Class of 65 Newsletter
Edition 10 – November 2008

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Editor's Corner

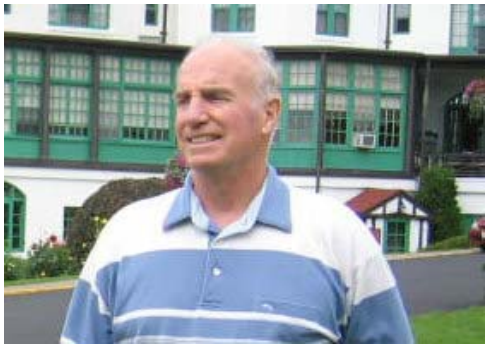
My pleas for input produced a very nice response from a number of classmates we haven't heard from before in this monthly blurb. It is not only good to hear from them, but their contributions are both varied and interesting.

Ernie Cable is our "keynote" contributor this month with an entertaining piece on an Arctic sovereignty patrol that landed him in jail. **Terry Colfer's** article on his love affair with motorcycling and his cautions on safe biking resonate for me as I recall my former life as Director, General Safety in DND and the huge number of personnel that were injured each year riding motorcycles in an unsafe manner.

John Critchley provides a few cryptic notes from his tropical paradise in Costa Rica. I suspect he is trying to discourage a flood of visitors to his idyllic little corner of the world. **Hugh Spence** is featured in a brief description of a memorable occasion held on Parliament Hill. Finally, the edition is rounded out by some information on **Keith Ambachtsheer's** professional activities to inform on Pension Plans – a topical subject given our collective average age and the current financial climate.

"South" - Any Way You Like It

By 6601 Ernie Cable



Maritime patrol squadrons regularly flew sovereignty patrols in the Arctic and by the luck of the draw I probably spent more time flying in the Arctic than most maritime navigators. Usually, we departed from our home base on the first leg of the patrol, which lasted up to 14 hours and landed at a forward operating base near or in the Arctic. From there we flew two or three more sovereignty patrols before returning home. The aim was simply to demonstrate a Canadian presence in the Arctic by circling low over various isolated communities and bantering with the local RCMP or Transport Canada radio operators. The presence of a large four-engine aircraft circling overhead was often the highlight of the day and the radio operators would spread the latest word from the south among the local residents. Just as important, these flights gave the crews experience flying in the Arctic which is quite different than flying at southern latitudes.

The most obvious difference is that during the summer months there is continuous daylight with the sun barely dipping below the horizon at midnight. During the winter there is continual darkness with just a glimmer of daylight at noon as the sun tries to peek over the horizon. During a sovereignty patrol in February, a period between total daylight and total darkness, our crew experienced the unique Arctic phenomenon of witnessing two sunrises and two sunsets in a single day. We took off from Yellowknife at day break and as we flew northward it became night because the sun hadn't yet risen at the more northern latitudes; later in the morning the sun eventually come up and we saw our second sunrise of the day. At the end of the patrol, shortly after sunset we headed south from the high Arctic for the return flight to Yellowknife; as we flew farther south it became daylight because the sun had yet to set at the southern latitudes. Then, shortly after landing at Yellowknife we witnessed our second sunset of the day.

During the late summer and fall the Arctic islands and waterways provide good topographical features for visual navigation. But in the winter the waterways are frozen over and the blowing snow makes map reading difficult. Ice formation along the shorelines, inlets and bays greatly distorts the geographical features making visual and radar navigation quite challenging. Also, in the winter the senior ground crew members have the opportunity to show the junior technicians the tricks of servicing the aircraft in blowing snow and bone-chilling temperatures and preparing the aircraft for launch the next morning after having drifting snow overnight.

The most significant difference is that proximity of the North Magnetic Pole, located about 400 nautical miles north of Resolute, makes the aircraft's magnetic compasses virtually useless. The magnetic standby or "wet" compass, which can get most aviators home at temperate latitudes when all else fails, just wanders aimlessly. In the Arctic the navigator determines aircraft heading by using the sun and stars to align the aircraft's gyros to "Grid North" which parallels "True North" at zero degrees longitude also known as the Greenwich meridian. Even the high-tech gyros in the long retired Argus patrol aircraft had their imperfections which caused the gyros to drift off heading. Consequently, the navigator devoted a significant portion of his time taking celestial observations to keep the gyros properly aligned to Grid North; lest he become one of the notorious legends of those lost in the Arctic.

