies and recovered them around the clock. They adopted new radar, sonar and radio technologies, and perfected tactics to detect, track, and attack if necessary, increasingly long-range Soviet submarines sent forth to menace North America.

As aircraft evolved, this generation took to jets and twin-engine surveillance planes. It was their generation that married helicopters to small frigates. They redesigned a class of ships mid-life with a flight deck and hangar. A winch and cable system was invented to

pull the helicopter out of flight and onto the ship's tiny, heaving flight deck. There it was seized in a beartrap-like device and quickly traversed into a hangar before corrosion set about its destructive work. This generation worked hand-in-glove with long range shore-based aviation, and built the shipping and submarine plot for hundreds of miles around their Task Force as they did the nation's business around the globe. They were a key capability of the navy and could muster the numbers to patrol constantly and meet multiple threats simultaneously.

When I consider the challenges of introducing new classes of ships, helicopters and technologies today, I use the story of this lost generation to inspire others. We will continue to adopt technologically advanced capabilities to remain relevant, but technology demands heavy safety regimes, materiel assurance programs and complex readiness generation efforts that take more time and effort, and of course more funding. Notwithstanding technology and innovation, numbers remain important if we are to keep enough of a force equipped and ready in three oceans.

My father's stories and my reunion experiences suggest to me that we might suffer a hubris that we are some how more capable than our forefathers based on technological sophistication alone. But technology has given rise to new threats, greater stealth, and endows criminals and potential adversaries with even greater menace and audacity. The future security environment will be one of the most difficult we have ever faced, complicated by emerging and accessible technologies, the shrinking of distance, and the speed of security arisings. Now more than ever, numbers of personnel, ships and maritime aircraft will be an essential ingredient of effective warning, posturing with adequate readiness and intervening with winning force.

I salute the lost generation for reminding me of their great capacity, capability and readiness and for the sacrifices they endured facing down the threats of their era.

Note: You can follow Rear-Admiral Newton on Twitter via @greatbigseas. You can also join the Maritime Forces Atlantic community on Twitter at @RCN_MARLANT and/or at Facebook at facebook.com/maritimeforcesatlantic

Throughout the Admiral's writing, I got the impression he was very proud of his dad who was a Ret'd Chief Bosun on the *Bonnie* and a Diver in his day. I waited to read the word 'Shearwater' but it never came up. He says "When I consider the challenges of introducing new classes of ships, helicopters and technologies today, I use the story of this 'lost generation' to inspire others."

I have started a Rosary for this man. To inspire them with anything these days of shortages will be a monumental task. What you people - had during this 'Lost Generation' time was about the best that could ever happened to anybody and to the Military. **Loyalty and Pride in the Service and yourselves.** Please don't forget it. Today's Military have yet to learn much about Loyalty and Pride. Most of their leaders in Ottawa have never had Military Service so what can we expect from them.

From Colonel (Ret'd) Frank Willis: Hi Kay, It has taken me a while, but I wanted to respond to your first class comments re the "Admirals View" article. Well done! He certainly had a lot of things right.

I'm curious, though, as to why he used the term "the lost generation". The reason is not clear to me. I tend to think of the period he discusses as "the lost capability". When we no longer had an aircraft carrier and relevant types of aircraft and supporting ships, I believe Canada lost a marvellous CAPABILITY to go forth to distant parts of the world and do useful military and humanitarian things on behalf of our great nation. I wonder if perhaps this is closer to the reason the good admiral talks about the lost generation. Cheers, Frank

From the Editor. Col Willis was a Naval Air Banshee pilot at SHEARWATER and in BONAVENTURE during the "good old days".



SEA KINGS IN THE NORTH

In the summer of 1972 HMCS Preserver proceeded north in company with HMCS MARGAREE in order to show the flag and project our national interests in the north. I was a Sergeant (PO 2) and part of the helicopter maintenance team headed up by LT Ryan Campbell and Master Warrant Officer (CPO 2) Fred Snooks.

One day the aircrew were off surveying icebergs when the helicopter sprung a hydraulic leak. The nearest place to land was Frobisher Bay, now called Nunavut.

Master Corporal Gilbert Chase and I were dispatched in another helicopter with our tool kits in order to effect a rescue of the downed machine. After surveying the downed machine, we determined that the damper reservoir was overflowing. This can only happen if utility system fluid is bypassing through a blade damper. Utility hydraulic pressure is normally used to position the dampers during the blade fold sequence. Our first task was to determine which of the five dampers was bypassing.

Thus began a long, hard, cold afternoon. Master Corporal Chase having been a well-seasoned naval airman was an expert scrounger. Together we proceeded to investigate a hangar where Canadian Forces fixed wing aircraft had been operating from. After rifling through several boxes of military equipment, we found a roll of plastic tubing and two narrow boards from which, with a bit of tape, we could fashion a pair of stand pipes that we could use to determine which damper was leaking. The damper, as the name implies, cushions the shock of the rotor blade as it advances from the lag to lead, and retards from the lead to lag positions during each rotation of the blade. In order to find the suspect damper, it would be necessary to manually move each blade forward and backward thereby functioning the attached damper while monitoring the fluid movement in the stand pipes. The stand pipe assembly would have to be moved to each damper in turn.

It was a sunny but quite cool day and we kept our aircrew pals warm by having them do the manual moving of the blades and therefore, the dampers. Our aircrew were becoming quite sceptical of our method when after four dampers, we did not have positive results. Patience paid off when the fifth damper overflowed the stand pipe. We isolated that damper and a ground run verified there was

no more leak. The aircrew were advised that they would have a one to one vibration on their way back to the ship some seventy miles offshore.

Because of the lateness of the day when we decided that the aircraft was serviceable enough to return to the ship, we were required to spend the night at Frobisher Bay. Accommodations were scarce and sparse, but we found space. I believe someone gave up his room for me. The breakfast menu was quite interesting, one egg- one dollar, two eggs- two dollars, two eggs and bacon –three dollars. The Queen paid. MCpl Gilbert Chase was a fun guy to work with and he more than held up his part of the bargain when called on to repair or service the Sea King ashore or afloat.

From Mick Stephenson, CPO2, Ret,d.

A STORY OF THE TECHNICIANS OF THE CANADIAN NAVAL AIR BRANCH

by the late Eric Edgar

I shall preface this tale by stating that, in my humble opinion, the technicians in the Royal Canadian Navy were the best of all three branches of the service. I, of course may be prejudiced as I was one of them. This was so because the Navy invested time and money in providing the very best training for its men and women.

In 1945 when the Air Branch was formed at RCNAS Dartmouth there were only a few technicians with any background in naval aviation, mostly either transfers from the RCAF or loans from the RN, Denny Shaw, Norm Lambert, Les Southwell, Reg "Baggsy" Baker, John Cottle were a few of the latter, while Pierre "Ace" Gibeau and Paul Brunelle were ex RCAF. However some were initial entries as air mechanics. After basic training in metal bashing at HMCS Stadacona a nucleus of these were sent to the UK In 1946 for their initial training as air mechanics/air riggers. RNAS Bramcote (AKA HMS Gamecock) near Nuneaton, Warwickshire was one of the training establishments. The course length was approximately 9 months after which they returned to Shearwater for on type experience. In 1947/48 a group were sent to RNAS Arbroath (AKA HMS Condor) in Scotland to train as air artificers. Alan Moore, Reg Grentz, Don Purchase, Gerry Brushett, Rene Normandeau and Earl Slack were in the group and the latter three each brought home a new Canadian wife. However Don Purchase tells me that he along with several others were arbitrarily selected for training as electricians and sent back to RNAS Bramcote for training as Air Electrical Artificers. All of these people became the nucleus of the RCN Air Branch Technicians who went on to train those of

us who followed as the branch expanded. The establishment of Naval Aircraft Maintenance School (NAMS) enabled the RCN to train its own thereafter, although electrical and radio technicians received most of their training in HMC Electrical School in Stadacona.

The Naval Air Branch was the poor cousin of all the other branches in the Canadian Forces. It had very little in logistical support. Its aircraft were hand-me-downs or cast-offs from first the RN, and then the USN so they were somewhat the worse for wear when received and had very few spare parts so we, the technicians had to make do, improvise, cannibalize, and in some cases manufacture our spares. It was a case where necessity being the mother of invention was never more true, however it made us better technicians.

In illustration of my point that the RCN invested heavily in training I present the following as evidence:

In my case after enlisting on 26 January, 1953 and undergoing basic training at HMCS Cornwallis I was posted in June 1953 to HMCS Stadacona Electrical School to be trained as an Electricians Mate. 14 weeks later after a basic grounding in Ohms Law etc. I was sent to sea in HMCS Quebec to practice my trade. Promoted to Able Seaman, my next posting was to Naval Radio Station Newport Corners where I learned to do maintenance on radio transmitters, and stood watch keeping duties on those transmitters. In January 1955, I was posted to Stadacona for a Trade Group 2 & 3's Radio Technicians Course. Midway in the course after a visit to Shearwater and a flight in an Expediter. I requested and was granted a change to air electrician, graduating in December as an Able Seaman Electrical Air Technician Trade Group 3 (ABEA-3) with a posting to Shearwater. As you can see, after nearly 3 years service I had received 14 months technical training and 5 months basic training. The RCN had invested a great deal in me with very little return as yet and I believe this was the norm for most. On arrival at Shearwater, I was assigned to the electrical shop in Z2 hangar.

All of the hangars at Shearwater were identified alphanumerically and Z2 was where second line maintenance was carried out. This included engine and gearbox changes, airframe component replacement and major modifications. All types of aircraft were routed through Z2 so it was an excellent training site. The 1st aircraft type I worked on was an Avro Anson Mk II which was inherited from the RCAF. I think we only had 2 and they were antiques at that time perhaps best described in this ditty:

Oh, the Crane may fly much faster
 Inside she may be neat,
 But to me the draughty Anson
 Is very hard to beat.

Her plywood may be warping,
 Her window glass may crack,
 But when you start out in an Anson.
 You know that you'll come back.

-Andy, No. 7 SFTS (Fort Macleod) 1943

During my time in Z2 I worked on the Anson, Beechcraft C-45 Expediter, Hawker Seafury, Gruman Avenger, Sikorsky HO4S, McDonnell F2H3 Banshee and Lockheed T-33. Perhaps the biggest challenge was the Banshee as they had been well used to put it kindly. They were also an all electric aircraft, the undercarriage, flaps, speed brakes, trim etc were all electric and to access the wiring, panels which were secured with Reed & Prince screws had to be removed. Reed and Prince screws are not interchangeable with Phillips screws therefore, one should always use a Reed and Prince screwdriver with Reed and Prince screws, and a Phillips screwdriver with Phillips screws, or a ruined tool or ruined screw head will result. However the RCN had no Reed & Prince Screwdrivers thus the airframe technicians spent many, many hours drilling out ruined screws.

In January 1953, the RCN introduced a Technical Apprentice Program on board HMCS Cape Breton located in the Halifax Dockyard. The program provided training for apprentices in trades as follows; engine room artificers, ship's electricians, ship's ordnance technicians, shipwrights (hull technicians), and air artificers (aviation technicians). Air apprentices trained on board the Cape Breton for two years, which included; academics (math and physics Ont. Grade XII equivalent), hand tool fitting, machine shop, welding, molding, sheet metal, drafting, blacksmithing, and internal combustion engines. In the third year, air apprentices were posted to HMCS Shearwater, attended NAMS for six months air theory, and then, six months OJT on a squadron. The fourth year they returned to NAMS for additional classroom instruction and some metal workshop training. At the end of March, the thirty-nine months training was completed and the successful apprentices graduated as Petty Officer Second Class trade group three and were posted to a squadron as supervisors.

The introduction of the RCN Technical Apprentice Program negated the program to send aviation technicians to the UK for advanced training. It is considered that the Apprentice Program was a success as most if not all apprentice trained personnel that became career servicemen advanced in rank.

