RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR CANADA

The Ghost of Charron Lake

Winnipeg Area Chapter of RAA Canada *April 2009*

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CALENDAR OF EVENTS

April 30 Tour Western Canada Aviation Museum – Presentation on the recovery of the Ghost of Charron Lake and backroom tour. **Please note that this is two weeks later than our regularly scheduled meeting.**

May 15 Tire Kick – tour of the new Lyncrest Flight Centre - Lyncrest Airport 7:30 pm

Thanks to Tom Stoyka for an excellent presentation on the new 406 MHz ELT. The consensus seems to be if you don't need one for the next year or so, wait as the prices are expected to come down as more competitors enter the market. Also thanks to Tom for the tour of the new Lyncrest Flight Center which will have its official opening May 9, 2009. This is a First Class Facility that all the members of the Springfield Flying Club can be truly proud of.

RAA Final Assembly Building Is Under New Management

As of December 6th, 2008, Ben Toenders have taken over as Hangar Manager. He is following in the tracks of Ken Podaima who has done a marvellous job as the Hangar Manager since the facility opened in 2002. Ken has made sure that the facility was used to its fullest capacity as witnessed by the many satisfied aircraft builders who have used the hangar to complete their projects. Ben will continue providing that same level of service in the future.

As many of you know, we have acquired a few new tools in the last year or so. We currently have an English wheel, a phlanishing hammer and a 12 ton shop press and various other tools in the hangar available for club members' use. If you can think of other tools we should acquire please let Ben know.

The Executive has agreed to rental rate increases for the winter months to account for the higher heating costs involved during those months. The summer rate for an aircraft spot stays the same at $150/month. April to September is considered the summer months. October to March rates will rise to $200/month starting October 2009. Daily rates, summer or winter are, $10 per day. Weekly rates are ¼ of the respective monthly rates. The hangar has room for 4 full aircraft spaces and two smaller work spaces. Rates for the workspaces are $55/month in the summer and $75/month in the winter.

Currently there is room available in the hangar. If you would like to arrange a spot in the hangar for your project please contact me, Ben Toenders at 895-8779 or btoenders@shaw.ca

For Sale: One RV 6 or 6A wooden fuselage jig. Excellent construction and in excellent conditions. 6 – 6s and 6As have been built using this jig. For more information, contact Bob Stewart at 853-7776.

Our next regular meeting will be a combined meeting at WCAM with the CAHS, April 30 at 7pm. There will be no admission fee, though a collection for coffee and donuts will be taken. A presentation on the recovery of the Ghost of Charron Lake will be given and a backroom tour of the Museum to view the artifacts and the restoration to date. All welcome.

Ghost of Charron Lake - Fokker Universal Standard Aircraft G-CAJD

Fokker Standard Universal G-CAJD is also known as 'The Ghost of Charron Lake'. It was lost in a snow storm on December 10th, 1931.

Only 45 built, 12 purchased by Canadian Airways. It is a single engine monoplane with a tubular moly steel welded frame fuselage, plywood wings with a Sitka spruce spar and a J-4 radial engine. Pilot was exposed to the elements with only a small wind screen protecting

him. One of the major workhorses of the early years of northern flying. The pilot sat in a open cockpit - often frozen - while four passengers or cargo could fit inside the enclosed cabin.

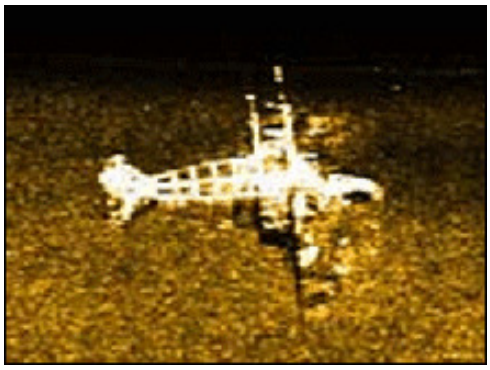
Specifications:

- Length 33' 3" with a wingspan of 47' 9" Wing area 341 square feet
- Two gas tanks were mounted in the wings near the forward edge
- Height of the aircraft on wheels was 8' 9"
- Skis are estimated to be 84" - 108" long and 18" - 24" wide
  Weight – Empty 996 kg (2192 lb) Gross 1818 kg (4000 lb)
- Cargo Capacity – Estimated ~ 427 kg (940 lb)
- Fuel Capacity - 280 litres / 213 kg (78 US Gal / 468 lb)
- Engine J-4 – Weight ~ 232 kg (~510 lb) [J5]
- Maximum air speed 118 mph (189 kph). Cruise at 98 mph (157 kph)
- Glide rate is on the order of 500 feet/minute.