In 1967, my Argus crew combined our centennial project with a sovereignty patrol. The first leg of the patrol was from Greenwood to Thule, Greenland; followed the next day by the second patrol from Thule to Yellowknife via the North Pole. After departing Thule the plan was to fly to the North Pole, drop a time capsule containing current newspapers, Playboy magazines and other centennial year artifacts; then head south to Yellowknife to host a cocktail party for invited dignitaries to celebrate Yellowknife's inauguration as the capital of the Northwest Territories. Upon reaching the North Pole we dropped our time capsule and commenced a slow orbit around the Pole. Although, we were at the North Pole for only 10 - 15 minutes we were technically there on three consecutive days because we were at one of only two places in the world where you can fly around the world and cross the international dateline every few minutes. We arrived at the North Pole

about 2355 hours September 8. As we circled in a clockwise direction we crossed the international dateline (180 degrees longitude) and gained a day; so now it was now 2355 hours September 9. As we continued to circle back towards the western hemisphere we flew back into September 8. Five minutes later the time had advanced to 0000 hours September 9 on the western hemisphere side of the dateline. Continuing to circle, we again crossed the dateline into the eastern hemisphere where we gained a day and it was now 0000 hours September 10. So, during the 10 – 15 minutes we spent at the North Pole we were actually there on three calendar days, September 8, 9 and 10.

Now, the unique navigation feature at the North Pole is that there is no True North, East or West; all directions from the Pole point "True South". So "True South" is any way you like it because every destination from the North Pole is "True South". The trick is to select the right "South" because the wrong one could very easily have you wind up in the opposite hemisphere from your intended destination. Fortunately, with the aircraft's gyros aligned to "Grid North" the "South – any way you like it" problem goes away because, unlike True North, "Grid North" doesn't reverse direction as you fly over the North Pole; therefore, Grid East, Grid West and Grid South retain their orthogonal orientation to Grid North. Because Grid North is aligned with True North at Zero degrees longitude and the Greenwich meridian is the point from which all longitude is measured, the Grid heading to any destination from the Pole is simply the required True Heading plus longitude of the destination. So, our heading to Yellowknife from the North Pole was due South or 180 degrees True (which was the course to anywhere in the world you like). However, the ambiguity is resolved by calculating the Grid course of 294 degrees Grid (180°T+ Yellowknife longitude, 114° W= 294°G) which put Yellowknife on the nose 1,700 miles away.

Because of the seven hour time difference from the Greenwich meridian we arrived at Yellowknife at a very dark 0400 where we were met by a local RCMP constable who doubled as the customs officer. He had arranged for a bus to take our sizeable crew to the one and only Yellowknife Hotel. But upon checking-in we were advised that our rooms would not be available until 1300, so what to do? The constable saved the day by arranging to have the few inmates in the local jail that night released so our crew could take up

residence in the jail until our hotel rooms became available. After a long day of flying we thought it a good idea to unwind by sampling some of the booze we had bought for the cocktail party with the taste testing lasting well into the morning. I'm sure the constable had suspicions that we had more booze than was declared at the customs clearance, but what could he have done; we were already in jail! The hotel finally telephoned to advise that our rooms were ready and having released the bus, the constable arranged for their paddy wagon to drop us off in the middle of Yellowknife's main street in front of the hotel on a busy Saturday afternoon. Having lived in our flying gear and not shaved or showered for over 36 hours our crew was hardly the epitome of couth and decorum; raising stares and questions from even the local rough and ready miners and prospectors as to why the RCMP was dumping these vagabonds with their heaps of luggage on their main street. After catching our second wind we hosted the cocktail party for Yellowknife's inauguration as the new capital with grand aplomb.

