

March - April 2007

RECREATIONAL FLYER

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The Voice of Canadian Amateur Aircraft Builders \$6.95

Wings for the People:
Chris Heintz' Superb
Zodiac



RAA
RECREATIONAL AIRCRAFT ASSOCIATION
RÉSEAU AÉRONEFS AMATEUR • CANADA



from the president's desk

Gary Wolf

ECATS

(Electronic Collection of Air Transport Statistics)

On March 1st RAA attended a meeting in Ottawa to learn about Transport Canada's proposal to embark on phase 2 of their ECATS program. The airlines have for the past few years been submitting a long list of information about every flight that they make, and Transport was wishing to do something similar with the GA sector, so that they could determine the economic footprint of our aircraft. My initial reaction during the meeting was that they would have great difficulty in convincing the owners of noncertified aircraft to comply with the program. Immediately after the meeting we sent our report out on the RAA's Announce email list, and asked that all of you go to the www.raa.ca website to read Transport's proposal. We then asked that you send in your opinions, and it was evident that most of you considered their questions to be too invasive of your privacy. As your responses came in, we deidentified them and sent them off to Transport. Shortly they asked for a March 28th meeting and our office and your Board met with their representatives to see if we could effect a compromise.

The result of the meeting is that Transport will be satisfied with much less information than they had earlier been seeking. RAA Canada will be collecting the information, and will submit it to Transport as an annual summary.

ETHANOL FUEL UPDATE

The January 2007 Aviation Safety Letter has a very important article by RAA member Brian Kenney, who is a fuels engineer and the builder of one of the Pietenpols featured in the previous issue of the Rec Flyer. Brian cautions pilots not to take the issue of gas containing ethanol (GCE) lightly, and warns that many provinces are mandating its use. Certified aircraft using a mogas STC may not use GCE, and non-certifieds may encounter fuel system problems, especially those with composite fuel tanks or tanks which have been sloshed with a sealer. GCE is corrosive to aluminum systems unless the inner surface has been anodized, and this would of course have to include the insides

of aluminum fuel lines. Mixing GCE with 100LL will result in a higher vapour pressure than using either fuel by itself, and this can cause vapour lock problems. GCE also absorbs water readily, and this can cause the ethanol to separate. Since the ethanol was increasing the octane rating of the gasoline, the engine will end up running on the lower octane portion, and detonation could result. Further, the water that is attracted by ethanol can precipitate and will then cause its own collection of problems.

One test for GCE is to put 10ml of water into a narrow transparent container and mark the level accurately. Then add approx. 100ml of fuel and shake it up and then let it settle. If the level of the "water" increased, there is ethanol in your sample. When you do your spring prep this year, if you use mogas it would be wise to drain the entire fuel system and replace with fuel that you know has no ethanol. Lift the tail of the plane and make sure you get every bit of the old stuff out, and change your filters too.

Pilots use mogas because it is less expensive than 100LL, but these savings would seem small compared to the problems that can be caused by GCE. This is one place where it is wise to pay the price and know what you are buying. Brian's Pietenpol has aluminum fuel tanks, and he will use only 100LL in his Continental engine.

FUEL TANK SEALANTS

RAA began asking the suppliers of tank sealers how their products would fare in a GCE environment. For the first while the answer was complete silence. Further inquiries brought the answer that the manufacturers refuse to say whether their products will be safe with ethanol blends. At present many light aircraft have wet aluminum wings that have their riveted joints sealed with compounds that have worked well in the past, but no one will say anything about the future. Liability issues seem to be the reason that manufacturers are quiet on this important subject. The most encouraging statement so far is that one supplier says that owners and builders have not complained yet. This is far from a clear answer, but it is the only one being provided. Caveat pilot.

continued on page 36

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Gary Wolf

Zenith's
ZODIAC 601
page 22

features

Toronto Aerospace Museum

By Ken Swartz 4

A Brief History of RAA Barrie

by Lawrence Shaw 11

Ballard Sport Aircraft

by/par Serge Ballard..... 14

Le Faucheurs

by/par Serge Ballard..... 16

Zodiac 601

Wings for the People / by Gary Wolf..... 22

Toronto Airspace

Pilot Briefing Info / Nav Canada by way of COPA..... 16

From the President's Desk

by Gary Wolf..... 2

Across Canada: Chapters in Action..... 19

Product Reviews

DRDT-2 Dimpling Tool / by Don Sinclair..... 32

Tech Stuff

Dollar Store Tiedowns / Gary Wolf

Jeffco Tank Sealant / Calvin Thorne

Cheapo Landing Gear for Ultralights..... 34

Classified..... 38

New In Canadian Skies..... 41

On the Cover: Paul Sharpe's AULA Zenith 601. Top, Paul's front office.



Toronto Aerospace Museum



Canadian Aviation History at a Historic Place / By Kenneth Swartz

Kenneth Swartz

DESCENDING DOWN the glide slope towards Runway 24 Left at Lester B. Pearson International Airport, at about 2,500 feet you over fly Downsview airport, the birthplace of some of Canada's most famous aircraft designs and the home of the Toronto Aerospace Museum.

Founded in 1998, the Museum is located in a building in Downsview Park that is not just full of aviation history, but a part of that history, from the era of wood and fabric biplanes of the 1920s to the dawning of the space era in the 1960s.

The nine-year old museum is located in the original factory of The de Havilland Aircraft of Canada Ltd. (DHC), one of Canada's greatest aircraft manufacturers.

This particular building was the birth place of the prototype de Havilland DHC-1 Chipmunk in 1946 and DHC-2 Beaver in 1947, and the site where Canada's first spacecraft, Alouette I, was assembled in the early 1960s.

In the mid-1980s, the Beaver and Alouette I were recognized as two of the top 10 Canadian engineering achievements of the last Century.