Note: The above on the Apprentice Program was prepared by Bob Findlay who ended a successful service career as a Major (AERE) and went on to further success with SPAR Aerospace.

I hope that I have made enough errors in this brief column that it will encourage other former Naval Air Technicians to put pen to paper or sit down at their computers to submit stories from the lower deck.

From the Editor: I should be so lucky. Kay

The Phantom Fleet

As I looked down from the 'Angus L.', at the warships far below
 Ships of our modern navy, with names I little know
 And then I began to reminisce, my memory started to flow
 I began to see a fleet of Ships, and its men of long ago

I saw the Micmac and the Haida, Cayuga and Atha-bee
 Fort Erie, Maggie, then Swansea and Lauzon, coming home from overseas
 I saw Algonquin now Nootka and St.Laurent, then Iroquois with Saguenay
 Their names made faint and streaked with rust, from the wild Atlantic spray.

And some I see, to harbour come, as though through glasses dark
 Then Skeena and Crusader , LaHulloise berthed outboard of Cape Scott
 Now too there comes with imposing guns, once Uganda now lady Quebec
 Dark, grey, indomitable and sinister, from the spot on which I stepped

Ships from the North Atlantic, from the Med and Caribbean Sea
 The big Ships and the Small ships, returned for me to see
 There's the Resolute and the Fundy, the Crescent and the Sioux
 The Lanark and Inch Arran, the Mallard and the Loon.

And then I looked down at the Bonnie', as she's tugged from Jetty Four,
 while inbound from Arctic waters, to take her space, ice-covered Labrador.
 And just ahead at Jetty Five, our brothers beneath the sea,
 I saw through a gray and muffled haze, Ambush, Astute... and Alderney.

But mercifully hidden, are those brave men now stilled, their anguished cries
 I cannot see them clearly now, "Must be the smoke that's in my eyes!"
 Where now, ill-fated Sidon, Kootenays and Nipigon's JP Five
 Whose men fought on to help their brothers, in vain to save their lives.

Where now Bill Boudreau Eric Harmon. . . Tom Pitt and 'Vern McLeod
 Carroll, Wibberley, McKee and Danny Budge. . . don't forget our Captain Hal,
 Gerry Lavery, Yogi Jelinek. . . The Catman, Fred McKee , Heroes-all you are
 For they who have gone and left us, and sadly Crossed The Bar

I thought I saw them mustering aft, for ceremonial Morning Prayer
 Then I heard the strains 'For Those In Peril'. . . rise in the morning air
 Then darker grew the picture, as the lowering dusk came on
 I looked down from the MacDonald Bridge, but all those Ships had gone

Those mighty Ships had vanished, aboard them those brave men
 We'll surely never ever see, the likes of them again
 So here we stand in homeport Slackers, on the North Atlantic shore
 With honoured pride remember them, those men who've gone before

We who are left salute you, and raise a glass and say
 As well, with pride you will ALL be remembered, on Battle Of The Atlantic Day
 ".....**Splice The MainBrace!**"

VX 10 Cabot Strait MAD Survey, 1955

by Roy de Nevers

On 20 April 1955, I was on a flying mission classified as "SECRET." The aircraft was Avenger 53109 and with me were a crew of two. We did a MAD survey of the Cabot Strait from Cape North, Nova Scotia to Cape Ray,

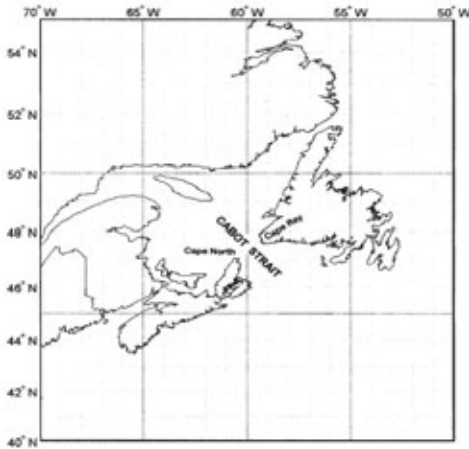


Fig. 1. Geographic location of the Cabot Strait and environs.

Newfoundland. One 90-gallon drop tank was fitted underneath each wing because the scheduled duration of the flight was in excess of the endurance of the aircraft. The distance across the Cabot Strait to Cape Ray is about 120 kilometres, and the survey flight in fact took 5.6 hours.

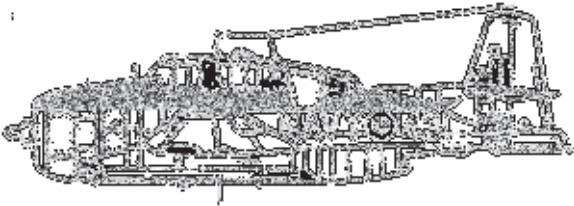


Fig. 2. Drawing of Avenger 53109 flown by Roy de Nevers on the Cabot Strait MAD survey. Note the MAD head and housing along the aft fuselage.

After passing Cape North I got settled down at 50 feet above the water, as indicated on the radio altimeter, so that we could presumably get the best MAD signatures of any existing anomalies. This was in the hope that anything that might mask a submarine return could be identified.

After less than five minutes at 50 feet the engine demanded attention by producing a deathly hush. There was an immediate flurry of activity on my part in the pilot's cockpit. By switching fuel from a drop tank, turning on the emergency fuel pump,

and easing back on the stick, I got the airspeed down to about 90 knots and the altitude up to about 200 feet. I partially closed the throttle so that the engine would not suddenly burst back to life, fracturing something vital.

I waited for the engine to sputter and spring back to life. It did, as the airspeed was beginning to fall below 90. Things were back to normal so we settled down at 50 feet again until Cape Ray hove into view, at which time I turned around and retraced our path back to Cape North.

When an Avenger is operating on drop tanks there is no indication of fuel remaining until the engine quits. That is what had happened. My estimate was a little off for the time that the tanks would run dry; I had calculated that we would be in the vicinity of Cape Ray before the tanks should have been drained.

The rationale for the flight was to determine if in the event of another World War a standing MAD patrol for 24 hours a day could be set up to prevent submarines from gaining access to the St Lawrence Seaway. The ambient MAD clutter was such that a submarine could readily be detected through it. The underwater surveillance systems have now obviated the requirement for MAD survey.



Fig. 3. The real McCoy: photo of Avenger 53109, probably at Fairey Aviation after being fitted with MAD. DND photo.

Headquarters also asked that a photographic survey be made during our return track to AW. I believe NDHQ was looking for an appropriate location to store aircraft that were going to be moved from Shearwater and retained elsewhere. Some were already in storage at Debert, NS. In due course, they ended up at Scoudouc, a World War II satellite airfield of Moncton.

Editor's note: This story was extracted from the late Roy de Nevers' type scripted memoirs written during the latter half of the 1980s and now held in the SAM Archives. It was edited for publication and submitted to Warrior by Leo Pettipas.



EFFECTIVENESS OF THE ROYAL CANADIAN NAVY'S F2H3 BANSHEES

Introduction

Replacing Seafire XVs in 1949, the Royal Canadian Navy's 36 fast and maneuverable Hawker Sea Furies, powered by supercharged 18-cylinder Bristol Centaurus sleeve-valve radial engines developing 2480 horse-power, were in turn replaced by 39 used Macdonnell F2H-3 Banshees obtained from the US Navy late in 1955.

Sea Furies were relatively simple and unsophisticated single-engine propeller-driven aircraft without air intercept radars, relying upon pilots' skill at air-to-air gunnery using four 20mm Hispano cannon. Despite superchargers Sea Furies were unable to operate comfortably above 30,000 feet; whereas the new (to us) Banshees were pressurized, had twin Westinghouse J34 engines, ejection seats, a very good APQ 41 air intercept radar with lock-on capability at 10 miles, and an autopilot which could be used with the radar to complete 90-degree, 135-degree, and 180-degree air intercepts at altitudes up to 50,000 feet; and two AIM-9 Sidewinder infra-red heat-seeking missiles.

Capabilities

Though purchased second-hand from the US Navy with an average of 2000 hours of flight time on each aircraft, in the late 1950s the Navy's Banshees were considered very capable in the day and night high-altitude air intercept role and equally capable in providing low-level ground support to Canadian Army units in the field. Perhaps the greatest advantages the Banshees had over their contemporaries (CF100s in the Royal Canadian Air Force, F89s in the US Air Force, Sea Vixens in the Royal Navy, Venoms and Hunters in the Royal Air Force) were:

- (1) Day or night, the ability to climb to operating altitudes (usually between 35,000 and 45,000 feet) and remain there for approximately three hours providing Combat Air Patrol over eastern Canada or whatever Task Group

our aircraft carrier, HMCS *Bonaventure*, was supporting;

- (2) Being equipped with AIM-9 Sidewinder air-to-air guided missiles, whose Estimated Kill Probability had been established in Korea at 90%;
- (3) Though never utilized, Banshees had the ability to carry air-to-air or air-to-ground nuclear weapons. To allow this, Banshees' undercarriage legs (oleo struts) could be extended so that the single nuclear weapon carried (a fat piece of ordnance) would not contact the runway during takeoffs and landings, thereby avoiding spectacular incidents. Political decisions by Canadian governments of the day ensured that the Royal Canadian Navy's Banshees were never to exercise their nuclear capability; but secretly we Banshee pilots were very proud of it. The US Navy's Banshee pilots felt the same, but their political and naval superiors never required them to exercise this ultimate capability either.

Disadvantages

The Banshee's twin Westinghouse J34 axial-flow turbines each produced 3400 pounds of thrust at sea level in reasonable ambient temperatures. The Banshee's all-up weight was about 22,000 pounds, so a little arithmetic confirms that the Banshee's thrust-to-weight ratio sadly lacked 'oomph'. Although this disadvantage was counterbalanced by fuel economy permitting three-hour Combat Air Patrols, the effect of insufficient power in any aircraft is much the same: a slow rate of climb (about 30 minutes to climb to operating altitudes), a tendency to mush on the approach to landings (demanding higher throttle settings to maintain the proper descent rate), and very slow acceleration in the air and on the ground, requiring long runways when operating at maximum all-up weights.

In the late 1950s aircraft designers and manufacturers like Kelly Johnson at the Lockheed Skunkworks were already producing supersonic aircraft; but the Banshee's limiting operational airspeed was Mach 0.7 of which we were somewhat ashamed. At that speed the poor old Banshee shook and rattled beyond belief – but held together despite our best efforts to push it faster (sometimes straight down).* We could complete air intercepts successfully against Curtis Lemay's B47s and B52s of Strategic Air Command at indicated airspeeds up to 300 knots at altitude; but when SAC sent B58s from the USA to Norway and back, we had only one chance to intercept them because they were at least another 100 knots faster than us and cruised at higher altitudes than we could reach.

On a scale of ten, Banshees were about one order of magnitude beyond what a 22,000-ton Light Fleet Aircraft Carrier such as *Bonaventure* could accommodate and operate successfully. These small aircraft carriers were designed and built during WW2 for specific convoy duties and could carry and operate approximately 10 fighter aircraft such as Corsairs, Seafires, or Sea Furies, plus

approximately the same number of smallish anti-submarine patrol aircraft such as Swordfish, Barracudas, Fireflies or Avengers. Having turned down an opportunity to acquire a full-size USN Essex-class carrier in the early 1950s, the Canadian government elected to purchase *Bonaventure* from the Royal Navy in exchange for trade benefits (reputed to have been large quantities of Canadian cheddar cheese). However, *Bonaventure* did offer one great advantage over its predecessors: the angled flight deck developed by the Royal Navy following WW2.

Consequently, the problems Banshees encountered operating on board *Bonaventure* were not their own, but were due to *Bonaventure's* limited size and equipment: a small hangar, a single steam catapult, a single stabilized mirror landing system, mechanical difficulties with arrester wire sheaves taking the strain of unexpectedly large and fast aircraft landings (Grumman twin-engine CS2F Tracker patrol aircraft were no lightweights either), and *Bonaventure's* tendency to pitch and roll in sea states 4 and above.