One other 'Standard' went with Admiral Byrd to the Antarctic in his famous 1928-1930 expedition. It was destroyed when it was picked up and flipped by strong winds. The Standard was superseded by Super Universal.

One of the major workhorses of the early years of northern flying. The pilot sat in a open cockpit - often frozen - while four passengers or cargo could fit inside the enclosed cabin.

NOTE: For comparison, a DHC-2 Beaver has a wingspan of 48', length of 30'3", wing area of 250 ft2, empty weight of 3000 pounds and a power plant of 450 hp and maximum speed of 255 km/h .



After a 30-year search for the rare bush plane, it was discovered in 2005. A Western Canada Aviation Museum search team, using sophisticated side scan sonar technology, finally located the aircraft literally 'parked' on the lake bottom. In July 2006, the Ghost's engine was returned to Winnipeg, along with several artifacts. In October, the team returned to the recovery site and towed the tail section to shallower waters.

In the summer of 2007, the plane was raised, airlifted by helicopter to Lac du Bonnet and brought by flatbed trailer to the Museum.

Site to Shelf: Recovery of a Historic Aircraft from Charron Lake, Manitoba

by Nancy Binnie, Conservation Scientist, Conservation Research, CCI

On July 4, 2005, the F.A.R. Team[1] (working on behalf of the Western Canada Aviation Museum [WCAM]), located a rare Fokker Standard Universal bush plane on the bottom of Charron Lake in northern Manitoba. The plane had been submerged for almost 75 years, and after such a long time in cold water had likely suffered significant deterioration. A thorough understanding of its construction materials would therefore be essential if recovery and conservation efforts were to be successful. In February 2006, Shirley Render, Executive Director of the WCAM, contacted CCI for assistance. The plane was to be raised in the summer of 2006, dismantled, and transported to the WCAM in Winnipeg. This underwater aircraft recovery would be one of only a few such projects in Canada to be planned and carried out by a volunteer group, the F.A.R. Team, rather than vocational archaeologists. CCI's role would be to advise the recovery team and the museum.

Fokker Standard Universal G-CAJD, built in 1928, took off from Winnipeg on December 10, 1931, heading north with a cargo of supplies for a party of gold prospectors at Island Lake. It never arrived. On encountering snow squalls and poor visibility, the pilot decided to land on the frozen

surface of Charron Lake to wait out the storm. When the plane touched down, its skis broke through the ice. The pilot and his mechanic escaped unharmed but were stranded for several weeks before being rescued near Little Grand Rapids as they attempted to walk back to civilization. The plane remained frozen to the lake until the following spring, when Canadian Airways Limited tried to relocate it for repair or salvage. By then the plane had slipped below the surface as the ice broke up, and the damaged plane could no longer stay afloat.

An insurance claim was filed (and paid out), and no further attempt was made to locate the wreckage.

The WCAM began its search for the plane in 1975, conducting nine expeditions over the years. These expeditions were sponsored by George T. Richardson, son of aviation industry pioneer James A. Richardson — who had owned 12 of the only 45 Fokkar Standard Universals ever built. Success finally came on July 4, 2005, when the F.A.R. Team located the wreck using side scan sonar. The plane was "parked" on the bottom of Charron Lake at a depth of 38.4 m (126 ft.).

When Shirley Render approached CCI, she was looking for information about temporary on-site preservation of metal and wood, appropriate protective packaging for the wreckage as it was transported back to Winnipeg by helicopter and transport plane, procedures for stabilization and display of the aircraft after transport to the museum, and options for conservation including associated costs. After initial discussions, it was decided that CCI could best assist by preparing a conservation plan[2] that would "walk" the museum staff and volunteers through the issues and requirements for the recovery phase, surface assessment, cleaning, transport, and laboratory stabilization.
This plan would be prepared from the perspective of an archaeological recovery and would include information on the predicted condition of the fabrication materials. CCI staff[3] with expertise in the treatment of waterlogged wood, corroded iron, textiles, and deteriorated modern materials would use their knowledge of these materials to develop and describe suitable treatment and handling methods for the submerged wreckage. In return, the information gained from the recovered aircraft would contribute to CCI's understanding of how heritage aircraft wreckage deteriorates. The project was also in keeping with past CCI work involving artifacts recovered from waterlogged sites such as shipwrecks or wet land excavations.
Recovery operations were carried out from July 2 to 21, 2006, during which time there were as many as 21 people at the Charron Lake outcamp, a fishing lodge operated by Selkirk Air. One of those present was Clark Seaborne, who had previously restored a Fokker Super Universal plane to flying condition for the WCAM. He was invaluable in identifying the recovered materials and construction details. At the invitation of the WCAM and the F.A.R. Team, I was on-site from July 8 to 12 to carry out a condition assessment of recovered materials and assist in taking inventory, packing, and preparing artifacts for transport. During this period, a number of pieces of the aircraft were raised using underwater vehicles operated remotely from the surface. These included two fragments of wood spar caps with plywood fragments, brass nails, and yellow paint (part of the wing structure); and a 4-m length of aluminum conduit enclosing electrical wiring to a polished brass landing lamp (including an intact light bulb) and a wing light. By examining these pieces, we were able to make preliminary conclusions about the condition of the solid wood, plywood, brass nails, adhesives, paint, and other materials yet to be retrieved. Unfortunately, none of the steel tubing from the fuselage was recovered at that time.