Today, the rapidly growing Museum is home for a growing aircraft and artefact collection, including a full-scale replica of the famous Avro Arrow which became national news when more than 6,000 people attended rollout events at October 2006.

The Arrow is one of Canada's great "icons of flight" and the publicity generated by the rollout has boosted museum visits and triggered a flood of new members and volunteers.

Museum Programs

Building a tourist, educational and heritage destination at Downsview takes many forms.

The museum is developing a regular programming including historic aircraft symposiums, member's nights and the annual Wings & Wheels Heritage Festival, produced in association with Parc Downsview Park Inc.

This year's Wings & Wheels Heritage Festival will highlight the 60th anniversary celebration of the DHC-2 Beaver, and include a homecoming fly-in of between 15 and 30 Beaver aircraft at Downsview.

The Beavers will share the ramp with between 25 and 50 vintage and modern aircraft, and the Festival will also showcase hundreds of classic cars, motorcycles, trucks and military vehicles owned by collectors.

The Festival is the only opportunity most pilots will ever have to land at historic Downsview airport. This pri-

This photo is the aerial view to the north west shows the original de Havilland factory at Downsview in 1929. The DH 60 Moth was the most popular aircraft in Canada at the time and the word "Moth" was prominently painted on a hangar roof. Both hangars pictured here on Sheppard Avenue still survive at the Downsview Park site. Photo: Fred Hotson

Top, Left: RCAF Avro Lancaster Mk X FM104 has been under restoration at the museum since the fall of 1999. A team of more than 25 volunteers meets regularly to work on the City of Toronto-owned aircraft, but more help is needed.

Bottom, Left: Bomber Command veterans recall operations during the Second World War at the Museum's Lancaster symposium in 2005. Pictured, from left to right Al Mavor, Philip Gray, Ron Pickler, and Roy Clarke.

Opposite: Thirteen de Havilland DHC-1 Chipmunk trainers participated in the Toronto's first annual Wings & Wheels Heritage Festival in May 2006. The prototype Chipmunk was designed in the Museum's building 61 years ago and made its first flight on May 22, 1946.

vate airport is owned by Bombardier Aerospace. All pilots interested in landing at Downsview **must** pre-register with the Museum **before** the Festival **weekend**. (Please visit www.torontoaerospacemuseum.com for registration and fly-in information.

DHC-2 fans are also invited to attend a full-day historical symposium on the Beaver at the Museum on Friday, May 25. The program, co-sponsored by the Canadian Aviation Historical Society includes talks by DHC pioneers and Beaver test pilots, historians, bush pilots and mechanics, and a presentation by Viking Air, owner of the Beaver Type Certificate.

This exciting event includes a vintage aircraft fly-in and classic car show on May 26 and 27, 2007 and is one of the few opportunities private pilots have to visit historic Downsview Airport in the heart of Toronto

Last year, more than 3,500 people attended the inaugural Festival which featured a 60th anniversary fly-in of 13 DHC-1 Chipmunk trainers, 30 vintage and display aircraft and more than 200 classic cars.

CFB Toronto Closure

Although the Toronto area has a rich aviation history, it was only recently that Canada's largest city gained a showcase for its aerospace achievements.

The turning point came in the mid-1990s when the Federal government announced the closure of Canadian Forces Base Toronto in the heart of the city, the relocation of No. 400 Squadron to CFB Borden and the closure of No 411 Squadron. .

Canada Lands Corp. asked for public input into the future of the base lands and accepted a proposal drafted by three of the museum's founders calling for space in an early de Havilland building for an aviation heritage centre.

A non-profit charitable society was formed in 1997, and the Toronto Aerospace Museum moved into its new home in early 1998.

Thousands of man hours of volunteer labour were required to transform the sprinkler system-equipped



Kenneth Swartz



34,000 sq. ft. industrial building and hangar into a suitable museum space.

Inspired, in early 1998 museum volunteers began construction of a full-scale metal replica of the Avro Arrow, and a year later embarked on the huge task of restoring of the City of Toronto's Avro Lancaster Mk X, FM104, which had been on outdoor display in a downtown park opposite the CNE grounds between 1964 and 1999.

While the Museum was earning its wings in the late 1990s, Ottawa decided that the former DND base should become Canada's "first urban national park". This led to in the creation of Parc Downsview Park, Inc. (PDP), a federal agency, to guide the transformation of the base into a 600 acre vibrant public green space and cultural site.

In 2003, the Museum and Parc Downsview Park, Inc. signed a strategic alliance which has benefited both institutions. The park provided the museum with its facility and utilities, and the Museum got the security it needed to make long term investments in marketing, exhibits, restorations and public programming.

Museum Vision

The Toronto Aerospace Museum is developing an air and space museum, and an historical site.

The goal is to highlight all aspects of Toronto's aviation

deHavilland's Legacy

The de Havilland Aircraft of Canada Ltd. (DHC) was established in Toronto in March 1928 to sell the British-built DH 60 Moth, the most popular aircraft in Canada in the interwar period.

In September 1929, DHC moved from De Lesseps Field to a new brick and steel office, shop and hangar facility on 70 acres in Downsview beside Sheppard Avenue and the CNR mainline. All the original buildings still survive.

Downsview became Toronto's centre of aviation in the 1930s with four airfields located within two miles of each other along Dufferin Street: de Havilland, Barker Field, Canadian Airways and the Toronto Flying Club.

In 1937, the RCAF awarded DHC a contract to build new Tiger Moths. The 1929 hangar was doubled in size and 28 DH 82s delivered by 1939.

During the Second World War, 7,500 employees built 3,000 aircraft for the RCAF and overseas service: 1,500 DH 82C Tiger Moths, 375 Anson IIs, and 1,133 Mosquitoes.