Now, back to Arctic flying; all this Grid heading stuff saved our crew from becoming a statistic while I was on exchange with the U.S. Navy at the Naval Air Development Center in Warminster, PA from 1972-75. I was a project officer on the P-3C Orion Update program and one of our update projects was integrating the new Omega world-wide fixing aid with the twin inertial navigation systems on the P-3C. After months of flight testing at temperate latitudes we finally got all of the Omega bugs resolved and we were ready for the toughest navigation test of all; if Omega performed well at the North Pole it would work anywhere in the world. While planning our flight to the North Pole I agreed to let the primary inertial navigation system align itself to True North as it normally would, but I insisted on aligning the second inertial system to Grid North because I did not trust the inertial aligned to True North to keep pace with the rapid change of longitude at the North Pole. My U.S. Navy colleagues believed that the most advanced computerized navigation system in the world would have no problems at the North Pole and using Grid was unheard of and unnecessary. But, as the only navigator who had polar experience I won my point.

On the flight from Thule, Greenland to the North Pole the Omega and both inertial systems performed flawlessly. The latitude and longitude calculated by the three systems agreed well within limits as we overflew the North

Pole. But as we started to circle, the rapid change of longitude caused the True North inertial to topple as I suspected; we lost all navigation information from this inertial including the pilots' attitude instruments; the Omega position drifted out of the ballpark because it relied on heading and ground speed from the toppled inertial to calculate position. So, there I was on top of the world with a broken navigation system, no fixing aids, no sun (overcast) and no where to go except "South", all 360 of them! But, only one "South" headed to our intended destination Bodo, Norway. The second inertial aligned to Grid North saved the day! The pilots regained their attitude instruments and the inertial provided guidance to the only "South" that led to Bodo 1,400 nautical miles away on a course of 166° Grid (180°T - Bodo longitude, 14°E= 166° G).

Since its introduction in 1980 the Aurora had proved to be one of the best deep ocean anti-submarine (ASW) aircraft in the world. However, the Soviet navy had established an under-ice polar route to transfer their nuclear submarines between the Pacific Fleet at Vladivostok and Northern Fleet at Severodvinsk on the White Sea in the Arctic. The Soviets now had the capability to sail under the ice from the Arctic Ocean through some of the channels in the Canadian Arctic archipelago and slip undetected into the North Atlantic. Clearly, an under-ice ASW capability was needed to guard Canada's Arctic frontier and NATO's northern flank. Therefore, in the early 1990's Canada and the U.S. established a series of ICEX exercises to develop an under-ice ASW capability. Fortuitously, sovereignty patrols had taught CP-140 Aurora crews the vagaries of the Arctic and prepared them for the exciting challenges of flying ASW patrols over the ice-covered Arctic Ocean.

Canadian Auroras and U.S. Navy P-3C's were based in Thule, Greenland to be close to the ICEX exercise areas north of the Canadian archipelago and Greenland. The U.S. Navy provided two Sturgeon Class nuclear submarines for the exercises which were sometimes augmented by Royal Navy Trafalgar class nuclear submarines. Some of the missions consisted of simply finding and tracking the submarines under the polar icecap while others were designed to refine sub-air cooperation procedures to track a second submarine under the ice. The polar icecap is pocked with polynyas (small stretches of open water) even in the middle of winter. The pilots became

particularly adept at descending to 200 feet and dropping sonobuoys into the small polynyas to detect the target submarine. Detection ranges were considerably greater than in the open ocean because the Arctic Ocean is very quiet with no ambient shipping or wave action noises to mask the submarine. Some sonobuoys had their hydrophones replaced by long metal spikes bolted to their bottom base plates. The modified sonobuoys, called geobuoys, were developed by U.S. Navy for use in Vietnam where the spikes embedded in the forest floor detected the clandestine movements of the Vietcong insurgents at night. Similarly, when the geobuoy was dropped over the Arctic icepack the spike imbedded in the ice. The icecap acted like a large hydrophone; the sounds from the submarine radiated into the ice were detected by the geobuoy and transmitted to the aircraft.

