

**the**

# OBSERVAIR

**Ottawa Chapter Newsletter  
Canadian Aviation Historical Society**



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**January 2017**

## **CHAIRMAN'S MESSAGE**

To start off the first *Observair* of 2017, here is some good news. Back in September I mentioned that Avro Lancaster Mk.10AR KB882, which currently resides outside the Edmundston Airport in New Brunswick, was once more facing an uncertain future. The Alberta Aviation Museum had been unable to raise the required funds to move the aircraft, and it looked like we were once again at risk of losing KB882. However, in November the Edmundston City Council agreed to transfer KB882 to the National Air Force Museum of Canada in Trenton, Ontario. For those of you who need a reminder, the Lancaster Mk.10AR was the Area Reconnaissance variant used for aerial photography and intelligence gathering. There were only three converted to the AR variant which can be recognised by the extended nose section.

The Museum plans to restore KB882 and keep it in its post-war configuration and colours, becoming the Museum's centrepiece for the 100<sup>th</sup> anniversary of the RCAF in 2024. In this configuration, KB882 will tell the story of the Lancaster's nearly 20-year post-war RCAF career and the contributions they made to Canada. When KB882 goes on display, the National Air Force Museum of Canada will be the only museum to have both a Lancaster and Handley Page Halifax in restored condition. The Museum hopes to have KB882 moved to Trenton by spring 2017.

In CAHS Ottawa Chapter news, we are still looking for someone to step forward and volunteer to fill the refreshments role. As I have previously mentioned it is not a demanding task, just one that requires regular meeting attendance and the ability to order and pick up the doughnuts and set up the coffee station before each meeting. We have been fortunate that Hugh Halliday and Mathias Joost have been temporarily splitting the task, but must remind everyone that if no one comes forward we would lose the refreshment portion of the evening.

*Kyle Huth,  
Chairman*

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*The Observair* is the newsletter of the Ottawa Chapter, Canadian Aviation Historical Society (CAHS), and is available with membership. Membership fees are payable in September.

Any material for *The Observair* newsletter should be directed to the Editor:  
Colin Hine

All matters relating to membership should be directed to the Secretary/  
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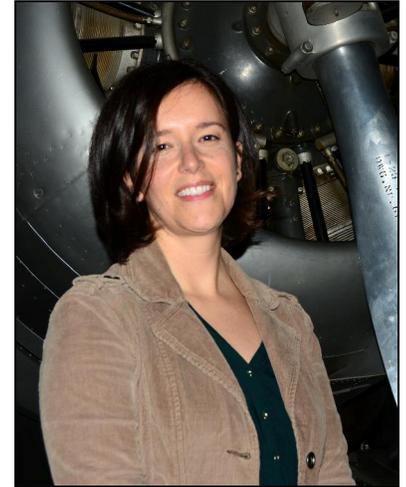
## PAST MEETING

### ARE YOU GUS MERCENARIES? – KATE SPEER

There were 46 members and guests at the 24 November 2016 meeting to hear Porter Airlines pilot Kate Speer speak about an earlier period of her flying career; one documenting the trials, tribulations, risks, and rewards of working as a low-level survey pilot in some of the most inhospitable places in the world.

Kate flew for Fugro Airborne Surveys from 2004 to 2014 before she finally got “a real job”; with Porter Airlines where she currently works. For Fugro “I got paid to fly at 400 feet or less above some of the most inhospitable territory in the world in temperature ranging from plus 40 degrees Celsius to minus 40 degrees Celsius; ferrying aeroplanes thousands of kilometres, including six low and slow North Atlantic crossings, getting experience on multiple aircraft types. Most of this was rotational work away from home on 1 to 2 month stints; the secret of a happy marriage!”

Kate explained that Fugro was originally known as Geotrex. The company originally operated a PBY *Canso* aircraft equipped to fly electromagnetic (EM) survey missions. As time went on, maintenance costs for aging aircraft increased and it became clear that a more modern fleet of aircraft was needed. In the late 80s, Fugro acquired two CASA C-212 Aviocars and later added a DHC-7 *Dash 7* to their EM fleet. They also diversified, adding some magnetometer-only aircraft to their fleet – several Cessna 208 *Caravans* and a Cessna 404 Titan Ambassador II.



Kate Speer © Rod Digney

The aircraft Fugro operates are very specialized; often one of a kind. The on-board technology is in demand by clients around the world. In addition to flying operations in Canada, Fugro has many overseas contracts. This means ferrying aircraft overseas, and this turned out to be one of the favourite parts of Kate's job.