Postwar, DHC built DHC 83C Fox Moths to reenter the civil market and launched development of new innovative Canadian designs, beginning with the Chipmunk (1946), Beaver (1947) Otter (1951), Caribou (1958), Buffalo (1964), Twin Otter (1965), Dash 7 (1975), and Dash 8 (1983). Boeing sold DHC to Bombardier in 1992.

In 1954, the RCAF bought the old DHC plant, and DHC build a new factory on Wilson Avenue. RCAF Downsview was active from 1954 to 1996 and was home for RCAF (Nos. 400, 411 and 436) and Navy (VC 920) squadrons. Space technology leader SPAR also got its start on the base in 1954 as DHC's then secret guided missile division.

The prototype Chipmunk and Beaver were assembled in the Museum building, as well as Alouette I, Canada's first spacecraft.

heritage including civilian, commercial and military aviation, aircraft manufacturing, and space technology.

Cultural history and the "people story" will be a big part of future exhibits, putting the local aviation story in a broader Canadian and international context.

The Museum's central location is probably its greatest asset.

Downsview Park is in the geographic centre of the City of Toronto and there are about five million people and more than 2,000 elementary and secondary schools within a one hour drive of the park.

Highway 401, the busiest though fare in Canada, is two kilometres to the south of the museum, and the appropriately named Downsview TTC subway station is on the other side Downsview's 7,000 foot runway, which is owned and operated by the Bombardier Aerospace factory located km. south of the museum.

Runway 15-33 is used daily to test fly the popular Q200, Q300 and Q400 Dash 8 airliners and Global XRS and Global 5000 business jets and, with advanced permission, for museum events.

National Aviation Heritage Site

In September 1929, DHC opened an office, workshop and hangar facility on 70-acres of farmland in Downsview to assemble British-built DH 60 Moths biplanes sold to Canadian customers. Grass air fields operated by Canadian Airways, the Toronto Flying Club and Barker Field were in close proximity, making the Downsview area the centre of aviation in Toronto in the 1930s.

The de Havilland plant doubled in size in 1938 with a RCAF order for a Canadian version of the Tiger Moth, and progressive wartime expansion between 1939 and 1945 reached more than one million square feet when 7,000 people were building DH 98 Mosquito fighter-bombers at the site.

The prewar buildings established at Downsview in 1929 still survive (including a 1928 hangar moved from De Lesseps Field) as designated heritage buildings, and probably the oldest surviving commercial aviation buildings in Canada.

Walking through the former factory site, black and white photos of early de Havilland factory scenes and the RCAF base almost come alive.

The de Havilland Company became Canada's leading supplier of civilian and military aircraft in the 1928-1939 period

de Havilland received a huge order for Tiger Moths in early 1940 to equip RCAF flight training schools across Canada. This scene looking north shows the grass air field and the hangar that housed the original Tiger Moth, Fox Moth, Chipmunk, Beaver and Otter production line. Photo: Fred Hotson





Kenneth Swartz

More than 6,000 people viewed the Museum's full-scale replica of the Avro Arrow when it was rolled out in the first week of October 2006, and the museum has seen increased visitors ever since.

and the original 1929 hangar at Downsview is where every de Havilland Moth, Giant Moth, Puss Moth, Hornet Moth, Dragon, Dragon Rapide and Dragonfly imported into Canada in the 1930s was assembled.

After 1938, the same building became the successive site for the production line of five significant Canadian-built aircraft: the DH 82C Tiger Moth, DHC 83C Fox Moth, DHC-1 Chipmunk, DHC-2 Beaver and DHC-3 Otter.

It is the museum's desire to eventually have the financial resources and receive Downsview Park's approval to expand westward to acquire and restore the original 1929 de Havilland building next door.

This long-term vision, if approved by the Park, will eventually see the de Havilland Canada factory as it was in the 1930s or 1940s recreated in the Park, complete with offices, an engineering department, and workshops. Some have suggested filling the hangar with vintage de Havilland (UK) and DHC designed aircraft and, perhaps, a simulated aircraft production line.

Museum attendance more than doubled in 2006 and membership is approaching the 1,000 member mark.

Major development efforts are underway to update the strategic plan and lift the Museum to the next flight level. A major fundraising campaign to raise at least \$2 million will be launched in the next year to fund acquisitions, exhibit design and construction and facility upgrades.

Museum Collection

Given the Toronto region's long association with aircraft manufacturing, from opening the Curtiss Aeroplane factory in Toronto in 1915 to the Bombardier Aerospace plant today, the story of aircraft builders is a major exhibit and collection focus.

The list of Toronto-area aircraft builders is long and includes Avian, Avro Canada, Boeing Canada, Bombardier, Canadian Aeroplane, Canadian Associated Aircraft, de Havilland Canada, Found Bothers, National Steel Car, McDonnell Douglas Canada, and Victory Aircraft Ltd.

The Arrow replica and Lancaster restoration projects naturally dominated the Museum story line during the formative years, but this is gradually changing.

As the museum has become better known, supportive individuals have donated their aircraft to the collection

and the museum team has embarked on its own program to acquire significant aircraft and artefacts that highlight important chapters in local aviation history.

In 2004, Toronto-born aeronautical engineer Bob Laidlaw of California donated his beautifully-restored Tiger Moth No. 3874 to the museum and embarked on a 4,500 kilometre (3,200 mile) homecoming journey to deliver the aircraft to its birthplace in Toronto, arriving on July 16.

On May 16, 2005, Stan Acres of Kinburn, Ontario delivered his Fleet 80 Canuck, C-FEAI, by air to the Museum. A unique feature of C-FEAI is that this very Canuck is enshrined on a \$20 Canadian coin designed by Robert Bradford in the mid-1990s. Fleet 80s were initially built in Fort

Museum attendance more than doubled in 2006 and membership is approaching the 1,000 member mark.