***Note:** Just before Banshees were retired from service in 1962, a single Banshee was relieved of unnecessary equipment, painted and polished to a high gloss, its engines tweaked and tuned for maximum performance. Lieutenant (now Colonel ret'd) Frank Willis flew it to 53,000 feet, rolled over, fire-walled the throttles and headed straight down – reaching terminal velocity of Mach .93 as smooth as silk! This lovely old bird is displayed in the Calgary Aviation Museum.

Nevertheless, in my time in VF 870 flying Banshees from Shearwater and on board *Bonaventure*, we lost only one Banshee due to a ship's equipment malfunction; a 'cold' catapult shot resulted in Lt Walter Sloan's Banshee ditching in mid-Atlantic at night (Walter was rescued by *Bonaventure's* plane-guard helicopter). However, continued spalling of the arrester wire sheave bearings prevented us from fulfilling two months' NATO operations; instead we flew off to Yeovilton and fired Sidewinders at Firefly drone targets on the missile range at Aberporth in Wales. Our confirmed kill rating was 7 Fireflies out of 8, matching the Sidewinder's EKP in Korea.

Maintenance

When I arrived in VF 870 in June 1958, teething problems inherent in acquisition of Banshees two years earlier had been resolved. Turbine intake duct doors had been removed. The wingfold locking mechanism failure which had resulted in Lt Derek Prout's aircraft plowing into McNab's Island in 1957 after a low pass over the Shearwater airfield had resulted in all the wing fold locking pins and receivers being redesigned and rebuilt by Fairey Aviation; the APQ 41 air intercept radars had been overhauled and serviced, and the autopilots could once more be relied upon. The Banshees' four 20 mm Colt Mk.16 cannon were quite reliable in both ground attack and air-to-air firing exercises (the latter against a banner target streamed astern from another Banshee). Maintenance training for the Navy's air

and electrical engineers, engine and airframe technicians, and electronics experts was conducted in various US Navy bases and on-the-job with the assistance of Macdonnell technical representatives for the first two years, and then by Shearwater's Naval Aviation Maintenance School. Nevertheless, after the piston-engine-driven Sea Furies, the effort required at Shearwater to maintain and operate the much more sophisticated twin-engine Banshees was considerable.

Flight Sensations

My Banshee contemporaries and I agreed that our aircraft were like Cadillacs of the 1950s: large, comfortable, heavy, and underpowered. We adopted various measures to neutralize the Banshees' disadvantages, including carrying slightly more power than necessary while on final approach to runways or to *Bonaventure's* angled deck. Stability around the longitudinal, vertical and fore-and-aft axes was excellent, resulting in the comfort factor mentioned above; a factor which resulted in all pilots noting how confident they felt that their aircraft would do almost everything they demanded of it, except climb straight up and exceed Mach 0.7 straight down (except when specially prepared as noted above).

Because the Banshees' cockpits were so large with everything in comfortable arms' reach, we felt we were masters of the universe, particularly when we carried unarmed Sidewinders with active infra-red heads emitting a gentle buzz in our helmet earphones when they acquired our intercept targets. Strafing, rocketing (eight 5-inch HVARs) and bombing (four 200 lb bombs) in Banshees was a very popular business: the aircraft had gyro-stabilized gunsights and were very stable platforms, so various Army formations at Gagetown regularly invited us to give firepower demonstrations. Army people love explosions, and had great, though somewhat misplaced confidence in our accuracy; they used to erect their grandstands for visitors very close to the targets they provided for us. Fortunately we didn't have to sit in the stands.

Banshee deck landings on board *Bonaventure* were simple. I think it was because we went around the circuit at 160 knots, reducing to 135 knots on our final approaches, watching the source light in the mirror disappearing horizontally just before we smashed down on the deck, catching a wire and rolling out slowly toward the end of the angle. It all took place so quickly that we had practically no time to screw it up; the Banshee seemed to do it all by itself without much help from us pilots. Of course, we had spent weeks or months previously at Shearwater doing practice mirror landings by day and by night until it all seemed easy.

An odd sensation prevailed immediately after an arrested landing on board *Bonaventure*: Banshee pilots (and others in CS2F Trackers, Avengers, Fireflies) often noted and remarked on the ship's pitching or rolling motion becoming noticeable as they taxied forward to the catapult or the deck

park; a small but significant difference from taxiing back to one's hangar line after landing at an airfield.

Strategic Effectiveness

In the 1950s and 1960s the USSR and the West turned up the heat in the Cold War, culminating perhaps in the Eisenhower – Kennedy – Khrushchev confrontations in the United Nations and over Cuba. The threat of Mutual Assured Destruction and nuclear deterrence were facts of life for everyone, civilians and military alike. Having distinguished themselves in WW2 and in Korea, the Canadian Navy, Army and Air Force had good reputations among their NATO allies and were seen to be punching Canada's weight in all NATO exercises. Maintaining the Navy's reputation, surface Navy officers and enlisted men (and a very few women) recognized that a Canadian naval task group could not always count on operating in areas where our NATO allies would have provided (or achieved) air superiority; and without it, a Canadian naval task group would be at serious risk. Limiting a national task group to operations under someone else's Combat Air Patrol smacked of weakness and a certain diminution of sovereignty, not then a popular policy decision; so in 1957 the Canadian Navy replaced its older aircraft carrier *Magnificent* with the more modern *Bonaventure*, and replaced piston-driven fighter aircraft with more modern Banshee high-performance jet interceptors capable of providing day and night Combat Air Patrols. *Bonaventure's* Banshees provided an effective air defence capability until 1962; *Bonaventure* also provided an effective air anti-submarine warfare capability until she entered an extended refit in 1967 and was decommissioned in 1970.

Replacing Banshees

In this Cold War era, Naval staff in Ottawa were fully committed to air defence of Canada's naval task groups, initiating in the summer of 1957 an evaluation of sixteen small fighter aircraft suitable as replacements for the Navy's Banshees. This project, called '**Holy Grail**', concluded that North American's F4B Fury, Douglas's A4D Skyhawk, and Northrop's F5 Talon were suitable candidates, and recommended further investigation. Subsequently, in May 1964 a US Naval Air Test Center Douglas A4E aircraft was hoisted on board HMCS *Bonaventure* with the ship's crane for trials. Eleven catapult launches, ten arrested landings, eleven touch-and-go landings and two 'bolters' were conducted; operating Skyhawks on board *Bonaventure* was found to be entirely feasible. This evaluation (by LCdr. (P) Dave Tate RCN, Lt. G. Dougherty USN, and Mr. D. House) is described in detail in US Naval Air Test Center Technical Report No. FT2222-023R-64.

However, as Browning reminds us '*Twice not given for every Gawain to gaze upon the Holy Grail.*' By 1964 the Navy had concluded that ship-borne surface-to-air missile systems would eventually provide sufficient defence against hostile aircraft, and the Navy's budget for new ships should not be

diluted in favour of an aircraft carrier with modern fighter aircraft.

Tactical Effectiveness

Banshees operated on board *Bonaventure* almost accident-free between 1957 and 1962 (two aircraft were lost; one pilot died). *Bonaventure's* Banshee flight operations and exercises were interrupted by her maintenance and refit periods, a shortage of pilots, officers' career postings, pilot training toward increased combat readiness, aircraft attrition, and eventually (in 1959) the merging of VF 871 with VF 870, reducing the Navy's fighter aircraft assets to one squadron.

Concentration by the Navy on its specialized anti-submarine role (and justifiable pride in it) meant that VS 880's CS2F Trackers and HS 50's HO4S and Sea King helicopters (all extremely effective in their ASW roles) could contribute more to NATO exercises when embarked in *Bonaventure* than could VF 870's eight or ten Banshees providing a degree of air cover for Canadian ships. Accordingly, given a choice, Canadian task group commanders would invariably ask for Trackers and helicopters to be embarked in the flagship *Bonaventure* for her next NATO exercise in Eastlant or Westlant. It must also be recognized that the ASW threat to NATO's naval task groups was (and still is) much greater than the threat of hostile air activities, given the relatively short range of the Communist bloc's intermediate strike aircraft and the USSR's predilection (then) for intercontinental bombers such as Bear Ds.

Summary

The foregoing strategic and tactical factors resulted in the Royal Canadian Navy divesting itself in 1962 of its Banshees and relying thereafter on its NATO allies providing Air Defence of the Fleet, the primary role for all naval fighter aircraft.

Four years later, in conversations with Cabinet ministers and members of the Standing Committee on Defence and Foreign Affairs, senior officers of the Royal Canadian Navy were not prepared to die in a ditch defending major expenditures on their aircraft carrier and its fixed-wing Tracker aircraft. *Bonaventure* was decommissioned and scrapped in 1970; VS 880 Tracker squadron survived in a shore-based role at Shearwater and CFB Summerside for twenty more years before being decommissioned; the Trackers were then sold and scrapped.

The only remaining elements of Canadian naval aviation are the two Sea King helicopter squadrons based on the East and West coasts, operating at sea from the Canadian Navy's 12 DDH destroyers. These ships are equipped with 'Point Defence' surface-to-air missile systems, the only air defence capability remaining in the Royal Canadian Navy.

Col (ret) Geoffrey Craven, CF
14 May 2016

Your Other Right Stupid !

From John Gorman
(Things we don't speak of too often)

You know that after many years, certain things simply stick in your mind. My approach to any stuck learnin' was simply to try to absorb more, hoping some of it would be covered up...like the over-writing a computer does after you dump files. Despite this, it all seems to be recoverable in the end by some means. Just ask a hypnotist or someone that hates the way you did something back in 1952!

The parade GI's in the basic training I attended made a habit or point to scream into your ears whenever they had a chance! This took the form of calling you "four eyes" if you wore glasses or even "sissy" if you acted a little bit lady-like for some reason. I knew a guy we shall call "Hank." He always seemed to turn right when it was a "left turn" command! Would you believe that this guy didn't get his sailor's cap until almost the end of basic because he had this odd shaped head that they just could not fit...It seems funny now, but it was something best left unmentioned back then! It sure was a relief near graduation when he finally got his cap. Otherwise, he was as smart as a whip. He was one of those guys that came to boot camp with officer stamped on his ID card, rather than "Man." Some of them got the call while others got a new card!

The thing about the "old" navy (and it is likely true today) is that you were trained and drilled until it all became second nature. Later on, when I became a Warden in the National Parks system, we took many law enforcement courses and had to learn different techniques for putting the 'cuffs on violators and the best thing to do in the end was to practice one method until it became instinctive. Otherwise, when "all hell" broke loose, you'd likely get messed up in the heat of action. Military training was the same, 'duck or die' as I called it!

I grew up in the country and had done more than my share of hunting and fishing before going into the navy and considered that I was a fair shot until meeting the FN's on the rifle range. Peep sites were a whole lot different than the semi-buckhorn on the thirty-thirty. I recall the first time on range with the military and sending splinters from that white triangle they'd stick up there to show you where you were hittin'. After a good lecture, from the range officer, I actually got pretty good at it!

I remember doing emergency response training with the crash rescue team in Shearwater and being sent by the tower to mock crash sites on and between the runways...One day, I was driving one of the big trucks and had arrived at the site only to discover and be told very distinctly that there was nothing there. Oops! This caused quite a stir and I ended up on a hose line instead! Chasing birds and deer off the runways was more fun anyway!

Most everyone has heard the story of the guy who was asked to go get a bucket of "prop wash." They never did get me on that one. Not yet anyway! I remember going to the N.B.C.D. warfare school all psyched up and storming into an aircraft form mockup to rescue someone only to discover I could not lift the dummy they had in there and somehow ended up dragging it out, which I later found out you were supposed to do anyway. Thank gosh those suits were quite fire resistant!