“Flying slow aircraft over long distances is a huge challenge, requiring extensive planning. I loved going through different and new countries, learning what works and what doesn't; getting to try different types of food and beverages; working with new cultures; and learning that tasks that are simple to do in Canada, like filing a flight plan, can take hours in developing nations.”

“I loved solving problems and making things work in the toughest of conditions. The challenge of it all was almost addictive. We always tried to keep risk levels as low as possible, but when dealing with third-world countries and their limitations, then adding in tropical weather systems things tend to get interesting and a little nerve wracking.”

Kate explained that survey flying and working overseas presents many challenges; particularly in tropical areas that do not have the same infrastructure as North America and Europe. Fugro operated in many African countries, as well as in South America (Belize, Colombia and Chile). A major challenge was getting local maps. Weather in the tropics is also a huge problem. Because weather reporting is poor or nonexistent, you are on your own. Trying to fly with minimum fuel reserves, to be as efficient as possible, the combination of past experience, math and weather knowledge often brings one back early. Once the decision is taken to actually go flying, you have to be really in tune with what is going on around you.

Jungle areas and fields are often burned intentionally for farming, causing drastic reductions in visibility for low flying aircraft, as well as poor air quality. As well, trees in equatorial regions can grow very tall; so tall that one has to be very careful about one's towing equipment.

Occasionally it was necessary to fly over built-up areas, but rarely to fly over cities; more often survey lines took pilots low over small villages. “One time we were so low that we could see people very clearly; kids running and waving at the aircraft; an adult with a sling-shot trying to take aim; and Zimbabwe border guards holding guns at the ready as we did our survey turn (ever so carefully to stay out of their airspace).

“Though we used intelligence services and multiple military contacts to avoid risky areas, in central Colombia one of our aircraft came back with three bullet holes. Aside from this area, that we then refused to fly over, I loved working in Colombia; good ATC, great airforce, good infrastructure for aviation; and I almost always felt safe.”

After survey flights, coming back to land one often faced more obstacles: unannounced dignitary arrivals that could shut down the airport for hours. Refuelling from oil drums could also be a logistical nightmare with fuel pumps breaking down regularly and performing maintenance could be difficult with limited spares and lack of experienced mechanics. Pilot personnel frequently

participated in maintenance activities. Bribery for services was common; in Nigeria “You must come pay/give me a present before you can take off”; bribe to use bathroom, get weather information.” On one job, crew were not even allowed to discuss what they were doing – covert/DEA operations!

Everyday living in some countries and adapting to local conditions/customs had its challenges too. Fortunately, the company took good care of its employees; putting people up in decent hotels; renting an entire house for use by a crew team; etc. Staff were paid *per diems*, a driver and vehicle were provided, and life was generally pretty good.

Food could present problems, with contaminated water, poor or no handwashing, etc. It was a matter of when one was going to get sick, not “if.” Although one was provided with clean drinking water, one was not always able to cook one’s own meals and had to rely on restaurants for at least one meal per day. Cross contamination was rife. Drinking beer was a lot safer than drinking water, and more pleasant too! “My survival gear, kept in my flying suit, included a large package of Immodium – did I mention that none of our aircraft have lavatories?”

When a mission was over, all one wanted to do was to get home safely; sometimes it was a battle of wits and bureaucracy to get out. Weather first of all; would incoming aircraft be able to land?; would airlines be safe to fly?; when crew changes were done at main airports, where safe and reliable international connections were available?

Then there was the bureaucracy and of course the corrupt officials; passports taken upon arrival, threats on the way out; usually for bribes: stare down/waiting contests with officials who siezed one’s passport. The trick is to have lots of time and not to loose one’s cool, don’t give in! Pretending not to understand the language they are speaking, even if its English, is also a useful technique, as is carrying a \$100 bill in each sock, just in case! “Once I had to modify my boarding pass to add in a seat number and show the correct date, then hope that no one would pay attention to my expired Visa!”

Colin Hine,  
Editor



## **Pubs & Mags**

**Aeroplane Monthly** (Nov 2016) - 5pp. on the crash of RAF Anson I (L7056) from No. 32 OTU at Patricia Bay, discovered in October 2013 near Port Renfrew, BC; and the involvement of Laurel Clegg, casualty identification coordinator at DND Directorate of History and Heritage, in dealing with the remains of the 4 crew. Documentary *Seventy-One Years* available from [dvmedia.ca/dvds](http://dvmedia.ca/dvds), or as download from [vimeo.com/ondemand/71years](http://vimeo.com/ondemand/71years).

**Air International** (Oct 2016) - 8pp. on current and future activities and procurement plans for the RCAF. Includes tabulated Squadrons, Wings and aircraft operated.