Erie and the last examples off the line were assembled by Leavens Bros. at Barker Field on Dufferin Street in Toronto in the early 1950s.

On November 9, 2005, the prototype Found Bros. FBA-2A bushplane, CF-GMO-X returned to the Toronto area on the back of a truck 45 years after it made its first flight at Malton on August 11, 1960. This rare aircraft sat dismantled and forgotten in a field for almost 40 years.

Also resident on the Museum's display floor is the University of Toronto Institute for Aerospace Studies' Orni-thopter project which achieved a record manned flight by flapping its wings on July 8, 2006.

This aircraft and "Father Goose" Bill Lishman's donated Easy Riser ultralight aircraft (used to lead formations of geese) bridge the world of birds and aircraft and catch the interest of a lot of visiting school groups.

With the Arrow complete, many of the 160 volunteers that worked on the replica since 1998 are looking for a new project to tackle.

In the spring of 2007, the museum expects to take delivery on long term loan of the prototype Avro Canada VZ-9AV Avrocar from the National Air & Space Museum in Washington, DC. This 'flying saucer' was developed at

continued on page 30

Toronto Aerospace Museum

Wings & Wheels Heritage

Festival Takes Off at

Dowsviiew May 26-27, 2007

*Festival to Celebrate 60th Anniversary of the Famous DHC-2
Beaver Bushplane at Aircraft's Birthplace*

Dec. 20, 2006 TORONTO --- The Toronto Aerospace Museum and Parc Downsview Park Inc. will host the second annual "Wings & Wheels Heritage Festival" (WWHF) at Downsview Park, Toronto, Ontario, Canada on Saturday and Sunday, May 26-27, 2007 from 10 a.m. to 4 p.m.

The 2007 festival will celebrate the 60th anniversary of birth of the de Havilland Canada DHC-2 aircraft which was developed at Downsview, a suburb of Toronto, and first flew on August 16, 1947.

The Beaver is Canada's most successful aircraft design, and one of the world's best known and most enduring "bush planes". The Beaver also holds the unique distinction of being one of the few aircraft in the world that is still in commercial airline service six decades after it first flew.

Beaver Aircraft & Pilots Invited to Homecoming Fly-in

A cornerstone of the festival will be a fly-in of Beaver aircraft from throughout North America. The festival organizers expect between 10 and 30 Beaver aircraft on wheels and amphibious floats to converge at Downsview Airport for a homecoming celebration.

In addition to the Beavers, the fly-in will feature about 30 vintage and veteran aircraft, as well as visiting helicopters, military aircraft, modern airliners and business jets.

Classic Car Rally

Complementing the aircraft displays, Toronto-area classic car clubs will rally at Downsview Park on the festival weekend and display hundreds of automobiles from the 40's and 50's, along side vintage fire engines and unique military vehicles.

Aviation Historians Gather at Downsview

During the three days prior to the festival weekend, May 23-25, the Canadian Aviation Historical Society (CAHS) will hold its annual convention at the Toronto Aerospace Museum. The CAHS is Canada's oldest and largest aviation heritage organization. The symposium will bring together key individuals involved in the development, manufactur-

ing and piloting of the Beaver, aviation historians, and present-day aircraft owners. Presentations and speakers on other important Canadian aviation achievements will also be featured.

Fly-in Visitors Welcome, but Reservations Required

Privately-owned Downsview airport will be open to fly-in visitors on the festival weekend, by prior registration only. The centrally-located airport features a 7,000 foot runway, which is owned and operated by Bombardier Aerospace, a festival sponsor. Additional information for aircraft owners will be posted on the museum web site www.torontoaerospacemuseum.com in early 2007.

Aerospace and Aviation Community Invited to Participant

Other invited Festival participants include Bombardier Aerospace, the Department of National Defense, and local aerospace companies. Museum has also invited other aviation groups to participate, including light aircraft manufacturers and dealers, flying schools, academic institutions, RC and scale model clubs, heritage groups and Museums. Limited exhibit and booth space will be available.

A Fun Family Weekend

The Wings & Wheels Heritage Event is a community festival with something of interest for the entire family. Event admission includes access to the aircraft and car displays, fun activities for kids, and tours of the Toronto Aerospace Museum.

The museum is located in a unique heritage building that is the oldest intact aircraft factory in Canada, and the birthplace of some of Canada's most famous aircraft – the DH 82C Tiger Moth, DHC-1 Chipmunk, Beaver and DHC-3 Otter --- as well as Canadian's first satellite. Exhibit highlights include a full-scale model of the famous CF-105 Avro Arrow, Canada's first supersonic aircraft design, and a rare four-engine Second World War Avro Lancaster bomber, being restored.

Festival Location

The Toronto Aerospace Museum and Downsview Park are centrally located in Toronto. Downsview Park is two km north of Highway 401, a major east-west thoroughfare. Tourists can conveniently reach the museum by car or taxi from the Downsview subway station. Parking is free.

The Toronto Aerospace Museum is a non-profit charitable organization developing Toronto's first air and space museum and educational centre. Founded in 1997, the Museum is one of the fastest growing aviation heritage organizations in Canada.

Parc Downsview Park Inc. is a Crown corporation federally mandated to develop about 600 acres of the former Canadian Forces Base Downsview, which includes de Havilland Canada's original 1929 aircraft factory, into a National

continues next page

Canada's Incredible Beaver



TORONTO IS ONE of the World's leading aircraft manufacturing centers, and development of the DHC-2 Beaver and helped lay the foundation for the rapid expansion of the Canadian aerospace industry in the postwar period. Production of the prototype Beaver began in the building that is now home for the Toronto Aerospace Museum on January 15, 1947.