Speaking of "goof-ups", I was out on the "Bonnie" one night, somewhere down near Bermuda and we were landing Sea Kings.. I went in with the chocks and forgot all about that door being dropped open on the port side. Bang! Well, got it right on the head. Damn, no time to look stupid. I had to get the job done and out of there! And, never did tell too many about that one...It was no place to make mistakes!

Usually, I was waiting in the gun sponson for trackers on recovery as I would have to signal that the hook was up and off the wire. My shipmate would duck down to the galley and bring up a couple of hamburgers he was somehow able to beg away from the cooks. Later on in life, I learned that it really is supposed to be good job therapy to put something for yourself into every working day! By this, I don't mean the supervisor's car or nuttin' like that, but grab a coffee or a pop along the way!

Somehow, writing this made me think of my most embarrassing moment in the navy...Are you ready? I was walking to the recreation centre in Cornwallis one evening wearing a clean, white front (gun shirt.. 2 A's I believe) when a seagull flew overhead and bombed me right fair in the chest! This is where I learned the most about the diet of waterfowl. Scrap one white front! You know, I really liked that uniform and if I some day become Minister of National Defence, I'll bring it all back again! Unfortunately, the tide of acceptance may have turned by now! Wearing those 'bell bottoms, jumpers and gun shirts were actually quite comfortable. Things have definitely changed!

Well, that is part of my story and I may as well stick to it now!

Two consecutive Pier-head Jumps

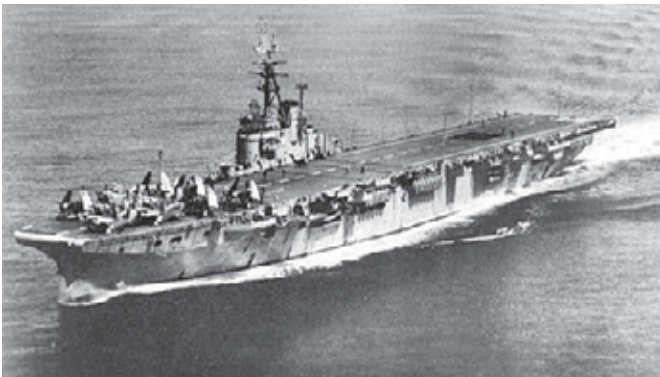
It was the summer of 1957, I was nearing the end of my first five years naval service as a photographer, and planned to leave when my commitment was over. The branch had planned one more adventure for me, and I was drafted on temporary assignment to HMCS St. Laurent, the first of the new DDE's. I had only been a few weeks back from five and a half months in the Arctic with HMCS Labrador.

I was enduring what was referred to in the navy as a pier-

head jump, an immediate assignment without any prior notice. Old sailors know... That the ship waits for no-man (*with perhaps the exception of the Captain*) I had no kit, no pay, or any other records, just my camera gear, the clothes I had on my back, and chemistry to develop film. My assignment was basically for public relations photographs, which to all accounts could be used to promote navy recruitment. The DDE, HMCS St. Laurent had been commissioned for a about a year and we were heading to Bermuda with the newly commissioned HMCS Assiniboine. They would be doing their work-ups on her way South, and was destined after visiting Bermuda for a trip to Europe.

I was on the bridge with my speed graphic camera as ordered, to photograph the first discharge of our ship's new (*to the Navy at that time*) twin 3 inch/L50 guns, using live rounds. Shutter speed lever cocked and ready I stood behind a waist high steel bulkhead. The first volley of single shot fired successfully, and splashed a long way off. I'm really not sure how it goes, but I think they switched to rapid fire and one of the second volley exploded shortly after leaving the gun. I had taken my picture of the barrel flashes and almost simultaneously heard a thud in front of me. When the shoot was in hesitation mode, I lowered my camera and peaked over the steel wall to see a crotch-high dent in it, and a piece of still smoking shrapnel on the deck. I backed off a little and surreptitiously checked my crotch for damage. I overheard the first Lieutenant report the event to the Captain. The Captain replied, "for God's sake don't tell the photographer, or we'll never get him up here on the upper deck again." For reasons of self-preservation, I chose to ignore his snide remark.

Our rendezvousing with the aircraft carrier HMCS Magnificent at the halfway mark was to be my second adventure on that ship. I was on the compass platform once again with the "brass," and my trusty camera at the ready.



HMCS MAGNIFICENT

Maggie appeared on the horizon, and the word went out.

Sailors came out from all the nooks and crannies of the ship for a look-see. I'm pretty sure we were doing our maximum speed of 28 knots bearing on a course that would take us about a quarter of a mile in front of Maggie's bows and line astern of Assiniboine also going full tilt. The new ships were highly manoeuvrable, could turn on the proverbial dime, and apparently we were going to show off our prowess to the venerable Magnificent by tearing in to line ahead of her. The Assiniboine out in front did a violent full speed turn to port so she was line ahead of Maggie and we were to turn in after her. Which we did. Assiniboine slowed down, which we didn't. All compass platform binoculars were focused on Maggie, with no one paying attention to where we were going. I was checking out my camera settings and looked up to see that we were rapidly approaching Assiniboine's stern. I tapped the arm of the nearest officer and pointed, and he quickly yelled "Starboard 30" down the voice pipe. We cut safely across Assiniboine's wake, missing her with a few yards to spare. There were a few red faces on the bridge, but I never heard another word about it, and never mentioned it until now.

My adventures were just beginning. A signal came through, attaching me to Assiniboine for her maiden voyage to Europe to show her off. The first stop was to be Lisbon Portugal. I joined her, still with no records; pay or otherwise, and no kit; and another pier-head jump.

By John Thompson

Winter storm

by Dave Banfield

I think it was the winter of '64 during a big snowstorm at 'D' hgr. And we had put all the Trackers away and finished the Maint. at around 1800 hrs. An officer (ex-Brit) came down to the deck and told us to go out into the parking lot and push his Corvaire into the hgr. to dry out. I had remembered that a strict order had been posted that NO personal vehicles were to be allowed inside the hgr. Being young and crazy, I decided to remind that officer about the memo.

He proceeded to give me proper hell...something about speaking when spoken to only!

The next year I decided to apply for Observer, as a few of my buddies had. I was already flying on trips as a 'Rent-a-wrench' anyway. I passed all the required PSO exams and reported to the Observer school for the required interviews. I went in and there were five people on that Board and, to my horror, the middle officer was the guy with that snowy Corvaire. He just smiled and as I babbled on about why I wanted to be an Observer ... I knew my big mouth had scuttled my dreams. Never did get to fly with Bob Winger and my other buddies!

AESOP Gathering - Comox

The small get-together happened on December 12th, 2015 at Barry Van Dusen's (another retired AESOP) Whistle Stop Pub in Courtenay. There was a group of about 18 or so who attended. It was a good gathering as usual with old stories about comrades and situations vaguely remembered and resurrected. It was a lot of fun. We are all getting a little wrinkly but our thoughts and memories are all young and good-looking. Mirrors aren't our friends.

We'll try to do this sort of thing every fall and spring here in the Comox Valley. We'll also give a little more notice next time, which may allow more people to attend - those who live outside the area. That time will probably be in April, 2016 (approx.).

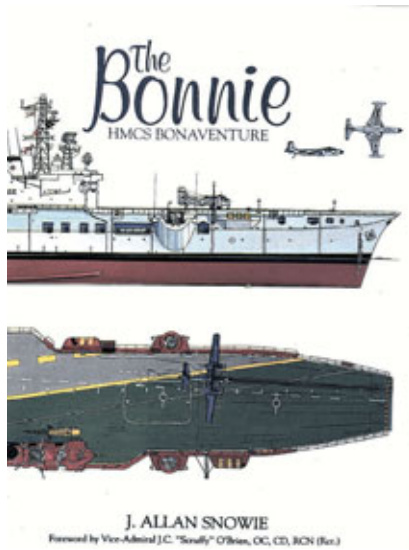


DON LOGAN - AL BAUMHOUR - DAVE KELLY - HANK VERDENHALVEN - MURRAY SMITH - DON KNIGHT



DAVE KELLY - HANK VERDENHALVEN - MURRAY SMITH - HANK FORTIN - DAN CLEMENTS

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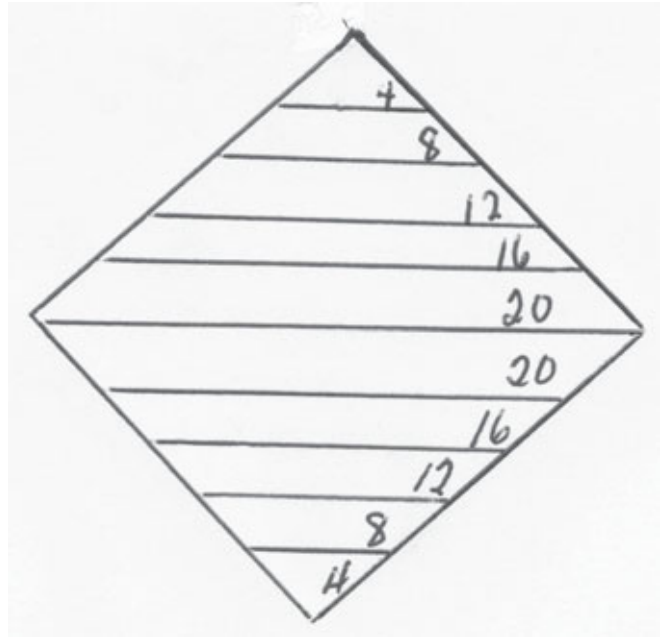
WALL OF HONOUR_{Page 2}

Guidelines for designing your “Wall of Honour” Tile.

The tile used is made from high quality marble which is 12 inches square. The tile can be sand blasted in various ways to suit your wishes. All lettering will be in upper case and the tile will be mounted in the diamond orientation as opposed to a square orientation. All Text will run horizontally across the tile.

The options are:

Option A: One half tile 12" X 12" x 17" and triangular in shape with up to 5 rows of 3/4" letters for a maximum of 60 letters and spaces. The longest row can accommodate up to 20 letters and spaces. The remaining 4 rows will decrease in length as the border/edge of the tile dictates. It should be noted that the upper half of the tile will start with a short row and the bottom half will start with a long row.



Option B: The full tile with up to 6 rows of 1" letters for a maximum of 55 letters and spaces. The two centre rows can accommodate up to 16 letters and spaces. The remaining rows will decrease as the edge of the tile dictates.

Option C: The full tile with up to 10 rows of 3/4" letters for a maximum of 120 letters and spaces. The two centre rows can accommodate 20 letters and spaces. The remaining rows will decrease as the edge of the tile dictates.

Option D: The “Buddy” Tile - sold only as a full tile. This tile is divided into 4 quarters - each 6" X 6". Each quarter can accommodate up to 6 rows of 1/2" letters for a maximum of 48 letters and spaces. The two centre rows can accommodate up to 12 letters and spaces with the remaining rows decreasing as the tile edge dictates.

Option A



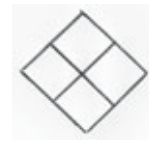
\$300

Option B & C



\$600

Option D



\$600

Wall Tiles may be purchased through monthly installments.

Half Tiles - \$100 day of purchase - \$100 per month for the following two months.

Full Tiles - \$200 day of purchase - \$ 100 per month for the following four months.

Continued next page

The colour of the tile will be 'Belmont Rose'. If the submission requires any alteration, the subscriber will be contacted by phone or email by the coordinator for further discussion.

REMEMBER TO COUNT THE SPACES!

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ADDRESS: _____

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TYPICAL OPTION 'C' above

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Please check engraving details for accuracy before sending. We cannot be responsible for misspelled words on your order form.



There are two primary ways in which gifts may be made to the Shearwater Aviation Museum Foundation: by giving a gift of money or securities as a Gift (Inter Vivos) or by making provision in your Will for the giving of a gift to the Foundation. Remember, a Will “speaks” for us from the date of death, since Wills are revocable and thus any Tax Benefits of a gift to the Foundation, through a Will, cannot be realized until one dies. A gift (Inter Vivos) i.e. a gift NOW does benefit from a **reduced rate of Income Tax**. So don’t wait for Spring - DO IT NOW!