**Airliner World** (Nov 2016) - 4pp. of photos of aircraft spotted at Jean Lesage (Quebec), Pierre Elliott Trudeau (Montreal), and St.-Hubert airports in Quebec, and at the Macdonald-Cartier Airport in Ottawa. The 17 aircraft represent both large and small operators, government and corporate aviation.

**Airports of the World** (Nov/Dec 2016) - 6pp. on seaplane operations at Vancouver Harbour (YHC)

Bill Clark



## **Have You Seen our New Chapter Facebook Page?**

I suspect that a number of CAHS Ottawa Chapter Members are not regular users of social media sites. However, sites such as Facebook do have their uses and I encourage you to give our page a try. You will need to join the Facebook community to access the page but users have full control over the amount of personal information they choose to share.

As well as being a source of timely information between issues of *the Observair*, the page also provides an opportunity for members to share material that might be of interest to others. The Chapter page also serves another purpose; it provides a channel to attract new members and member’s contributions to the page will likely help here as well.

Please take a look and let us know what you think and how we might make it more helpful and user friendly <https://www.facebook.com/CAHSOttawaChapter>.

Colin Hine,  
Editor



## RAMBLING THROUGH RECORDS

One of my proudest creations is the Canadian Air Awards database in the form that is currently online. Since its genesis some 20 years ago, I have added to entries at every available opportunity. However, the database exists in two versions and not everyone is aware of how to access the newer material. Let me illustrate with an example.

Begin by accessing the RCAF Association website (<http://rcfassociation.ca>) and click on "Heritage." This will open a menu of choices. Next click on "1914-1945" and a new menu will confront you. Then clicking on "RCAF Personnel – 1939-1949" will give you access to a portion of the database as it existed some 15 years ago. See for example, F/L Lawrence John Adams. This sample entry reads:

ADAMS, F/L Lawrence John (J7439) - **Commended for Valuable Services** - No. 10 SFTS - Award effective 14 November 1944 as per **London Gazette** of that date and AFRO 2684/44 dated 15 December 1944. Enlisted in Winnipeg, 9 January 1941. Trained at No. 2 ITS (graduated 29 April 1941), No. 14 EFTS (graduated 3 July 1941), and No. 11 SFTS (graduated 11 September 1941).

"This officer, for the past two and a half years, has executed his flying instructional duties with exceptional zeal. He is an outstanding pilot and has contributed much to the high standard of pilots graduating from this school."

How do you access new material that might have been added since the original entry? Return to the RCAF Association website (<http://rcfassociation.ca>). Click on "Heritage," but now choose "Search Awards" from the bottom line of that menu. This gets you a new menu and to the doorway of the newest data. You will need to know the name of the person in whom you are interested, and perhaps the context of his or her service (e.g. RCAF, Canadian in the First World War, etc.), but once you have entered a name and context and hit "Search", you will have access to the material as amended. In the case of our example, Lawrence John Adams, you will find the citation unaltered, but the biographical note much expanded:

ADAMS, F/L Lawrence John (J7439) - **Commended for Valuable Services** - No. 10 SFTS - Award effective 14 November 1944 as per **London Gazette** of that date and AFRO 2684/44 dated 15 December 1944. Born in Winnipeg, 7 March 1917. Enlisted in Winnipeg, 9 January 1941 and posted to No. 2 Manning Depot. To No. 3 BGS, 10 February 1941 (guard duty). To No. 2 ITS, 29 March 1941; graduated and promoted LAC, 3 May 1941 when posted to No. 14 EFTS; graduated 3 July 1941 when posted to No. 11 SFTS; graduated and commissioned 1 September 1941. To Trenton, 14 September 1941. To No. 10 SFTS, 16 December 1941. Promoted Flying Officer, 13 September 1942. Promoted Flight Lieutenant, 15 January 1943. Promoted Squadron Leader, 1 August 1944. To No. 5 Release Centre, 6 February 1945; retired 7 February 1945. Employed by TCA (Air Canada) after the war. In 1958 he became President of Avis (Canada) Limited. Retired in 1978 as Chairman of the Board. As President of the Canadian Tourist Association he transformed it into the Tourism Industry Association of Canada. Died in Halifax, 11 July 2004. See <http://www.airmuseum.ca/bios/adams.html>.

"This officer, for the past two and a half years, has executed his flying instructional duties with exceptional zeal. He is an outstanding pilot and has contributed much to the high standard of pilots graduating from this school."

You may find some entries unaltered in the past 15 years; others may have changed significantly. For example, the original entry for Clare Annis contained just 468 words; the present updated entry has some 1,664 words. Database material is regularly updated, with much assistance from Peter Robertson and others who offer new sources (including obituaries).