Designed to operate year-round on wheels, skis and floats, the rugged and versatile Beaver has exceptional short take off and landing (STOL) performance which make it an ideal "flying jeep" capable of serving remote northern lakes and unprepared airstrips throughout the world.

The de Havilland Canada factory at Downsview built a total of 1,692 DHC-2 Beavers between 1947 and 1968. This included 1,631 Beavers powered by a Pratt & Whitney R-985 radial engines, one DHC-2 Mk II with an Alvis Leonides radial engine, and 60 DHC-2 Mk III Turbo Beavers powered by a P&WC PT-6 turboprop engine.

More than half the Beavers built are still flying

Sixty years after its birth, the Beaver is the iconic "bush

plane" of the North and one of the world's most enduring commercial aircraft designs.

Today, Beaver seaplanes fly scheduled airline routes linking communities in the Pacific North West, on British Columbia coast, and in Alaska. The aircraft is a favored wilderness "time machine" for sightseeing, fishing, whale watching, glacier landings, hunting, canoeing and kayaking adventures in many remote wilderness regions, from the Barrier Reef to the Arctic.

Many military surplus Beavers have migrated back to the bush. In recent years, the Beaver has also gained popularity as a movie star and as the "Harley Davidson" of the jet set -- an exclusive group of private Beaver owner/pilots that includes movie actor Harrison Ford.

Government and Military Operators

In addition to private and commercial customers, many governments placed orders for this versatile and rugged aircraft.

The launch customer for the Beaver was the Ontario Government Department of Lands and Forests, which purchased which purchased over 50 of all models for year round use in wilderness regions of the province. In Ontario government service, the Beaver was one of the first aircraft in the world modified as a water bomber for aerial forest fire control. The province still flies six DHC-2 Mk III Turbo Beavers, and R-985 powered CF-OBS, the second prototype and oldest Beaver flying in the world.

The Beaver was also used by the governments of a dozen nations for scientific research in Antarctic exploration in the 1950s and 1960s, and was a frequent visitor to the North Pole.

The largest single Beaver customer was the US military, which purchased almost 1,000 for the US Army, US Air Force and US Navy. In fact, in the 1950s and 1960s,

continues next page

Urban Park promoting the values of legacy, beauty, play, sustainability, and stewardship. Information of Downsview Park can be found at www.pdp.ca

The Toronto Aerospace Museum is located at Downsview Park, 65 Carl Hall Road, Toronto, Ontario, Canada, M3K 2E1. For further information, visit the museum web site: www.torontoaerospacemuseum.com.

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deHavilland was the largest supplier of fixed-wing aircraft to the US Army.

While the Beaver never served with the Royal Canadian Air Force (RCAF), it was part of the aircraft fleet of Transport Canada and the Royal Canadian Mounted Police (RCMP) for 50 years. In fact, in 2006, the RCMP purchased a Turbo Beaver for use in British Columbia.

Leading Export

The Beaver was also a leading Canadian export in the 1950s and 1960s and these sales had a significant economic impact on the Toronto and Canadian economy.

The DHC-2 Beaver has been flown by the United Nations and the governments of Argentina, Australia (RAAF), Austria, Cambodia, Chile, Colombia, Cuba, Dominican Republic, Finland, France, Ghana, Haiti, Indonesia, Iran, Kenya, Laos, Netherlands, New Zealand (RNZAF), Oman, Peru, Philippines, South Korea, South

Vietnam, Taiwan, Thailand, Turkey, Uganda, United Kingdom (British Army), United States (US Army, US Air Force, US Navy), Uruguay, Yugoslavia, and Zambia.

Specifications

Wing Span:	14.6 m (48 ft)
Length:	9.2 m (30 ft 4 in)
Height:	2.7 m (9 ft)
Weight, Empty:	1,293 kg (2,850 lb)
Weight, Gross:	2,313 kg (5,100 lb)
Cruising Speed:	209 km/h (130 mph)
Max Speed:	258 km/h (160 mph)
Rate of Climb:	311 m (1,020 ft)/min
Service Ceiling:	5,490 m (18,000 ft)
Range:	756 km (470 mi)
Power Plant:	one Pratt & Whitney R-985 AN-14B Wasp Jr., 450 hp, radial engine

WINGS & WHEELS

HERITAGE FESTIVAL



Avro Arrow Replica



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Parc Downsview Park
Canada



A BRIEF HISTORY OF RAA BARRIE- ORILLIA CHAPTER

By Lawrence Shaw

OUR CHAPTER was formed in 1960 and was duly registered as an Ontario corporation. While I was president of the National Homebuilt Organization of Canada, 1980-84, the name Experimental Aircraft Association of Canada, EAAC, was federally registered with the blessing of Paul Poberezny of EAA, about 1980-81.

When we introduced the Inspection program (forerunner of the current MD-RA) in Canada, we were asked by Paul Poberezny to cease and desist from using any reference to EAA because of liability. It was after this notice and under Jack Greenlaw's presidency (1985-89) that new, more accurate and descriptive name was voted on and adopted – the Recreational Aircraft Association Canada, which is still in use today.

Chapter 144 initially had 20 members, growing to 40+ over the years. Guy Laroque built the first Pitts Special in Canada. Allan Ness built a Volmer, owned a Fairey Firefly, and was co-sponsor of the Hamilton Warbirds. Dr. Andrew Chapeskie had a Volmer with a 125 tractor Lycoming. George Uranich of the OPP built one of the first Jodel D 11's, and I built a Smith Miniplane DSA with a 125 hp Lycoming GPU.