On July 12, I transported the raised pieces back to the WCAM in Winnipeg, first aboard Selkirk Air's twin Otter float plane and then by car. The next day I described site operations at Charron Lake to museum personnel, unpacked the transported artifacts, and discussed the probable condition of the remainder of the aircraft materials based on the recovered artifacts.

Museum preparators, other staff, and volunteers were ready to receive the recovered artifacts. Led by Director of Restoration Tony Morien, they were left to carry out inventory and cleaning, to start stabilization treatments, and to develop a restoration plan that will enable the WCAM to exhibit the remains of this rare plane as soon as possible. CCI will provide a condition assessment,

analysis of materials, and development of conservation treatment for materials where the museum restoration staff require assistance.

Following my departure from Charron Lake, some volunteer members of the Canadian Amphibious Search Team (CAST), a group of professional divers proficient in surface-air-supplied deep-water recovery, brought to the surface the Wright J-4 engine complete with an intact Hamilton propeller. Prior to removing it from the water, members of the F.A.R. Team photographed and videotaped the engine with its still-attached throttle controls, temperature gage, and magneto as well as other components. These fragile and easily dislocated items were then dismantled, and large and small items lifted and packed for transport.

The F.A.R. Team core members, assisted by the CAST dive team, carried out a second recovery operation in October 2006 to lift the airframe, wing section, skiis, and other dislocated pieces. Using knowledge gained from the July trip, the group assembled additional supplies and conservation materials, and carried out documentation, structural stabilization, and packing of all recovered materials. These recovery attempts were only partially successful. Some artifacts were recovered and a portion of the airframe was dismantled and lifted to a protected shallow-water location, where it will remain until the next recovery attempt scheduled for 2007.

The entire project has been documented by film crews for the WCAM, *Country Canada* (Canadian Broadcasting Corporation), and *Mega Moves* (National Geographic; Windfall Films of London, England). Information is also available in *Altitude* (the WCAM magazine)[4] and on the Web sites of the Fokker Aircraft Recovery Team and the Western Canada Aviation Museum.

The recovery of Fokkar Standard Universal G-CAJD has been a successful collaborative project. The WCAM and the F.A.R. team benefited from CCI's expertise in underwater artifact recovery and conservation, and gained some insight into the fragility of the wreckage and the importance of retaining the original construction materials in their original context through all phases of the project. In return, CCI gained a better appreciation of the goals of the WCAM in recovery, stabilization, and restoration of the plane. In addition, by having access to the wreckage for inspection and sampling at the time of recovery, CCI gained information that will be useful in its research project on heritage aircraft wrecks.

1. The F.A.R. Team was first formed in 1991 by Patrick Madden at the request of the WCAM. Over the years, he recruited a diverse team of specialists in underwater recovery, geophysics, and remote sensing and underwater photography, core members including Annette Spaulding, Gordon Nowicky, Ken McMillan, and Bil Thuma. For the 2006 site operations, diving recovery, and transport of the wreckage back to the museum, the core team was assisted by John Garstang, John Davis, Jerry Norbert, Mark Rowsome, James Snelgrove, and Nancy Binnie. For the July recovery, a team from the Canadian Forces rigged the recovered Fokker artifacts for airlift by Griffin helicopters to Deer Lake where they were transferred to a Hercules aircraft for delivery to the WCAM in Winnipeg. The October airlift was to be carried out by an A-Star helicopter provided by Provincial Helicopters.

The following has been copied from the RAA Chapter 85, Delta British Columbia and while the author is writing about Boundary Bay airport near Vancouver, the same applies here.