Updates to the database will likely cease to be entered when one or both of the following situations occur:

- (a) The RCAF Association tires of managing the database;
- (b) This writer is unable or unwilling to continue.

*Hugh Halliday*

### Heritage

 Canadian Forces Data
Anniversary Dates
Post War Data
> Contents
1914-1945
> Contents
Honours & Awards
> Contents
History
> Contents
Search Awards



## YOWza – Images of recent sightings at Ottawa’s Macdonald-Cartier International Airport (MCIA) (YOW)

*This page is contributed and coordinated by CAHS Ottawa Chapter member Rod Digney*



Porter Airlines DHC-8-402 (msn 4130) Q400, C-GLQB, FIN 801, is seen in its special livery celebrating the City of Ottawa’s 150th Anniversary of Canadian Confederation. © Rod Digney, 12 October 2016



The 150th Anniversary tail art on Porter Airlines DHC-8-402 Q400, C-GLQB, FIN 801. © Rod Digney, 5 October 2016



First Air marked its 70th Anniversary in 2016 with the addition of this '70' logo on the nose of its Boeing 737-436 (c/n 25839 / 2188), C-FFNM. The Ottawa-based northern regional airline grew from the roots of Bradley Air Services. © Rod Digney



The second phase of the Canadian Coast Guard helicopter fleet renewal project is now underway as they take delivery of seven Bell 412EPI helicopters, including C-GCIR (s/n 37014, FIN 492), seen at YOW on 11 December 2016. © Rod Digney



With delivery complete of all 15 new Bell 429 light-lift helicopters for the Canadian Coast Guard, the replaced MBB BO-105s are up for disposal. At least 11 of the surplus rotorcraft were seen stored outside the Transport Canada hangar at YOW on 11 December 2016. © Rod Digney

# GORDON TOWNSEND (1921-2016)

## – *Sunderland Pilot*

Long-time CAHS Ottawa Chapter member Gordon Townsend passed away on 7 November 2016 after a brief illness: <http://www.legacy.com/obituaries/ottawacitizen/obituary.aspx?n=gordon-townsend-joseph&pid=182623854>

Gordon Townsend, an RCAF Second World War veteran, flew Short Sunderland flying-boats in the Far East. In 1959, after pursuing a civil engineering degree at Queen's University, he was hired by Spartan Air Services. He flew Cansos on magnetometer surveys over central Ontario and was later selected to be head of the new helicopter division. CAHS Ottawa Chapter member Sydney Baker, who joined Spartan in 1952, remembers Gordon in his chief helicopter pilot role. Gordon did not have helicopter flying experience, but Spartan's management team decided that he had the leadership potential to get the job done; he had flying-boat experience, bush-pilot experience, glider experience, an engineering degree, and he got along well with fellow crew members. In his later years, he was a leading member with the Burma Star group in the Kingston-area. The following edited extract from a Memory Project interview was recorded by Gordon. <http://www.thememoryproject.com/stories/2178:gordon-townsend>



Gordon Townsend © The Memory Project

"I was given the choice of staying in the UK with Canadians or going Overseas with the Royal Air Force in 1943. So I selected the latter, and I had the good fortune of being one of a crew of ten on the Sunderland [flyingboat patrol bomber]. We left Scotland and went to Ireland, from Ireland to Gibraltar. Anyway, we found our way to Ceylon [now Sri Lanka] and in Ceylon we did a lot of practicing."

"We joined an RAF squadron, Number 230. What I was engaged in was maritime [patrol]; and we were stationed, originally from Sri Lanka, later an island on the north coast of the Arabian Sea; not the Arabian Sea, the Bay of Bengal. An island called, gee, it's just escaped me for a minute [Editor, Akyab Island]. Anyway, from there, we would fly out way off land and then fly south, looking for Japanese flotillas and navy equipment, which was about to land somewhere we knew not where. But Ceylon was vital, which was quite a ways west of there, across the Bay of Bengal. But oil had to come from the Middle East and it could not go through the Mediterranean because we did not possess control. So it had to go from the Middle East down the coast of Africa, around Africa, up the Atlantic into the UK. And the Japanese decided it would be nice to intercept those transports and destroy them. So this was what we were on the search for."

"Subsequently, we moved further down the coast to another island called Ramree [Island, off the coast of Burma]. We moved on islands because being flyingboats, you didn't need an airport. All you needed was a place to moor your boats; you'd drop your anchors or moorings and put a whole bunch of flyingboats in there, maybe a dozen. And it was a quick move, quicker than building an airstrip. And we would work from Ramree, down south of Rangoon [former capital city of Burma], go west [sic, east] across the Malay Peninsula into the South China Sea and try to interrupt maritime shipping."