In 1962 we held our first fly-in at Barrie's Anne St. airport, now known as Springwater. For the next 25 years we held our annual chapter fly-in/airshow at Orillia's Lake St. John airport and seaplane base, with the cooperation of owner Harry Stirk and his staff. After a few years other chapters were asked to participate, as it required more manpower than our chapter could handle, because this fly-in became the largest homebuilt fly-in in Canada. The last several years the event was called the Ontario Sport Aviation Convention Inc. The only reason that the airshow was discontinued was because the new ICAO rules required greater setbacks from the active runway, which at Orillia



Some of Barrie's aircraft: Top, right, Dave Evan's Duce; Top down from left: Brian Fox's Christavia sports Full Lotus floats; Ron Uloth's Staggerwing; Dean Stauffert with his in-progress Glasair II-RG.



was impossible to provide. For many of us this had become a family weekend, and for some a week of camping and swimming at the airport.

Throughout the 1970's EAAC produced several issues of a magazine. It was not until 1980, under my own national presidency that the Board decided to put a major effort into having a magazine published for our members. Thanks to Harmon Koffman of Hamilton, who stepped up as editor, we started with 4 issues per year, known as Canadian Sport Aviation Magazine. After several years of publication it was decided to go to 6 issues per year, and has continued, thanks to the work of many dedicated individuals and RAA Board members.

The magazine was originally put together by RAA member Ron Seyffer at his





printing shop in Orillia, and Ron still handles the printing to this day. The company is now called Rose Printing and has very up to date equipment, and a far-ranging clientele, and is a well respected corporate citizen.

Since my time as president (1981-84) the Barrie Orillia RAA chapter have labeled and mailed every issue of the magazine. RAA member Dave Evans of Barrie leads this project, gathering up members for a work and fun talk day. Our chapter is very pleased to be the first to contribute to the cost of printing and mailing your issue of the Recreational Flyer. Canada is such a large country, from the Pacific to the Atlantic, and we really do need this very important communication vehicle.

RAA

Lawrence Shaw The last surviving charter member of Chapter 144 Barrie Orillia.

The Aircraft of RAAC's Barrie Chapter

Barrie Chapter certainly has their share of prolific builders. Here's a few of their rides:

Top Down, left: Len Morris' CH-300; Martin Shaw's Chipmunk and friend; Norm Mill's Pacer; Ralph Hawkins' Stits Flut-r-bug; Ron Seyffer's HP-14.

Centre, Top down: Ron's Challenger and below that, Tom Plater's PA-28 Cherokee; Wade Tindal's Challenger and PL-4.

Opposite Page: Top down, left:

Earl Lambert's Cub; Earl's C-172 on floats; Eugene Bemus' C-150; Glen Willoghby's Coot.

Centre, Top down: Gord Souter's Super Koala; Jack Greenlaw's Fleet Canuck; Jim Mantyla's Stinson 108-3, and his Mantyla Special.

Top Down, Left: Lawrence Shaw's Express, and beneath that, his Smith Miniplane, and his Champ on floats; Leighton Buchanan's Luscombe, and Dale Evan's Jodel D-11.

Ballard Sport Aircraft Ltd



Le nid de l'avion sportif Pélican

The nest of the

Pelican Sport Aircraft

Par/By Serge Ballard, RAA 5591



CHERS MEMBRES, c'est avec beaucoup d'enthousiasme que je vous annonce qu'une nouvelle petite avionnerie est née au Canada. Cette nouvelle entreprise se spécialisera dans la fabrication et la distribution d'aéronefs légers et sportifs, sous la forme de kits et d'avions prêt à voler. Nous démarrons l'entreprise avec une base financière solide et un produit éprouvé, le Pélican, ce splendide appareil développé par l'ingénieur Jean-René Lepage.

Ballard Sport Aircraft Ltd se concentrera sur le marché mondial de l'aéronef sportif offert sous forme de kit. Nous allons tout d'abord remettre en production les principaux modèles de l'avion Pélican. Les modèles Sport 450, Sport 600 et Pélican PL seront du nombre. Nous croyons pouvoir offrir le support à la clientèle actuelle dans quelques semaines. Il est réaliste d'affirmer que la production des kits serait en marche à l'intérieur d'une période de quatre à cinq mois. Des services connexes seront offerts à la clientèle de la construction amateur. Nous assemblerons également des Pélican prêt à voler pour la catégorie AULA.

Il n'est pas question, selon l'accord signé, pour Ballard Sport Aircraft Ltd d'entrer dans le marché du LSA avec

ces appareils. Toutefois, dans un futur pas trop éloigné, nous croyons être en mesure de développer des aéronefs monomoteur 1 place et 2 places qui pourront être qualifiés dans la catégorie LSA.

L'entreprise s'installe dans la région de Sherbrooke au Québec. Nous en sommes actuellement à établir des alliances stratégiques avec certains fournisseurs importants. Nous allons également établir un réseau de distribution Nord américain afin de bien desservir ce territoire. Nous demandons aux propriétaires actuels de Pélican, que leurs appareils soient en vol ou en cours de construction, d'entrer en contact avec nous afin d'établir un lien solide et de leur offrir de nouveaux services. Nous allons offrir notre support à tous ceux qui travaillent à la construction de leur avion Pélican afin que ces avions puissent prendre leur envol en toute sécurité. Nous acceptons les commandes pour des kits ou des pièces immédiatement, toutefois nos délais de livraison seront fonction des inventaires actuels et du processus de redémarrage de la production.

Pour de plus amples informations, n'hésitez pas à entrer en contact avec nous. Notre site web est en construction et vous pourrez y trouver réponses à vos principales questions

très prochainement.

Ballard Sport Aircraft Ltd.