Requests made by Will: In your Will, you may leave a lump sum bequest or a bequest of a specified percentage of the remainder of your estate, or a bequest specified as “ the rest and residue of your estate” to the Foundation. You may also make a gift of property or securities (stocks, T Bills, bonds, GIC’s) to the Foundation by means of a provision in your Will.

Income Tax Benefits: A bequest made by your Will confers an important advantage to your estate when the bequest is made to a Charitable organization such as the Shearwater Aviation Museum Foundation. Your lawyer or financial advisor can advise you on such advantages and the implications or limitations of such bequests.

Request of Life Insurance: The gift of a Life Insurance Policy can be an effective way of offering a benefit to the Foundation on your death. You may either give an existing policy which you may no longer need, or a new policy obtained specifically for the purpose of making a donation to the Foundation. In both cases, the Income Tax benefits of such gifts can be very important to the foundation and to you. Consult with your Insurance Agent re the specifics of such benefits.

Or **BY MEANS OF A SIMPLE CODICIL TO YOUR CURRENT WILL.** (The following is a simple Codicil which can be added to your present Will.)

“Codicil to the Last Will and Testament of _____

Which Last Will and Testament is dated this ____ Day of _____20___. I hereby add to that said Will as follows:

I give, devise and bequeath to the Shearwater Aviation Museum Foundation the sum of \$ _____
to be paid out of my general estate.

Signed and dated this ____ Day of _____20__

In the City of _____ Province of _____ Postal Code _____

Witness: _____ Witness: _____
Signature of Testator

Address: _____ Address: _____



BOB TURNBULLS HEAD - DON LOGAN - RON MASTIN - JIM McCAFFERY - OLLIE MASTIN - AL BAUMHOUR'S HAIR



HANK FORTIN



DAVE KELLY - GIVING ME THE "STINK EYE"

THE 'A' BLOCK WETS

Her Majesty's old blue navy
had gone and in its place,

We wore the green of unity
No custom, tradition or grace.

But we went back into blues one day,
As the Pusser thought we'd save face.
But changing times and what it brought,
brought slack to a matelot's pace.

But memories further abound in me
of the wonders that I've seen;
And the wonder of all wonders
Is still, the "A" Block Wet Canteen.

No CANEX gift shops for us then
or choice of where to buy;
Just two canteens to purchase from,
the Wet one, and the Dry.

The Dry one sold you hamburgers
A cup of coffee or a wet of tea;
But if you went to the Wet one,
you'd only find draught beer.

If you liked soft chairs
and tables, clean decks from Friday Routine;
There was never anything like that,
in the "A" Block Wet Canteen.

No Wardroom types or Chuffs n' Puffs
were welcome there you see;
Just the Abes and Odes and Killicks ,
and the lads just in from sea.

We were a young and jacky bunch
who gathered in "the Wets";
And the thing that kept us out of cells
was the presence of the 3-badged Vets.

They taught us all the 'opera songs, with lobsters,
Harlots and stories of the brave;
But the most important thing they really did
was show us how to behave.

The code they taught was a simple one -
'Don't be like jacky bods,
Never, never let your messmate down
no matter what the odds'.

Now arguments and fisticuffs
was sometimes a common scene;
With bellies full and no bucks left
in the "A" Block Wet Canteen.

There's been a time or two I guess
I too spilled beer upon my bells;
With 3-badged advice and "How To Not"
I stayed out of pusser's cells.

While memories still abound in me
of all the wonders that I've seen;
But the wonder of all wonders
Was when to listen and take heed.

It may sound harsh and crude to you
but I never will be mean;
'Cause I got my education
In the "A" Block Wet Canteen.

Originator ?

To those employed in the 'less than glamorous' jobs of the Military - THANK YOU!



Medics helping out during crisis in other countries.



During a 5 day visit from the French President, Food Svs personnel were responsible for over 30,000 meals for Base personnel, Media, Heads of State, RCMP, Coast Guard etc. A huge task.



Putting it back together...



Security of Airfield - building an observation platform



A.M. (E) l/c Bob Parfitt and
A.M.(A) l/c Ed Gregory
Preparing "F" ready to fly to Quonset
Point, Rhode Island, USA - 826 Squadron



L/S TOM MANN

Tracker Armourers



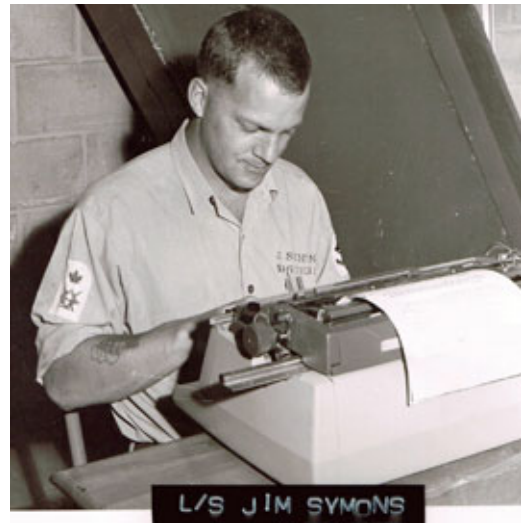
SE Tech Dominey



FIREFIGHTERS



Supply Tech 880 Squadron



RS Tech

To those employed in the 'less than glamorous' jobs of the Military - Our thanks also. (*Passed to the Editor from Leo Pettipas.*)

Bob Gibbons, ex-RCN Air Engineer Officer: "There is little doubt that the success of Naval Air in Canada was due in large measure to the skill, dedication and initiative of what had to be the finest corps of technicians found in any maintenance organization. In addition, the costly and uniquely comprehensive training programs for both the technicians and the technical officers employed in Naval Aviation produced the versatility and skills essential for such a small cadre to sustain availability and serviceability rates which were the envy of their USN and RCAF counterparts."

Ron Heath, ex-RCN pilot, re. the engineering and maintenance people "who performed astoundingly well with the tools they were given to operate with." He is unequivocal in his recognition of both the air and the maintenance crews, who got the job done with "exceedingly rudimentary equipment, including aircraft carriers, but whose contribution excelled over that of the other navies and services with which we operated and competed."

Ralph Fisher, ex-RCN Air Electrical Engineering Officer: "As engineers who trained and served in both general and air duties with the RCN, we had a special regard for the air maintenance crews. Along with other shipmates in the carriers or helicopter-equipped destroyers, they shared the common dangers and difficulties of life at sea.

In addition, they had to deal with the hazards and burdens of repairing and servicing aircraft and equipment in cramped hangars and workshops laden with the stench and explosive menace of high-octane gasoline and jet fuel, holding on against the roll and pitch of the ship in heavy seas. Not for them the luxury of a simple four-hours-on, four-hours-off watch routine, dining and dozing to a tidy and regular schedule. They worked unpredictable and generally long and hard hours to patch up and maintain machines subjected to the punishing conditions of day and night operations at sea in the North Atlantic. Here, a thousand miles or more from supply depots, they learned self-reliance, improvisation, and ingenuity with relatively limited on-board repair facilities and spare parts. Under the leadership of dedicated Chiefs and Air Engineering Officers, they were a bright and cheerful brotherhood of young sailors, fiercely proud of their squadrons and can-do traditions."

Cyril Patton, ex-RCN pilot: "Jet Flight [of VT 40] participated in Army support exercises at Camp Gagetown from 13 July [1956] to the end of the month. During the

four exercises, 'Argus I,' 'Argus II,' 'Matrix,' and 'Morning Star,' the Flight flew from dawn to dusk, flying 66 sorties for a total of 100.4 hours. The excellent serviceability during the exercises is directly attributed to the high morale and keenness of the ground crews, who worked long hours and in one instance completed a wheel change in seven minutes."

David Litle, ex-RCN Air Engineering Officer: "As they [VF 871 Repair and Inspection Unit; individual aircraft fitters and riggers] see it, they have only one job to do; that is to keep the aircraft in the air. They take an extreme pride in their work and feel that it reflects on them personally if a single aircraft is idle when it should be flying. Hours of work don't mean anything to them, then, and to be able to see that aircraft take off is all the reward they ask. It is standard practice for the squadron's maintenance crews to turn to of their own volition after hours and take only the minimum amount of time out until a job is done."

Three Irishmen are sitting in the pub window ea,
watching the front door of the brothel over the road.

The local Methodist pastor appears, and quickly goes
inside.

"Would you look at that" says the first Irishman.

"Didn't I always say what a bunch of hypocrites they
are!"

No sooner are the words out of his mouth than a
Rabbi appears at the door, knocks, and goes inside.

"Another one trying to fool everyone with pious
preaching and stupid hats!"

They continue drinking their beer roundly condemning
the Vicar and the Rabbi, when they see their own
Catholic Priest knock on the door.

"Ah, now dat's sad" says the third Irishman. "One of
the girls must have died."

***Don't forget your 500 Club Ticket(s)
and your 50/50 Tickets***



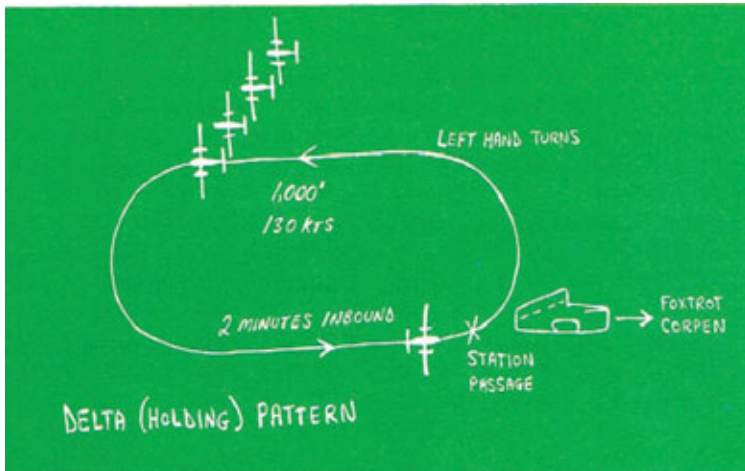
Sports Room - Shearwater Aviation Museum

Canadian football played a major part in life at Shearwater during the period 1947-1967. Initially, the Dartmouth Air Station Flyers (renamed Shearwater Flyers in 1949) competed in the Halifax City Canadian Football League. Subsequently, they played in the Nova Scotia Football League from 1951 and the Atlantic Football Conference in 1965 whereby they provided the best of recreation and exceptional entertainment for the Base and surrounding community.

The successes of the Flyers were many. The team won seven Purdy Cups as the Nova Scotia Champions. They also won three Maritime Championships, two Eastern Canadian Intermediate titles, and in 1957, an undefeated Shearwater Flyers team went on to win the Canadian Intermediate Football Championship. This was the first Maritime team to win a National Canadian Football title. This winning year led to the team's induction into the Nova Scotia Sports Hall of Fame and into the Canadian Forces Sports Hall of Fame.

Personnel who played and worked for the Flyers comprised of aircrew, technicians and members of the naval trades and ranks. They were consistently an inspiration to their fans and a source of high morale for the Naval Air community.

The Flyers last season was 1967 (renamed MARCOM Flyers) but not before the team won the Atlantic Football Conference Championship and the Purdy Cup those last three years.



MY FRIEND ROGER DIXON

We were friends before we married well
 And spent our life under loves spell
 And our hearts went out to the women in
 our lives
 And until death claimed them, they were
 our wives

Roger's gone to meet Jo at Heaven's gate
 As for me, I guess I'll have to wait
 As I look at days gone by
 I want to laugh, I want to cry

To think that sixty-two years have gone by
 But I know my friend you had to go
 Because you had to be with Jo.