"Because the railroads had been bombed quite sufficiently by the Royal Air Force, the Japanese had to resort to coastal shipping. So we tried to interrupt that shipping to some extent. We were moderately successful, but not hilariously so. But looking at empty ocean – hundreds and hundreds and hundreds of square miles of empty ocean – is just about as boring as you could consider anything would be. If you were to see something of interest, you're immediately sparked into a terrible excitement. And then you did what you had to do there, but it just didn't happen to everyone, you know, a lot of guys could go through the whole war in [RAF] Coastal Command and see nothing but empty ocean."

"Now, what did they do? If we were out on patrol, we would have – one, two, three – three turrets manned constantly. So that's three guys tied up. And if there were something of interest arising, there were – two, four – four more guns, which could be manned by guys who were doing other duties – like flight engineers or wireless operators – who were not doing duties at that time. It would only take one person to do all those duties, so that would leave a spare or two who would be sleeping or resting, or feeding the others, or whatever. But there were always, oh, maybe five or six pairs of eyes scanning all the water."

"The most exciting thing in that was we came upon an Allied fleet, about which we had never been briefed. To come out of cloud and find a tremendous fleet of battleships and cruisers and aircraft carriers was rather scary. And we fortunately were able to – you always had to be good at – aircraft recognition. You see an aircraft for maybe a tenth of a second and you had to be able to identify it; well, was it friendly, or was it enemy. And the same thing with ships. You did a lot of practice in ship recognition. Anyway, this fleet we saw was identified very, very quickly as a friendly fleet. We couldn't figure out what the deuce it was doing where it was. Well, we were never told. But anyway, we got chased; one of the aircraft carriers fired off some Seafires who didn't like us nosing around. So they chased us, but we were able to find some clouds to disappear into."

*Gordon Townsend*

## SYDNEY BAKER – Part VII

### Some Experiences with Towing Birds and other Paraphernalia

At the November 2016 meeting, speaker Kate Speer had quite a lot to say about the risks associated with towing birds during low-altitude survey flights. So maybe this is a good point to read about Syd Baker's experiences developing and installing birds and arrays in Spartan and Kenting aircraft.

Cessna 421 C-GRWS was delivered to Ottawa equipped with dual camera hatches. It was then decided to go one step further and install a tail stinger, so we purchased a kit from a company in the U.S. This modification had previously been approved with a Supplementary Type Certificate, so we had no problems with the installation and now had an aircraft that could be used for any type of aerial survey.

Around this time we had another sad loss; our Cessna 402 was being ferried to Nigeria by Sam Taylor and a second pilot for a photo survey contract. They took off from Goose Bay with Reykjavik, Iceland, as the next stop, but they never arrived in Reykjavik, and nothing more was ever seen or heard from them. Sam was one of Spartan's original pilots and had been with the company for over 30 years.

Canada's Energy, Mines and Resources (EMR) had developed a high-sensitivity sensing head for magnetometer aerial surveys and, after some negotiations, we were awarded rights to manufacture them. This was a very complex project as all material used had to be non-magnetic. We employed a technician (Walter Fisher) to set up our camera overhaul shop. He had been trained by Wild in Switzerland and was a precision machinist; a really excellent resource for this project.

We made six of these sensing heads and I believe our finished product was superior to that produced by EMR. I coordinated the procurement of parts as well as the manufacture of the fibreglass parts by Conrad Larocque. Conrad had been with us in the early days of Spartan and had since set up his own fibreglass manufacturing shop; he did a lot of subcontract work for us.

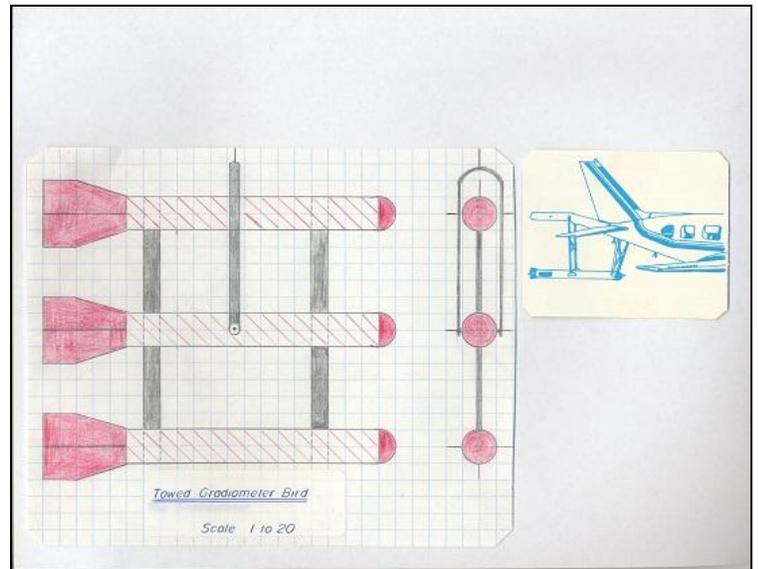
This new sensing head could be installed in the tail stinger of the Piper Navajos and the Cessna 421s, however, it was too large for installation in the towed birds that we used for some surveys. So we decided to design and manufacture a new bird; the new bird needed to be constructed without the use of any magnetic material. The bird we designed was larger than was really needed, but the large size meant that it could accommodate additional or new equipment that might be needed in the future.