ICEX was quite successful but revealed several aspects of under-ice ASW that had yet to be resolved. However, the Cold War came to an end in 1993 and the ICEX exercises fell victim to reduced funding. In fact, the budget reductions were so restrictive during the following decade of darkness that Aurora sovereignty patrols were terminated. Not only did Canada lose its ability to exert sovereignty over its Arctic archipelago, but also its air force lost a generation of air and ground crews with any knowledge or experience in protecting their Arctic frontier.

However, the threat of global warming has revitalized interest in the Arctic and maritime patrol aircraft are again being called upon to protect Canada's Arctic sovereignty. With the prospect of Arctic seabed resources becoming commercially viable, claims of sovereign jurisdiction over various regions the Arctic basin are receiving renewed attention. One of the agreed criteria is that Arctic rim nations should have jurisdiction over their continental shelves and any ridges emanating from the shelf. Two of the ridges in question are the Alpha Ridge and Lomonosov Ridge both of which project north from Ellesmere Island. The Alpha Ridge projects 150 km north into the Arctic basin, whereas the Russians claim the Lomonosov Ridge extends 1,800 km from their New Siberian Islands. Several years ago, Canada began conducting geological surveys to prove that the mineral rich Alpha Ridge is geologically an extension of Canada's Arctic continental shelf and therefore falls under Canadian sovereign jurisdiction.

In previous years, a helicopter was used for the surveys, but proved to be very slow and time consuming and more survey work remained. However, in April 2008, Defence Research and Development Canada (DRDC) recalled the Aurora's ability to detect sound through the polar ice during the ICEX exercises and enlisted the services of an Aurora to drop geobuoys to complete the seismic survey of Alpha Ridge to substantiate Canada's jurisdiction. This was the first time that military technology had been used to map the Arctic seabed and prompted DRDC to look for other scientific uses for the Aurora in the Arctic. It will be ironic if the ICEX geobuoys intended to counter Russian submarines in the Arctic during the Cold War will be used to counter Russian claims to the Lomonosov Ridge in the battle for Arctic seabed resources.

Me and My 'Shadow'

By 6523 Terry Colfer

Recently, Mike asked me to contribute a few words to the class newsletter relating to motorcycle riding.
Here goes ... this won't take long (but if you need any further info please get back to me).

When I retired a few years ago I took a motorcycle course at Algonquin College (highly recommended in teaching safe riding habits from the beginning). Having almost zero experience astride a two cylinder stead, it was all new to me. After the course and the associated adrenalin rush I fully intended to pursue the interest with enthusiasm. However, my pursuit of two wheeled grounded flight (motorcycle) gave way to real flying which has hijacked most of my time for the past few years; at least when the white stuff was not on the ground.

This spring, with encouragement from a foreign service friend and after some soul searching, I decided it was time make the move. I purchased a Honda Shadow (750cc).

In short, there is little to compare (except maybe for real flying) with the sense of exhilaration and adventure resulting from riding a motorcycle. The freedom of the open road engages all your senses. Feeling the wind in your face (and the sting of a kamikaze mosquito), experiencing the camaraderie, smelling the pine forests, sensing the temperature changes as you navigate down into a valley, seeing the full panoramic view open out ahead of you, hearing the rumble of the engine and squinting at the gleam of the chrome ... all this and more says; "I am alive!".

Of course, this is all happening at an age (at least in my case) when the sense of one's own mortality is no longer over the horizon. Consequently, if you feel motorcycling is right for you, approach this challenge with extreme caution. But, there are few better adventures out there than safely learning to ride a motorcycle. Certainly, a strong desire to make it all happen along

with a sense of humour are good starting points. For most of us, if you can ride a bicycle you can learn to ride a motorcycle.
Riding a motorbike is not all fun and games. For example, it is a lot about defence, looking and planning ahead. One should constantly be scanning for things to avoid and observing other vehicles. Motorcycles are normally more difficult to see than cars or trucks. For safety reasons I find it best to pretend that you cannot be seen at all by four wheel drivers who for the most part, at least from a motorcyclist's perspective, appear to be both blind and deaf. One must operate exceptionally defensively. Keep a large space cushion around your bike and have an escape route planned. Unfortunately, at the end of the day, if a motorbike gets into an argument with a four wheeler (as many of you bicycle riders fully understand) you will not win. Try and ride safely and smartly.