2696 rue du Pimbina, Sherbrooke, Qc J1R 0G3

Fax: (819) 563-8139

e-mails: sergeballard@ballardsportaircrafts.com

web : www.ballardsportaircrafts.com

I AM PROUD TO ANNOUNCE to all members that a new Canadian aircraft company is born. This new company will specialize in the production and the distribution of light sport aircraft. The products will be offered in kit form to the worldwide market. Ready to Fly aircraft will be available in the AULA category only. The company has a strong financial background and its main product is the famous Pélican Sport Aircraft developed by the well known designer Jean-René Lepage.

Ballard Sport Aircraft Ltd will first concentrate on the Pélican kit business. We will put the Sport 450, Sport 600 and Pélican PL models back into production within the next four to five months. We believe we can offer technical support to the builders in just a few weeks from now. More services will be offered to the general homebuilt aircraft community. Ready to fly AULA aircrafts will be offered as well.

Ballard Sport Aircraft Ltd will not address the LSA market with the Pélican aircraft models. Future developments will allow us to enter this LSA market with single

engine single seat and two seat model aircraft.

The company will be based in Sherbrooke area, province of Québec. We are establishing strategic relationships with important sub-contractors and suppliers. We will develop a strong distribution channel through all North America territory to better address our main market.

We are asking actual Pélican aircraft owners, flying aircraft or those under construction, to contact us and make sure they are on our list. This will help us improve the quality of service, the follow up services, and help us provide these customers with our Service Bulletins and Airworthiness Notices. We will offer technical support to those who are building their Pélican aircraft and will carefully follow their construction until their first flight.

We are taking new orders for kits and parts right now but in the short term we will give variable deliveries that will essentially depend on the availability from the actual stocks in the inventory as well as the first production run process. Customer input is important to us for prioritizing our activities.

For more information, please contact us directly. Our new web site is under construction and you will find there more answers to your questions very soon.

RAA

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Treizième rendez-vous aérien annuel

LES FAUCHEURS DE MARGUERITES

Par Serge Ballard, RAA# 5591



LES 30 JUIN ET 1 JUILLET prochain se tiendra à l'aéroport de Sherbrooke le treizième rendez-vous aérien annuel Les Faucheurs de Marguerites. Cet événement annuel est l'événement d'aviation récréative le plus important de tout l'est du Canada. Nos aviateurs viennent particulièrement de toutes les régions du Québec, des Maritimes, de l'Ontario et des États du nord-est des États-Unis pour se rencontrer et apprécier les nouvelles créations ou acquisitions de leurs confrères constructeurs et pilotes. C'est un rendez-vous que les passionnées d'aviation ne veulent surtout pas manquer.

Cette grande fête de l'aviation récréative est offerte à tous les pilotes et à tous les amateurs de sports aériens. Au fil des ans nous observons un accroissement constant d'achalandage par voie aérienne et nous attendons plus de 300 pilotes aux commandes de leur avion au cours du week-end si la météo le permet. Comme le service de mouvements aériens est administré par des professionnels d'expérience pour ce type de rassemblement, les pilotes sont vite rassurés quant à leur sécurité et ce malgré la présence des nombreux aéronefs en convergence. Sur le terrain on peut admirer des avions de construction amateur, des avions récréatifs conventionnels, des avions ultra-légers, pendulaires, des hélicoptères, des avions antiques et parfois même des appareils militaires.



Notre salon commercial et notre marché aux puces sont des plus convoités par les amateurs à la recherche de pièces d'avion, produits destinés aux pilotes et autres perles rares.

Nous offrons des emplacements gratuits pour le camping sous l'aile, ou encore pour votre tente ou votre VR sur le site de l'aéroport. Les services de base ainsi que la restauration sont disponibles.

« Pour la troisième année » un déjeuner gratuit est offert à tous les *pilotes arrivant par la voie des airs et inscrits avant 10h00 AM* les samedi 30 juin et dimanche 1 juillet. Les pilotes n'ont qu'à s'enregistrer sous le chapiteau jaune pour obtenir le *coupon* accordant ce privilège. C'est pour nous une façon de dire MERCI à ceux qui nous visitent en aéronef et qui de ce fait contribuent au succès de l'événement.

Plus de 2000 autres visiteurs nous parviennent par les voies terrestres au cours de ces 2 journées. C'est pour eux une activité familiale qui permet aux plus jeunes de découvrir l'aviation sous divers angles, de rencontrer les aviateurs et surtout de voir les avions de très près. Le rendez-vous aérien a lieu même si Mère Nature fait des caprices.

Notre rendez-vous aérien est aussi une occasion unique de souligner le travail des restaurateurs et constructeurs d'avions de loisir. Des juges déterminent les gagnants du concours de construction et de restauration d'avions pour diverses catégories. De prestigieux prix sont remis aux gagnants au cours d'une cérémonie spéciale tenue le dimanche après-midi. Le grand gagnant de construction amateur dans la catégorie plan se mérite notre prestigieux trophée Lucien Beaulieu et les gagnants des autres catégories se méritent une médaille à l'effigie des Faucheurs de Marguerites gravée à leur nom.

Plusieurs conférenciers ont été invités et ils se feront un plaisir de vous communiquer leur savoir et leur expérience. L'horaire de ces conférences sera disponible sur place. Comme à chaque année, une cantine et un restaurant sauront vous rassasier. Un souper Spécial Faucheurs est servi en début de soirée le samedi. Celui-ci est suivi de la traditionnelle soirée musicale. Cette soirée est l'élément clef pour convaincre votre conjoint (e) de vous accompagner à ce week-end aéro-récréatif social.

En bref, nos bénévoles organisent tout cela pour votre plus grand plaisir dans le seul but de promouvoir l'aviation récréative et ils feront tout en leur pouvoir afin que vous passiez un agréable séjour parmi nous.