The bird was seven feet long by ten inches in diameter and was bullet shaped with vertical and horizontal fins at the tail end. It was suspended in the centre by an axle and yoke attachment allowing it to fly in a horizontal plane, providing it was correctly balanced. We maintained a static position by adding lead to the nose section thus providing a one degree nose-down attitude. The sensing head was shock mounted in the rear section and access was obtained by removing the fin section.

At this time EMR was developing yet another new system that they were experimenting with. This was a gradiometer that used two sensing heads one above the other with a six foot separation. EMR had used their Beech Queen Air for the development of this system. One sensing head was installed in the tail stinger with the other on the top fin.

We believed this new system would allow us to pursue new contract opportunities in the aerial survey industry. We also learned the Canadian Government was prepared to negotiate a contract with firms who had a workable system.

I became very involved in this project which we conducted in cooperation with H. Aass Engineering. We decided to implement the modifications in our Navajo CF-FRY. The high tail and existing tail stinger on the Navajo gave us a six foot separation below the existing stinger. This provided very little ground clearance, so we had to devise a method of retracting the lower stinger for landing.



Kenting (Spartan) Gradiometer design/development projects:

Left - This towed helicopter gradiometer bird was designed, built and successfully flown. However the electronics equipment development was not completed;

Right - Retractable gradiometer system designed and installed on Piper Navajo CF-FRY completed several commercial survey contracts.

This was achieved by manufacturing four streamlined-section fibreglass tubes. Two were hinged to the existing stinger; the other two were hinged to the underside of the rear fuselage. The lower stinger was then installed between these tubes giving us the six foot separation. It was retracted using a hand operated winch with a stainless steel cable; the retraction was in an up-and-forward motion. When fully retracted the lower stinger sat in a cradle attached to the underside of the rear fuselage. When the lower stinger was slowly released, the rear struts would fit into supports when they were vertical. This gave us the accurate six foot separation that was required.

This was a very interesting exercise and with lots of help from Conrad Laroque, our fibreglass expert, and Walter Fisher, our machinist, it proved to be very successful. I went on the first test flight which was very successful with no apparent effect on the flight characteristics of aircraft, except for a trim change and a slight loss of air speed. Bobby Day was the pilot and with permission from the control tower we did a low level fly-past while lowering the stinger; all of our top VIPs were standing on the tarmac. The geophysical installation was completed and test flown with satisfactory results.

The next project involving our PBY-5A Canso CF-JJG, was done in cooperation with the Shell Petroleum Company. Shell brought their own geophysical engineer from Holland to help coordinate the project. We had to string a multi-stranded cable around the airplane; from nose to wingtip, to tail and then on to the other wingtip and back to the nose, making a complete loop. The cable was approximately one inch in diameter and we made a tubular structure that protruded from the nose to form a front attachment point for the cable. The wingtip float attachments were reinforced to carry the cable and the tail bumper was used for the rear attachment.

We also used one of our newly designed tail birds with our high-sensitive sensing head and some other equipment that Shell provided. The bird was towed on a 350 foot long cable that also carried a fibre optic signal cable. A large electric winch was used to pay out and retract the towed bird and the bird fitted into a cradle mounted on the fuselage when retracted.

The principle behind this design is that signals are sent from the cable to the ground and then received back by the sensing head in the towed bird. The signals are then carried to electronic recording equipment *via* the fibre optic cable. The received signal signatures are analysed to determine if any ore bodies were detected along the aircraft's flight path. The flight path is recorded on 35mm film and fiducial markings are correlated with the signals received. These points are then marked on geophysical maps that are the end product of the survey. The aircraft is contour flown at 500 feet above terrain using a radar altimeter for reference. Flying at this altitude places the towed bird at about 200 feet above terrain. This is a very elementary explanation of this type of survey; believe me it is much more sophisticated, but this is not my field.