John Basil Smith
 April 2016

SAMF MEMBERSHIP YEAR IS 1 JANUARY – 31 DECEMBER

Date for Membership renewal is mentioned in the Summer and Fall edition of the WARRIOR. Yet folks are still 2 and 3 MONTHS late. It has been suggested that SAMF send out Invoices at years end to all members and reminders as well. This should not be necessary and to say the least, postage is very expensive. Please, when you see the reminder in WARRIOR – mark your calendar. Thank you.

Regular \$ 50

Patron \$250

Sustaining \$ 100

Life (one time only)
 \$500

IN THE DELTA

ANDERSON, Beatrice 'Rocky'

BALDWIN, Connie

BELL, J. H.

BOIVIN, Pierre

BONNELL, Gordon A. USN

CARVER, Joseph Ernest George

DARWIN, Freda (Al)

DAVIS, Faye

DIXON, Roger (Josephine)

DOUCETTE, Ray (June)

FRASER, Frederick (Fred) Charles

JANUSAS, Edmund 'Ed'

LAFORME, George

McKENNA, Glenna

POIRIER, Charles

PRINGLE, Margaret (Gilbert)

REAGE, Allan

SIMARD, Roger

WATKINS, Arthur 'Art'

WE'VE GOT MAIL.....

Dave Freeman, LCdr RCN Ret'd. writes:

Women in the RCN

Do you have a female ancestor or relative who served in the Canadian Navy between 1910 and 1946? Or know anyone else who has?

The CFB Esquimalt Naval and Military Museum in Victoria – not the Maritime Museum of BC - has a project to identify and record the names of all the women who once served in our Navy during the period noted: nursing sisters, doctors, technicians, dieticians, Physios and members of the WRCNS (Wrens). This also includes those Canadian women who may have joined the WRNS during the First World War.

On completion, it is our intention to publish the information in book form.

Currently, we have some 8,000 names in our data files but a lot of the info is incomplete: e.g. we hold the married names of 200 Wrens but have no relevant maiden names; for others, we lack many married names, service numbers, ranks and trades.

We wish to record the following information for each person:

1. Service number
2. Maiden name
3. Married name(s) where applicable
4. First name (s)
5. Nickname where applicable
6. Rank attained
7. For the Wren's, their Navy trade or occupation.

We are also looking for high definition images [300 dpi or better] of the women in naval uniform, plus copies of diaries, note books, letters, obituaries, and any naval documents like a station card, leave chit, draft order, etc.

If you can assist, please contact me at the address below or via Clare Sharpe at clare.sharpe@forces.gc.ca .

Dave Freeman, LCdr RCN Ret'd.

Naval & Military Museum,

CFB Esquimalt,

PO Box 17000 Stn Forces

Victoria, BC V9A 7N2

Leo Pettipas writes: Hi Kay:

I'd like to add a little something to the Swordfish write-up that formed part of Ernie Cable's "Vintage Aircraft Tell Shearwater History" (Warrior, Spring 2016) which states that in 1946 HS 469 was transferred from Nova Scotia to Ontario for scrapping. My understanding is that HS 469 was possibly one of a number of former 1 Naval Air Gunners School Swordfish that were flown to the ex-BCATP aerodrome near Brantford, Ontario right after the War for storage and eventual disposal. The entire lot was purchased from Crown Assets by Amsco Ltd of Hamilton, who in turn put them up for re-sale. One of the buyers was a local farmer by the name of Ernie Simmons of RR 6, Tillsonburg, Ontario ... and this is where the story really gets interesting.

On his farm, Ernie accumulated a variety of war-surplus military aircraft that included Ansons, Yales and Lysanders, as well as a brace of Swordfish. He figured that another major war was on the near horizon, under which circumstances he would sell his airplanes back to the government at a tidy profit. And indeed a new conflict did erupt in 1950 with the onset of the Korean War, but the government wasn't in the business of re-arming with the types that Ernie had on offer (like the bi-plane Swordfish!), so his earth-bound "air force" quietly decayed on his farm for over two decades.

Ernie Simmons died in January of 1970 and his collection of aircraft went on the auction block on 5 September of that same year. Up for grabs were seven "Ferry Sword Fish," according to the advertisement in the local newspaper. Could it be that HS 469 was one of them?

In the April 1994 edition of the SAMF newsletter, it is reported that "the skeletal remains" of HS 469 were recovered in early 1980 from a knacker's yard near Brantford ON. Note that RCAF Station Brantford, located not far from Tillsonburg, was the storage facility for retired Swordfish back in 1946, so the smart money says that HS 469 may well have been a member in good standing of the Simmons collection. At any rate, after 14 years of painstaking restoration work, mostly in Toronto, HS 469 once again took to the air, this time from CFB Shearwater, on 13 April 1994.

Can your readers correct or elaborate upon any of the foregoing? Cheers, Leo Pettipas

Cathy and John Snow. Our family had a special treat on Friday, 13 May 2016 when we came to visit



your museum. We had three young boys 5, 6 and 8 who were off school for the day with their grandparents. Mr. Ivor Axford, a Museum guide, gave them and us, the most generous tour. They were treated to many explanations, allowed to explore, within reason, and he completely responded to all their questions.

We all came away so much smarter about the jobs in the military and the equipment they used. Each plane was unique. And, because of our guides first hand knowledge, it was all so real. The gallery and the stories about the medals were all a good experience for us as well.

These gems are all around our province. It does take that perfect combination of artifact and personnel. Thank you to Mr. Axford and to all who help to keep this museum going.

***Ivor Axford, Museum Guide with
the Snow family visitors.***

***Margaret Bartlett's
100th Birthday
Bash***



Anne Dumonceaux (Margaret Bartlett's daughter) writes: I just wanted to pass on a couple of photo's to you of Margaret Bartlett's 100th birthday bash. It was great that you spread the word out as I received a few emails from people that Mom had not heard from in years. It was a great party.



This picture includes: L - R Ted Gibbons, Stan & Mary Rimek, Hazel Bowman, Peggy Buchanan, Rolfe Monteith, and Paul Peacy (CNAG Pres). These are people that your distribution may know. Others in the picture are Mom's family, son, daughter, grandchildren, her brother, his wife and a niece. (*From Anne*)

Bill Moran sent out this navairgen.

Subject: Flying Stations HMCS MAGNIFICENT 1948 VS today's modern carrier.

An insight into how the flight deck of a modern carrier functions. Total crew approx 6000 including squadron personnel. Check out the number of personnel on deck compared against how I remember the Maggie's flight deck operated during my posting on the carrier in 1948. Maggie's crew approx 1200 including two squadrons, one made up of Seafires, the other Fireflies.

HMCS Magnificent - Who's on deck - year mid -1948.

The Maggie was a straight deck carrier. In the summer of 1948 all our planes were propeller driven, no jets or helicopters. We were accompanied by two destroyers. Their basic job during flying stations was, in the event of a plane ending up in the water, picking up the Pilot.

There were air personnel in the ship who were in radio control, a few on the bridge directing and inspecting the planes to ensure hooks were down and looking for other anomalies. The planes began their approach flying in the same direction as the ship down the starboard side in single file circled around and came back down the port

side where they then came under the direction of the Bat Man.

If a plane on landing did not catch a wire successfully it flew into a barrier. I believe there were three barriers that were operated by the Stoker Branch. The Stoker's flight deck position was in a small sponson on the port side approximately opposite the tower. When a plane caught a wire, a quick decision was required on their part to drop the barriers thus saving the plane from hitting one of them and being damaged.

In comparison, there were few personnel on and around the deck during flying stations. All personnel on deck wore a coloured hat, not a helmet but just a form of cap that fastened under your chin. No ear protection. You had the Bat Man - usually an experienced Pilot with Observers on a platform extended out at the stern port side of the flight deck, who guided the plane during its final approach and through his bat positioning, he either waved the pilot off, who then would have to go around again or with the bats, signalled the Pilot to land. The pilot then must keep the plane positioned and drop it down so that his tail hook catches one of the arresting wires or failing that, hit the barrier. Occasionally one of the planes would have a rocket hung up, it was landed first because when the plane hit the deck the rocket would usually let go and skip and jump down the flight

deck until it either went over one side or the other or off the bow.

Other personnel assigned to the flight deck during flying stations were a very few air mechanics. We wore a white cap with a black strip down the middle. Our station was on the flight deck in front of the tower. We were not part of the squadron, but Ships Company. Then, aircraft handlers, who after a landing released the hook from the wire, then directed the pilot to a position on the port or starboard side near the bow where the plane shut down and was chocked and maybe tied it down. These aircraft handlers did most of the manual work such as aircraft positioning etc. on the flight deck during flying stations. The squadron mechanics after flying stations would then take responsibility for the aircraft.

These guys deserve much more credit than they ordinarily get.

Here are techs lying under the ac holding down chocks against wheels as ac prepare to take-off.





BOB BISSELL
sends along these
photos -from
where he is sailing -
Greece? Looks
wonderful.

**Mr & Mrs
Bissell
in
Port Vathi**



*Bob Bissell and
Marsh Dempster
at a bar in
Astakos*



Bob and Marsh with the Scotia Mist '11

Bob says: "We fly the NS Flag as a house flag and normally a Blue Ensign as we are retired Naval Officers."



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Special News!!!

Please support your SAM Foundation Fund Raising Committee by donating to our New Building Fund. Mark your donation for the new Building Fund on your cheque etc..

Also, please remember that membership fee's are due on 30 December 2016. (Regular Membership is \$50 per year.)

See our pull out section for new price of *The Bonnie Book* - includes shipping and handling - no tax.



An Appropriate Ode to the Sea Fury.

You love a lot of things if you live around them.
But, there isn't any woman, and there isn't any horse,
Not any before, nor any after, that is as lovely as a great
airplane.

Men who love them are faithful to them,
Even though they leave them for others.
A man has only one virginity to lose in fighters,
And, if it is a lovely plane he loses it to, there his heart
will ever be.

Originator unknown

The above was reprinted from an inscription under a photograph of a fighter plane in the Officer's Mess at CFB Cold Lake, Alberta

SAM Atrium





SEA KING

CYCLONE



The Worst Procurement in the History of Canada?ⁱ

John L. Orr

In a press release issued by Public Works and Government Services Canada late on Friday, 3 January 2014, it was announced that an agreement had been concluded between the Government of Canada and Sikorsky Aircraft to renegotiate the Maritime Helicopter Project (MHP) contract.ⁱⁱ The news that the MHP is entering yet another contract negotiation triggered the customary grab bag of opinion pieces, most quoting former Minister of National Defence Peter MacKay who in July 2012, in an apparent moment of frustration, called the MHP "...the worst procurement in the history of Canada."ⁱⁱⁱ

This may yet prove to be the case but hidden in Mr. MacKay's comment is the implication that in some less complicated era, major Crown projects such as MHP proceeded smoothly from the development of the Statement of Requirement (SOR) to the hammering out of the contract, to the on-time, on-budget delivery of the equipment. With perhaps a few exceptions, nothing could be further from the truth.

That difficulties have been encountered in procuring a replacement for the Canadian Sea King helicopter^{iv} should be no surprise given the Sea King's own rocky start. Some readers of this journal will be aware that until mid-1961, the front-runner for an escort-based anti-submarine warfare (ASW) helicopter was the Kaman Seasprite and not the Sikorsky Sea King. Perhaps less well known are some of the other challenges that accompanied the selection and introduction of the Sikorsky Sea King. These illustrate the point that procurement was as difficult then as it is today.

The requirement for an escort-based ASW helicopter grew out of the threat posed by the nuclear-powered submarines of the Soviet Union to the RCN's newly commissioned *St. Laurent*-class destroyer-escorts. As such, it was one of three measures intended to address the escort's vulnerability (the other two were variable depth sonar and new hull-mounted sonars).

Before an SOR for an escort-based ASW helicopter could be issued, however, it was necessary to resolve a protracted doctrinal debate between the RCAF and the RCN over the role of the helicopter in ASW. After extensive wrangling between the two services in the Sea/Air Warfare Sub-committee of the Chiefs of Staff Committee, it was finally agreed in 1958 that the helicopter had a role in ASW and that shipborne ASW helicopter operations would fall under the control of the RCN and not the RCAF.