In conclusion, it is always prudent for a motorcyclist to appreciate that your biggest ally (and enemy) is attitude; your greatest investment is knowledge, when it rains you get wet, and most importantly understand that in any fight ... you lose.

So, taste the freedom, ride safe and don't forget to wave.

TDV ... 6523 TWC

Critchley in Costa Rica

By 6525 John Critchley

Not too much going on down here except working retirement. Presently learning Spanish and the piano, trying to find and read Costa Rican water/wastewater/electrical codes and laws, and designing a refurbishment of the water system for one of the area's hotels. But I was thinking that the next time I go back to Ottawa, I'll pick up my combat diver notes and write an article on the startup of combat diving in the Army.

Remembrance Week 2004

This unique photograph was taken in front of the throne in the Senate Chamber at the conclusion of a special Ceremony of Remembrance on Parliament Hill November 5, 2004, kicking off Remembrance Week.

Ten officer cadets (names not available) represented the college. In the front row are: Senator William Romkey, Deputy Leader of the Government in the Senate; Sgt. Ernest "Smokey" Smith, VC; and the Usher of the Black Rod, LCdr (ret'd) Terry Christopher, OMM, LVO, CD. Behind them are **6549 Hugh J.M. Spence**; 5276 J.R. "Digger" MacDougall; H22547 LGen (ret'd) Charles Belzile, CMM, CD, DMsc.; 3886 D.B. "Sam" Perrin; and John Batson.

Hugh Spence, MacDougall, Perrin and Batson form the quartet Capital Lettermen, which sang during the ceremony.

6584 Keith Ambachtsheer

Recently Fats Carruthers brought my attention to the fact that Keith Ambachtsheer had an opinion piece in the 4 November issue of *The Financial Post* entitled 'How to Fix Pension Plans' and that he had been a guest on CBC

Radio's *The Current* with Anna Maria Tremonti on Monday, November 3. The following is an extract from Keith's Bio taken from his company's web site.

After spending three years in the Canadian Forces, Keith became an investment analyst with *Sun Life Assurance Company*, advanced as a partner and research director at *Canavest House*, and became co-founder and partner of Pension Finance Associates. He has operated his own form, *KPI Advisory*, since 1985. He provides strategic advice on governance, finance and investment matters to governments, industry associations, pension plan sponsors, foundations, and other institutional investors around the world.

Keith played a major role in founding the Rotman International Centre for Pension Management (ICPM). In April 2005, he was appointed Director of ICPM and Adjunct Professor at the Rotman School of Management, University of Toronto.

His research and writing have won a number of awards, including most recently, the James Vertin Award from the CFA Institute. In 2007, he was honoured with the *Outstanding Industry Contribution Award* by Investments and Pensions Europe Magazine, and in 2003 he was named *One of the 30 Most Influential People* by Pensions and Investments Magazine in the USA.

His articles appear regularly I various professional journals and he has authored three critically acclaimed books. He issues *The Ambachtsheer Letter* on a monthly basis which is subscribed to by a global list of corporate, public sector, investment, and consulting firm clients.

Keith sits on a number of organizational boards and is Past-President of the Association of Canadian Pension Management (ACPM). He earned his undergraduate degree in Commerce and Economics from the Royal Military College of Canada; M.A. in Economics from the University of Western Ontario; and, completed coursework for his PhD in Economics at McGill University.

Closing Notes

Some pretty interesting and eclectic stuff. Thanks to the contributors. I think Critch must have got on one of Ernie's sovereignty patrols and taken a "wrong South".

As this is a November issue, I am sure most of you will be taking time to reflect on your military service and that of those other Canadians who paid the supreme sacrifice for their country in a variety of conflicts large and small in many corners of the world. In the past, my own attention has tended toward wars past, but in recent years it has turned to those young Canadian men and women (in some cases, our children) that are bravely and honourably doing their duty in Afghanistan; and in other far-flung locations at sea, in the air and on the ground in the fight against terrorism and other injustices.