While test flying the Canso we found that the forward cables from the wings to the nose would vibrate in sympathy with the rpm of the engines and, although this did not interfere with the electronics, we were concerned it might set up stresses at the cable attachment points. After some experimenting, we found that by attaching small, equally-spaced airfoil sections along the cable, the vibrations could be damped out.

One other item we had to establish was the distance the bird was flying below and behind the aircraft. We did this by flying in formation and taking photographs. From the photos and knowing the dimensions of the Canso we were able to scale all the other distances.

In 1982, I made another trip to Kenya. We had left our Navajo CF-YLR in Nairobi for servicing and had engaged Peter Nock to ferry it to Nigeria for us. I went along to help arrange the customs release paperwork. This can be quite a chore in any African country as there are usually six or seven departments involved and if you don't get them in the right rotation you find yourself back where you started with no release papers. However, as I have said previously, there are few problems that cannot be overcome with the help of a few U.S. dollar bills. You can always find someone in a responsible position with his hand out; so within two days Peter was on his way.

Also at this time we were working on a geophysical survey out of Malindi on the east coast of Kenya, just north of Mombasa and I took a flight over to see how they were getting on. They were doing just fine and the contract was almost complete. Malindi itself is a tourist resort on the Indian Ocean with a beautiful beach. I noticed there were many German tourists in this area.

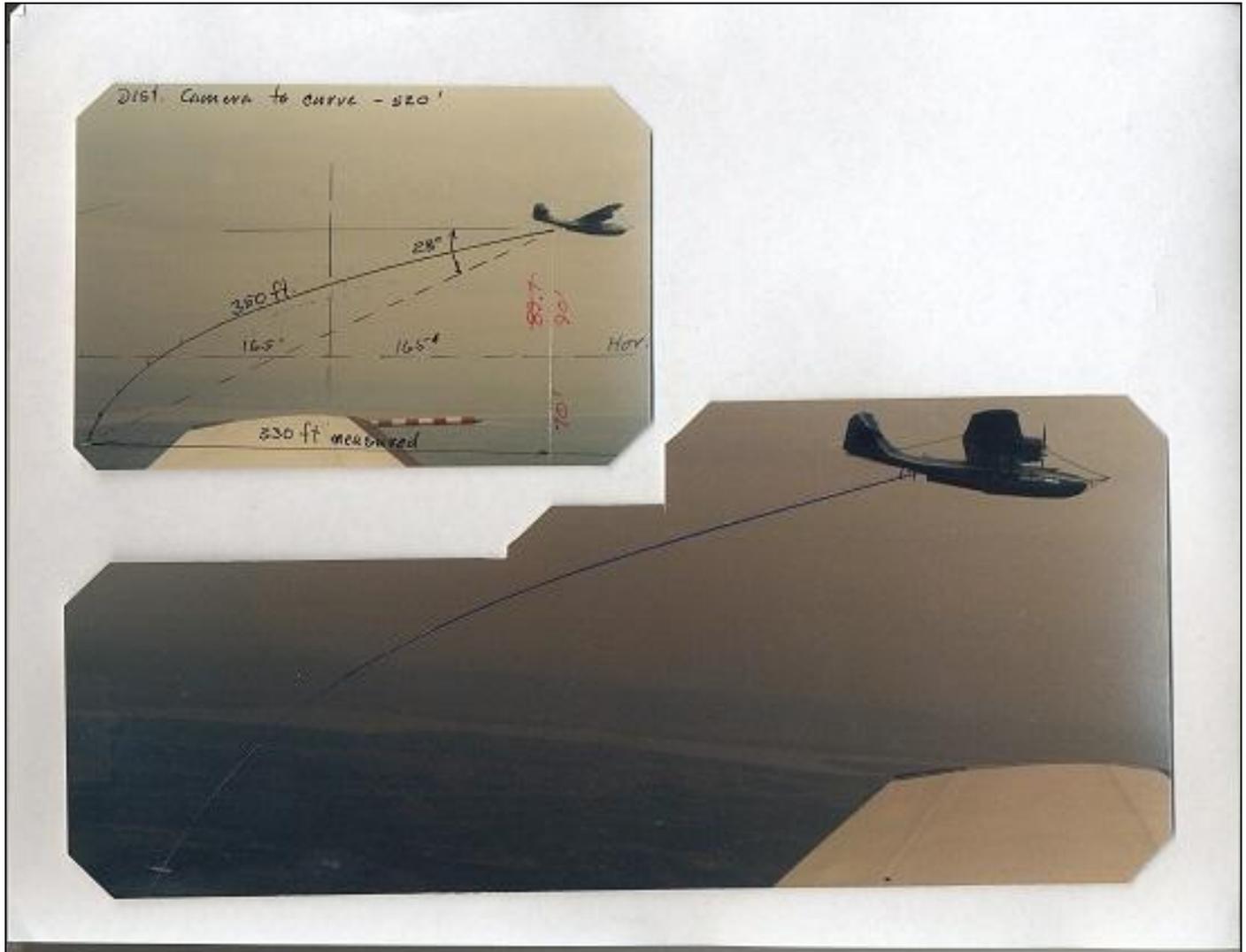
Returning to Ottawa, I learned we had won a very large contract in Thailand; the contract involved a geophysical survey and some gradiometer work covering most of Thailand. For this, we were to use our two Britten-Norman BN-2 Islanders, our Cessna 421, and two Bell 206 helicopters from Klondike Helicopters; the latter for the mountainous areas and the gradiometer work. My responsibility was to build the twin birds to be flown by the helicopters. This contract worked well for Klondike at this time as they were experiencing lean times and had sold off some of their assets.