Following the resolution of the doctrinal issues, the RCN prepared an SOR. The next hurdle was to meld the RCN SOR with a tri-service helicopter procurement program intended to combine the future helicopter requirements of the Army, Air Force and Navy. The Navy resisted pressure to select the Vertol 107 tandem-rotor helicopter and instead proposed the purchase of an ASW version of the single-rotor Kaman Seasprite utility helicopter although it was not operational at the time.

Following approval by the Chiefs of Staff, the project was handed off from DND to Treasury Board recommending the purchase of the Kaman Seasprite. The Treasury Board almost immediately returned the project to DND with a number of objections, not the least of which was that the project should be delayed pending future developments in ASW helicopters. This objection was rejected in turn by DND and the Treasury Board grudgingly agreed to the project in December 1960.

But even after this painful process, the RCN never acquired the Seasprite. Following a significant increase in the price of the Seasprite as well as its inability to pass its initial US Navy preliminary evaluation, it became apparent that this aircraft

would not be suitable for the RCN. This meant that the whole procurement process had to be restarted with the result that the Sea King was eventually procured for the RCN in 1963.

The Sea King ushered in a new era of technical complexity in ASW helicopter operations for the navy. The RCN's previous ASW helicopter, the Sikorsky HO4S-3, was restricted to day-only operations and operated solely from the aircraft carrier. Not only was the Sea King more than twice the weight and size of the HO4S-3, it flew from both the carrier and the destroyer-escorts and had a complicated integrated avionics system that allowed the helicopter to transition from forward flight to a hover in all weather conditions. It was this integrated avionics system, especially in the early days, that proved to be the most difficult maintenance aspect of the Sea King to master, and had a negative impact on availability.

The first four Sea Kings were manufactured at the Sikorsky plant in Stratford, Connecticut, and the remaining 37 were assembled by United Aircraft of Canada Limited (UACL) in Montreal from components provided by Sikorsky. This presented a significant challenge to UACL that was eventually overcome, but there were delays in production which reduced the number of aircraft available for operations until the delivery of the final Sea King in May 1969.

During the introductory phase, a two-year operational pause was established from January 1963 until January 1965 while conversion training took place. The first four aircraft, delivered in the summer of 1963, were intended for initial cadre and operational conversion training. However, two of the aircraft were diverted to higher priority taskings – one to carry out the Beartrap trials to develop a helicopter hauldown system for landing on destroyer-escorts and the other to evaluate the Canadian-developed Doppler Radar, the heart of the avionics system.^v As a result, operational conversion and proficiency flying suffered, and the objective of achieving a limited operational capability with the Sea King in 1965 was placed in jeopardy.

In the fullness of time, all the difficulties involved in the introduction of the Sea King were overcome and, more importantly, were not considered to be unusual in the context of the introduction of a new weapons system. This highlights one of the major differences between then and now. The RCN of that period, and indeed the government, had a great deal of experience in defence procurement. For example, during the period from 1947 to 1967, the RCN Air Branch alone introduced three aircraft carriers, three types of fighter aircraft, three types of fixed-wing anti-submarine aircraft and four types of helicopters – including the Sea King. Is this the case now?

It is evident that defence procurement is a complex and tough business, and the experience with the MHP bears this out. However, before Ministers and the media start throwing around terms such as “the worst procurement in the history of Canada,” they should take a hard look at the context of past procurement programs which at least had the luxury of sufficient numbers of knowledgeable personnel operating within a coherent procurement system.^{vi}

¹ This article draws on John L. Orr, “‘We Came to Mow Your Lawn’: How and Why Canada Acquired the Sikorsky Sea King Helicopter,” a paper presented at the 18th RCAF Historical Workshop “Wings for the Fleet: Fifty Years of the Canadian Sea King,” held at 12 Wing Shearwater 19-20 June 2012.

² Government of Canada, Media Release, “Government of Canada to continue with Maritime Helicopter Project and begin retiring Sea Kings in 2015,” 3 January 2014.

³ CBC News, “MacKay Says Chopper Deal ‘Worst’ in Canada’s History,” 10 July 2012.

⁴ There have been at least three projects and two aircraft involved with the procurement of the follow-on to the Sea King: the Sea King Replacement Project; the New Shipborne Aircraft Project (EH 101); and the Maritime Helicopter Project (Cyclone).

⁵ Canadian Marconi AN/APN 503(V) Doppler Radar.

⁶ I would personally recommend: Randall Wakelam, *Cold War Fighters: Canadian Aircraft Procurement, 1945-54* (Vancouver, BC: University of British Columbia Press, 2012); and S. Mathwin Davis, “The ‘St. Laurent’ Decision: Genesis of a Canadian Fleet,” in W.A.B. Douglas (ed.), *RCN in Transition 1910-1985* (Vancouver, BC: University of British Columbia Press, 1988), pp. 187-208.

Continued from Spring Issue...

DREAM ON...

The CORMORANT fulfills our wishes

By Joe Paquette

Canada's newest helicopter, the CORMORANT, is truly a dream come true and one we don't want to end too early. "My dream" may have been a throwback to my Search-and-Rescue and SEA KING helicopter days or it might have been the dessert before bedtime, but it seemed very real.

I was talking to the "Big Guy" (referred to hereafter as BG) and I was asking for my dream version of a SAR helicopter to replace the venerable LABRADOR.

"Tell me what you really need to do the job?" asks BG.

"The whole job?" says I.

"Yes!" says BG.

"Well" says I, "this business of Search-and-Rescue with an old helicopter with no de-icing capability, insufficient one-engine inoperative (OEI) capability, no night overwater hover capability and no type of automatic flight control system is really a lot to ask of some very dedicated aircrew."

"I know, I know." Says BG. "So what do you need?"

"Well ... Since this is a dream, how about something about 50 percent faster and more powerful, 100 percent larger inside but not much bigger outside? Oh, and able to do the job at night and in the winter when icing is present?"

"Done!" Says BG

My first view of the CORMORANT sitting on the pad outside

COMPARING THE CORMORANT, LABRADOR AND SEA KING

	Cormorant	Labrador	Sea King
Length	22.8 m	25.4 m	22.15 m
.....	74.8 ft	83.3 ft	72.7 ft
Height	6.61 m	5.08 m	5.13 m
.....	21.7 ft	16.7 ft	16.8 ft
Width (rotors)	18.6 m	15.24 m	18.9 m
.....	61.0 ft	50.0 ft	62.0 ft
All-up weight (AUW)	14,600 kg	9,253 kg	9,253 kg
.....	32,178 lbs	20,400 lbs	20,400 lbs
Cabin size	28 m ³	24.6 m ³	24 m ³
.....	988.7 cu ft	870.2 cu ft	850 cu ft
Maximum fuel	*4,200 kg	2,450 kg	1,723 kg
.....	*9,257 lbs	5,600 lbs	3,800 lbs
Fuel burn at cruise	**795 kg/hr	500 kg/hr	500 kg/hr
.....	**1,860 lbs/hr	1,100 lbs/hr	1,000 lbs/hr
Range (dry tanks)	**1,320 km	1,035 km	845 km
.....	**713 nm	559 nm	456 nm

*Does not include auxiliary fuel tank which can be installed in less than one hour.

**Does not consider reduced fuel burn and range increase which would result if one engine were reduced to idle at cruising speed and altitude or the additional range possible with an auxiliary tank fitted.

the Agusta-Westland plant in Brindisi, Italy was vaguely familiar. Big and yellow with a generic SAR colour scheme and even the "Rescue/Sauvetage" logo on the side. It looked like it belonged already. The rear ramp serves to break the line on the fuselage and does make it a little less

intimidating – but it is BIG. In spite of the initial impression that the CORMORANT creates, its overall dimensions do not differ too greatly from the LABRADOR helicopter it replaces.



THE AUTHOR WITH A LOT OF MAIN ROTOR

Fuel is uploaded via a single-point pressure refuelling system and the quantity can be set by the person refuelling. The term "BIG" extends to the hefty oleos and nose gear which looks like it would be comfortable on a Boeing 747. The oleos were retained from the naval variant and will be an asset in any emergency requiring a landing with an above average rate-of-descent. The nose gear incorporates a nose wheel steering system which can slew the nose wheel up to 90 degrees to allow the helicopter to be turned about its own axis with a button on the cyclic. This system not only reduces the power required to move about a small ramp area (a problem with SAR operations from smaller airports), but also reduces stresses on the rotor system as well. A nice touch is that the nose automatically rotates to the fore and aft position on lift-off.

In the cabin I could walk upright (5'10") with room to spare. This will greatly facilitate working in the cabin or at the cabin door during hoisting. The cabin size immediately speaks to a future role in off-shore oil related transport role or to a multi-role maritime helicopter where mission kits could be installed or removed with ease, especially if the ramp were retained in a maritime version.

The CORMORANT is not only big but brawny. It is powered by three General Electric T700/CT7-6 engines producing 1,920 shaft horsepower each, plus it has a gas turbine auxiliary power unit (APU) which can provide electrical power, hydraulics, and pneumatics for the air start, and an environmental conditioning system. In the event of a generator failure while airborne, the APU can be started and its generator brought on line to assist in powering the helicopter busses.

To really give me a feel for the power of this aircraft, Jeremy Trace, Deputy Chief Test Pilot for Westland, pulled off one

engine just as I settled into my first hover at Brindisi (30 feet, AUW of 32,178 pounds, 35°C and no wind). Nothing changed except that the torque and turbine intake temperature eased into the transient limits. At AUW and 20°C, the CORMORANT can hover in ground effect at 4000 feet and cruise at 80 knots at 5600 feet with OEI.

The de-icing system on the main and tail rotor is completely automatic and will allow sustained flight in moderate icing. A series of strips run along the leading edge of the blades and are heated electrically in sequence. The system, developed over two decades of icing trials conducted with a WESSEX and an EH-101, allows a thin film of ice to form on the leading edge of the blade. After a specific period of time the heat cycle commences and the sheet is shed cleanly as one piece avoiding the problem of water running back over the blade and creating further problems. This system works on a combination of liquid water content of the air mass, rate of build-up and outside air temperature. Totally automatic once selected by the aircrew, this system draws only 44 kilowatts of power and will continue to operate even if one generator is lost.

“Satisfied?” asks BG.

Since I seemed to have done so well in my quest, I thought I would push my luck. “Well Sir, since it is so capable it may be complicated so how about a flight management system (FMS) and an automatic flight control system (AFCS) to keep an eye on everything and to help us do our job at night”.

“Done!” says BG.

The dual redundant (AFCS) on the CORMORANT is a full time component of the flight controls. The basic aircraft stabilization system provides full rate damping in addition to an excellent altitude hold with heading hold below 60 knots and full turn coordination at 60 knots and above. The serious flight control duties are performed by a six-axis autopilot with every mode of control you can think of. Depending on the mode and inputs selected, the AFCS will conduct an overshoot (go-around mode) from any position, maintain a selected altitude, airspeed and heading/track, fly a search plan, complete an instrument approach to minimums and reduce airspeed automatically as you approach limits to set the helicopter up for a landing if required. For the operational tasks there is an ‘automatic transition to the hover’ capability in conjunction with a hover trim controller by the main cabin door. This will allow the hoist operator to position the helicopter over targets which are out of the pilot’s line of sight.

Whenever a parameter is changed, that readout is ‘boxed’ on the electronic instrument system (three CRTs) for five seconds to highlight it to the pilots. As well, any time a vertical mode is activated (glide path capture, altitude hold engaged) a ‘gong’ sounds to alert both pilots that a change has occurred. An additional safety feature is software that will not allow the helicopter to fly into the water while descending in vertical speed mode. If no action is taken by the pilot at 500feet the AFCS starts to reduce the rate of

descent. At 200 feet it levels off, reverts to radar altimeter hold mode and waits for further input.