SAY AGAIN - ***Thoughts From the Tower***

It's a beautiful day and you decide to fly to your favourite destination with your friend and have lunch. You drag the airplane out of the hangar, do your pre-flight, start up and get taxi clearance. Run up complete you move up to the hold line and call ready for takeoff. The controller says "wait". You look up on final and don't see anyone, you don't hear him talk to anyone else, there's just silence. After 30 seconds or so you get cleared for takeoff. What gives?

Maybe you've been waiting for takeoff at a busy airport and have been paying attention to the other traffic arriving. You call at the appropriate moment and say that you're ready for an immediate. The controller says "wait" and you mutter to yourself that there was enough room for you to go twice. Why are they holding you up? You're coming back to your home airport when you call the tower who tells you "remain clear of the zone for now, I'll get right back to you". You start an orbit where you are and wait for the call. After a minute or so the controller calls and gives you your clearance into the circuit. You haven't heard a lot of other aircraft inbound ahead of you so why did you have to hold?

The answer to all of these situations is that there is something going on in the tower that you don't hear on the radio. Controllers not only talk to the pilots of the aircraft they are controlling, but they answer calls from the ACC and other towers on hot lines, they talk to the controller sitting next to them to coordinate spacing for arrivals and departures, they enter all of your information onto paper flight data strips and into the radar computer, they record the ATIS message, and do many other small tasks all at the same time. When it's busy at the airport there are a lot of things for a controller to do to make sure everyone comes and goes safely.

While you were waiting for that takeoff clearance and didn't see anyone on final the tower controller may have been talking a Dash 8 who wanted to descent to 200 feet overhead on his way into Vancouver airport. A Dash 8 is a medium aircraft which means there is a wake turbulence issue for any light aircraft above 1000 feet. The terminal controller needs permission from the tower controller to descent the Dash 8. He gets that permission over a hot line in the tower cab. You don't hear that when you're in the While you were waiting for that takeoff clearance and didn't see anyone on final the tower controller may have been talking a Dash 8 who wanted to descent to 200 feet overhead on his way into Vancouver airport. A Dash 8 is a medium aircraft which means there is a wake turbulence issue for any light aircraft above 1000 feet. The terminal controller needs permission from the tower controller to descent the Dash 8. He gets that permission over a hot line in the tower cab. You don't hear that when you're in the airplane. When you are ready for that immediate takeoff and were told to wait it may have been because there was an aircraft using a crossing runway that you couldn't see or maybe a vehicle was crossing the runway further down (on a ground frequency).

When you were instructed to hold before you got your inbound clearance it could have been that the controllers were changing positions or you controller had to verbally coordinate your arrival with the controller next to him (in an inner / outer scenario).

Just as there are a lot of student pilots around the area, there are also a lot of student controllers. Boundary Bay has four students right now and we expect two more shortly. Learning to control airplanes is just as hard as learning to fly them. You need to know the rules of the air, how different airplanes perform, how to recognize a problem and come up with more than one way to solve it. When a person first starts training it's a lot to take in. They have been to the school and worked in a simulator but it's not the same as the real thing, you can't pause real airplanes. So maybe the reason you didn't get that immediate is because your controller is training and doesn't have room in their thought process for another airplane. Please be patient, they'll get better at it. As always I encourage pilots to visit a control tower. See what goes on behind the scenes. Ask questions. It doesn't matter what you fly or how many hours you have. Everyone can benefit from a visit.

Linda Todd,
Unit Operations Specialist,
Boundary Bay Tower

2009 Membership Form

Winnipeg Area Chapter RAA

☐ Trial ($25) ☐ Student($25) ☐ Full ($50)

Required Information

Name		**OFFICE USE ONLY**
Mailing Address		**Renewal Date**
Phone(s)		**Chq. Cash Other**
E-mail		**Initials**
Are you an RAA national member? (1)	☐ Yes ☐ No	
Do you give permission for your information to be made available to other Winnipeg RAA members?	☐ Yes ☐ No	

Optional Information

Do you own an aircraft?	☐ Yes ☐ No Make/model: Registration:	**Are you a member of other aviation groups?**	EAA: ☐ COPA: ☐ Others:
Are you building or restoring an aircraft?	☐ Yes ☐ No Make and model of project(s):	**What Pilots licences and ratings do you hold?**	

Please make cheques payable to: RAA - Winnipeg Chapter
Mailing Address: RAA c/o Steven Smart, 27 McCreedy Road, Winnipeg, MB, R2K 3W8

Notes:

1) **RAA Winnipeg contributes $15 per member towards the insurance program maintained by RAA national. This program provides liability insurance to cover local chapter events. The $15 does not provide membership in RAAC.**