We decided to use our standard birds for this project; the one in the centre would carry the axle and the suspension yoke, two fibreglass streamlined struts would pass through the centre bird then attach to the other birds one above the other and below the centre bird. These two birds would carry the sensing heads and gave us the required six foot separation.

H. Aass Engineering was again involved, as were Conrad Larocque and Walter Fisher. I did all the assembly work and became quite an expert working with fibreglass and other non-magnetic material.

By the time the gradiometer bird was completed the first Bell 206 helicopter had arrived in Ottawa and the high-sensitive survey equipment was being installed. The helicopters would also be used in Thailand towing a single bird in areas where the Islanders could not operate due to the mountainous terrain.

We started off on the test flights of the gradiometer bird; for take-off the bird was laid down on the grass, the 100 foot stainless steel cable to one side and attached to the sling hook of the helicopter. The helicopter would then lift off and slowly drift over the bird, then rise vertically lifting the bird clear of the ground.



Airborne photographs taken to help determine the distance that the geophysical sensor bird flew below PBY-5A Canso CF-JJG. © Sydney Baker

These tests were frustrating; we tried everything possible, but had difficulty getting the bird to fly in a stable attitude. H. Aass Engineering had advised us that all balancing should be carried out in the lower bird, but I believe it was the helicopter pilot who suggested we forget about the top and bottom birds and do all the balancing on the centre bird. Being wise after the event, it was clear this is what we should have done in the first place, and after making the necessary changes we came up with a very stable gradiometer configuration. Unfortunately, time was running out to complete testing of the electronics equipment and we were left with no choice other than to subcontract the gradiometer portion of the contract.

The two helicopters were air-lifted to Thailand by a KLM air cargo flight. It appeared the operation of these helicopters was causing a few problems; the altitude, heat, and a full fuel load made take-off a little difficult. Also, the weight of the bird became fully effective only once the helicopter was out of ground effect. Some birds were lost due to tree strikes and other damage. I think I made a total of eight birds before the helicopter portion of the contract was completed.

*Edited by Colin Hine*

# NEXT MEETING OF THE OTTAWA CHAPTER CANADIAN AVIATION HISTORICAL SOCIETY

## Tim's Pictorial Compendium to AIRVENTURE **OSHKOSH** **2016**\*

\* *mostly, with a few images from 2015,  
2013, 2009, and even one from 1992!*



For one week each summer, more than 10,000 aircraft and 500,000 aviation enthusiasts from around the globe come together at Oshkosh, WI, for the Experimental Aircraft Association's (EAA's) annual convention and fly-in – *better known as AirVenture Oshkosh*. The EAA's *AirVenture Oshkosh* has it all when it comes to aircraft. Warbirds. Vintage. Homebuilts. Ultralights. Add to those aircraft more than 1,000 forums, workshops, and demonstrations, 800 commercial exhibitors and vendors, and a daily air show featuring some of the best aerobatic displays ever seen and you have the **WORLD'S GREATEST AVIATION CELEBRATION**. Timothy Dubé, our Chapter's recently-retired long-serving Chairman and Newsletter Editor, will share images from this past year's *AirVenture Oshkosh 2016*, as well as insights gained from his many previous *AirVenture* experiences, valuable for any members thinking of making their own pilgrimage to this annual event.

**LOCATION:** Bush Theatre, Canada Aviation and Space Museum, Rockcliffe

**DATE/TIME:** Thursday, 26 January 2017, 1930 Hours

**LANDING FEES:** \$1.00

**Meetings include guest speakers, films, slide shows, coffee and donuts**

**Visitors and guests are always welcome**