To allow for more efficient SAR operations, the AFCS can be programmed to fly a specific search pattern depicted on the navigation display in front of each pilot with a radar overlay. For night and low visibility operations, one mode of the AFCS will allow a ‘return-to-target’. A single input would program the helicopter to enter a pattern which would place it downwind of an object it had just overflowed. From here the helicopter could transition to an AFCS controlled hover placing the survivor at 150 metres distance, 60 degrees right of the nose of the aircraft to facilitate visual contact for the pilot and the hoist operator. From this point the helicopter would proceed ahead on ‘Altitude Hold’ at slow speed to the survivor’s position. Once over the survivor with the cabin door open ‘hover trim’ to make final position adjustments and would complete the rescue by lowering the SAR Technician into the water to assist and recover the survivor. Once the survivor and SAR Tech were back aboard, control would be passed back to the pilot who could depart the hover by initiating the ‘Go-Around’ mode automatically programming a rate of climb and an increase in airspeed into the AFCS. A night open water rescue was never an option for the LABRADOR even if the casualty happened to be one of our own SAR Techs who may have inadvertently ended up in the water due to a problem while hoisting. The SAR Techs carried a one man life raft for this eventuality and were prepared to spend the night in the water.

Since a SAR helicopter with a malfunctioning hoist would lose much of its RESCUE capability, the CORMORANT is also equipped with a backup hoist of equal capability and in the same position as the primary. If the hoist were to fail, the Hoist Operator could switch to the backup and continue the hoist with minimum delay and disruption.

While I couldn’t see the hoist in action, I was able to view and experience the rotor wash produced by a 32,000 pound helicopter.



SURVIVOR VIEW OF THE EH-101

In the hover at 50 feet the rotor wash was profound but in light wind was already one helicopter length behind us. Back in Brindisi, Maj. Alex Thompson and I investigated this phenomenon at the pad with the helicopter in a 10 and a 50 foot hover. The hoist training I do often has me in this environment and I can safely say that the rotor wash is stronger than a Sikorski S-61 but the turbulence below the

helicopter was relatively much less and the maximum effect was behind the helicopter even at lower hover heights.

The FMS and the System Management Computer (SMC) are multimode computers which handle navigation, radio selection and tuning, fluid level and temperature monitoring, maintenance data and aircraft performance and equipment status. At the end of a flight, the data on the 'Health and Usage Monitoring System' can be downloaded for post flight review by the engineering staff on a ground based system.

"Anything else?" asks BG, getting a little exasperated.

"Well, I assume that you are doing such a great job, the helicopter can probably be flown back to base without all the automatics?"

"Wouldn't have it any other way." Says BG.

Your first impression of the cockpit of the EH-101 is one of emptiness, especially if the APU is not yet running and all the electronic display panels are black. I should explain that even in my most selfish dream I would not have asked to be treated as well as the pilots are treated on the EH-101. As we arrive at the helicopter the APU is running, all systems are powered up and *the air conditioning is on*.

The instrument panel in front of the pilots is comprised of six large electronic displays which fulfill all the engine, navigation and flight instrument requirements. There are the required backup 'steam' gauges but with the electronic redundancy in the system and the flexibility of being able to transfer functions from one display to another, these should never be necessary. The top display in front of the pilot contains the electric attitude indicator surrounded by the airspeed indicator, altimeter, vertical speed indicator, radar altimeter, slip indicator and torque gauge. A heading indicator can be selected to display above the attitude indicator. My only complaint in this area was the linear nature of the torque indication, the reading from 50% to 55% covers the same distance on the indicator as does the reading from 95% to 100%. This made it difficult to make finite adjustments at the more critical end of the power band and accidental 'over torques' were frequent. In the S-76 with the Arriel engine, 97% to 100% Torque is displayed as 1/3 of the gauge greatly aiding in assessing power application at higher settings.

The lower display appears to be a traditional horizontal situation indicator (HSI) but this is only one of four modes. In MAP mode, the navigation portion reverts to a 90 degree display in the top quadrant, while the search plan or navigation route is depicted relative to the helicopters position at the centre of the display. In MAP+RADAR, the radar picture underlies the map display. Finally in HOVER mode, the full panel is given over to the Doppler hover format where the ground speed in any direction is shown in vertical (fore/aft) and horizontal (left/right) coordinates. Additional information provided in this panel includes air temperature, course, wind, DME. Speed, and rotor speed.

The location of all the critical information in such a compact area meant that my cross check, after only a few moments in this new cockpit, was more efficient than in the Sikorski S-76 that I have been flying for eight years. To the instrument pilots among you, this translates into very accurate instrument flying even if the AFCS fails.

Even though complete failure of the AFCS is unlikely and there is no degradation in flying quality with only one system on line, pilots are pessimists at heart and many autopilots cover up undesirable flying characteristics. To explore this aspect of the CORMORANT the AFCS had to go. I had read an article whose writer had initially been unable to control the helicopter when the AFCS was shut off so it was with some trepidation, and risk to my ego, that I told Westland's Jeremy Tracy to turn off the AFCS while cruising at 100 knots. With the loss of the AFCS there was increased sensitivity in roll but control was not a problem. "Perhaps the problems noted would appear as we increased speed to 150 knots?" "How about a large power change to bring the speed back to 80 knots?" It did not matter what combination of torque or airspeed we flew, I was easily able to maintain the desired airspeed, heading and altitude with an accuracy that would have pleased the most demanding flight examiner ... I was impressed, the helicopter made me look good.

So much for the flying; what about the other million actions going on around me that were keeping us in the air – engine parameters, hydraulics, electrics, fuels, fluids, fire warning and other emergency systems – who was taking care of them? The SMC (remember it?) was, and displaying any necessary information on the middle two electronic displays in conjunction with the readouts on the FMS control boxes (pilot and co-pilot) on the centre console. In the START mode, the left panel displays hydraulic pressures (3) and engine oil and transmission temperatures and pressures. The right panel displays gas turbine speed (Ng), turbine inlet temperature (TIT), power turbine speed (N2), rotor speed (Nr) and torque (Q). Below these panels, a backup display shows Q, TIT, Ng, NR and fuel quantity. Fluid levels are monitored by the SMC.

Once in flight, the secondary power readouts (Ts and Ps) don't appear unless the SMC senses a parameter outside the normal range. At this time, the left screen displays a message and the pilot may hear an audio voice warning. The crew can call up the appropriate information on the screen which then graphically displays any action to be taken; for example, fuel transfer, connecting the utility hydraulics to the flight control system, bringing the APU on line, etc.

The term 'pilot's aircraft' has been overused but I want to say that this helicopter not only incorporates the latest technology in a comprehensive, user-friendly manner but it is a delight to fly in any mode. Controls fall easily to hand,

power can be applied accurately and once an attitude has been adjusted, the airspeed, altitude or rate of descent remain where they are set. Visibility over the nose is excellent and the instruments are visible regardless of how high you may like your seat. The seat is perfect and FINALLY, height adjustment is a one handed job with a positive lock.

In spite of the conventional main rotor/tail rotor system, the CORMORANT is impressively tolerant of crosswinds and tailwinds. To experience this I hovered in sideways flight, left and right, at speeds up to 40 knots with my feet on the floor and the AFCS holding the heading. Hovering with a tailwind of 20 knots demonstrated that technology has overcome the normal limitations of the tail rotor helicopter.

When it comes to flight in instrument meteorological conditions (IMC) the instrument displays are compact, logical and easy to read allowing for a very effective cross check. If it is a dirty night and you are returning to base in minimum visibility or you have a transition to the hover over water at night, it is nice to know that the AFCS is more than up to the task. We flew into the instrument landing system (ILS) approach at Brindisi at 150 knots. Localizer and glide path intercepts were smooth with auto deceleration starting at 500 feet above decision height (DH). Without pilot intervention at DH, the helicopter leveled out at 75 feet and 65 knots and flew down the centreline. One touch of the "go-around" button on the collective and we climbed away at 65 knots and 500 feet per minute, well within the OEI capability of the helicopter.

"Are you satisfied?" asks BG.

"I am sure you have thought of this BG, but you know that the introduction of a new aircraft is often a pain because not all the quirks have been ironed out."

"Have I told you about IFOP?" asks BG.

"Sounds interesting," says I. "Go on."

The intensive flight operations program (IFOP) is directed by Fiorenzo Mussi who was a flight test engineer on the original Agusta 101, the grandfather of the current EH-101. He was also the chief project engineer for Augusta on the EH-101. The objectives of the IFOP program are:

Data acquisition;

Demonstrate the maturity and reliability of the EH-101 systems and sub-systems;

Demonstrate time between overhaul for all dynamic components; and,

Develop, verify and certify the health and usage monitoring system for the entire helicopter.

In this program, the two helicopters at Brindisi, and later Aberdeen Scotland, are flown daily on representative flight profiles to accumulate a total of 6000 hours on the two helicopters. The helicopters are maintained in accordance with civil standards with the tools and manuals that the company intends to provide to its customers. In fact the IFOP office functions as a customer would and in this manner, not only proves the reliability of the helicopter but examines customer support as well.

"I hope you are happy now!" says BG.

"Yes!" says I, "Absolutely delighted, but now I feel unsettled because so many young men and women flying the SEA KING are not able to have the benefit of this technology and must continue to live with their 34 year old helicopter (Authors note: Yes, this was written way back when.)."

"Working on it." Says BG. "I know that this is the best helicopter around and that if it were to replace the SEA KING we would have the advantages of a large and common fleet. We could have a simulator which would serve both fleets and would enhance safety while saving wear and tear on the smaller SAR fleet.



**BRINDISI CREW: JEREMY TRACY, PROJECT MGR,
FIORENZO MUSSI, MAJ. ALEX THOMPSON**

Training and transition for the navy variant would be simplified and safer because we would have a core of airman who had been operating the basic system for a number of years before the introduction of the maritime version. There would be savings in parts inventory as well, not to mention the benefits of being able to cross-pollinate between the two versions with minimal training in systems ... but."

"But what BG!" says I.

"Well, at a time of fiscal restraint I was rather cavalier in some of my remarks about this helicopter. I will take a lot of heat if I now say that we want it."

"Well Mr. Chretien, you are the Big Guy and those aircrew who risk their lives for the safety and defence of the other people you represent are counting on you to make the best, not the most politically safe decision on their behalf."

"Dream on"

Open to everyone!

NEW 500 CLUB TO BE LAUNCHED 1 JUNE 2016

The Shearwater Aviation Museum Foundation has been working in conjunction with the Shearwater Aviation Museum for many years to continue to build and expand our programs and offerings to the military and civilian community alike. In order to meet our goals, we rely on the generosity of individuals and businesses for support. We hope that you will be able to take part in our venture to grow our building fund. Please post this information or pass it along. Thank you.

The FIRST 500 Club was launched this past year ! What is a 500 Club you ask? We will be selling 500 tickets at a cost of \$100 per ticket between the months of June 2016 and May 2017. We will be having weekly and monthly cash draws as well as special events draws for additional cash and prizes. **First draw will be 7 Sep 2016.** When you purchase a ticket you are assigned a numbered tag on our 500 club board; the board remains at the museum for each draw. Each draw, ALL tags go into the drum to be drawn out regardless if you have already won previously. Your odds of winning are 1 in every 11th draw. However, if we do not sell 250 tickets, the draw will be cancelled and all funds returned to the ticket purchasers.

This Fund raiser is a great addition to our fundraising efforts and we look forward to your support. Should you have any questions please feel free to contact us. To purchase tickets, contact SAMF office at 902-461-0062 or toll free 1- 888-497-7779. You can purchase your ticket over the phone with Mastercard or Visa. Email us at samfoundation.ca Send cheque to SAM Foundation , 12 Wing Shearwater, PO Box 5000 Stn M, Shearwater, NS B0J 3A0

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TICKETS ARE SOLD AT \$10 PER BOOK OF SIX TICKETS

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