L'aéroport de Sherbrooke est situé sur la route 112 en direction d'East Angus. Le coût d'entrée pour tout le week-end est de 5\$ pour les adultes. C'est gratuit pour les enfants de moins de 16 ans. *L'accès au site est gratuit pour tous les pilotes et leurs passagers qui arrivent en avion.* L'aéroport ouvre très tôt et le restaurant servira les déjeuners dès 8h00. Le site sera ouvert dès 8h00 le samedi matin et fermera vers 16h00 le dimanche après-midi.

Pour obtenir l'information complète au sujet de notre événement ainsi que les coordonnées de l'aéroport, visitez notre site Web au : www.lesfaucheurs.com

Bienvenue à tous et à toutes.

Informations:

Les Faucheurs de Marguerites du Québec

540 Chemin des Pieds Légers, Stoke, Québec J0B 3G0

Téléphone: (819) 878-3998 lesfaucheurs@hotmail.com

www.lesfaucheurs.com

Note: Camping et restaurant sur place
Réservations d'hôtel, contactez Tourisme Sherbrooke
1 800 561 8331

Les Faucheurs de Marguerites Annual Fly-In

By Serge Ballard, RAA# 5591

Les Faucheurs de Marguerites du Québec organize a sport aviation Fly-In at the Sherbrooke airport. This year's event will be held on June 30 and July 1st 2007. Make sure to put this aviation event in your agenda. It is the biggest recreational aircraft fly-in in the Eastern Canada. Aviators are coming from everywhere in the Province of Québec as well as Eastern Ontario, New-Brunswick, Prince Edward Island and Nova Scotia to meet with their aviation friends and to show their latest construction-restoration projects.

Are also invited to this big celebration are all aviation lovers, the general public and tomorrow's aviators who want to meet with friendly aviators and have a close look at their marvellous flying machines. It is not a show but rather a very remarkable aviation enthusiasts rendez-vous. We see more and more aircraft every year. If Mother Nature is on our side we are expecting 300 to 500 aircraft during the weekend. Our Professional Flight Advisors familiar to that type of event will guide you safely to your destination.

At the event you will see all you would expect to see at larger Fly-Ins such as Sun-'n-Fun or Airventure: Planes of all kinds, commercial booths, fly-market, conferences, plane judging, aviators and more planes. Awards are given to the winners of our annual

contest in the amateur built categories as well as the restoration categories. Aviators can camp under the wing or on the campground area at the airport site.

The week-end admittance is *FREE* for all pilots and passengers landing at the airport.

For the third year, all pilots that would land and register before 10:00 am on Saturday or Sunday morning will get a ticket for a FREE BREAKFAST when they register. This is our way to thank them for making our Fly-In a success.

You are invited to our Faucheurs Special Dinner at the airport's restaurant on Saturday evening. The dinner will be followed by a musical / dancing evening.

For the general public coming by terrestrial transportation, the admittance fee is \$5.00 for ages 16 and more and is free for the kids. Airport and restaurant open at 8:00 am. The site will open to public at 8:00 am on Saturday and close at 16:00 on Sunday afternoon.

We are hoping to see you and your relatives at this friendly celebration presented by Les Faucheurs de Marguerites.

Welcome to all!

RAA

More information:

Les Faucheurs de Marguerites du Québec

540 Chemin des Pieds Légers, Stoke, Québec J0B 3G0

Téléphone: (819) 878-3998 lesfaucheurs@hotmail.com

www.lesfaucheurs.com

Note: Camping facility and restaurant on site

Hotel reservation, please contact Tourisme Sherbrooke

1 800 561 8331

Sherbrooke Airport directions: 112 Road to East-Angus. Call Tourism Sherbrooke at 1 800 561 8331 for info on camping, hotel reservations and restaurants



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RAA Chapters in Action

RAA LONDON – ST. THOMAS

During the March meeting Denny Knott reported that the reassembly of the chapter's Skyhopper is going well but the engine runups produced 2100 rpms. He is now looking for a 70 x 38 prop to reach 25-2600 rpms static. Work on the project has been performed in Garry Bishop's heated shop, which has been appreciated during the past cold months.

Bill Weir introduced Mark Townsend of Can Zac Aviation, the distributors for the Zenith line of light aircraft. Mark has several DVD's for W&B, engine installation, glass panels, and general metalworking. His ch601.org website has a lot of information on inexpensive tooling and fixtures. The speaker at the April meeting will be Clare Snyder, speaking on the topic of converting Corvair engines for aero use.

Members thanked Don Hatch for his newsletter, Bob McAlorum for keeping the financial and membership records, and John Kennedy for maintaining the photographic library.

RAA FLAMBOROUGH

Newsletter editor Frank Ball reports that chapter President Karl Wettlaufer has fitted skis to his Stinson and now

has an engine preheater, so that he can enjoy flying during this past winter. Karl has been researching the history of a family relative who was a Wireless operator/Airgunner on a Mosquito. Unfortunately the plane suffered a fatal crash on April 19, 1945.

The chapter meeting centered on the showing of a bush flying DVD, Big Rocks and Long Props. The planes featured were a Super Cub, a Maule, a Sherpa, and a Bushwhacker, all with tundra tires. The emphasis was on safe attitudes and safe flying, and building skills gradually.

RAA TORONTO REGION (BRAMPTON)

President Earl Trimble reports that the photo wall in the new clubhouse is filling up quickly, and asks that members keep to the 8 1/2 x 11 format for consistency. The February chapter meeting was addressed by Andrew Pierce of Porter Airlines at CYTZ. Porter is now doing ten daily round trips from Toronto Island to Ottawa. Chapter member Alain Ouellet announced a Zenith builders'fly-in at Brampton May 18-20, which will have construction seminars, and with luck a Transport recurrency seminar. Frank Langdon recommended that there be a fly market during the weekend event. The chapter voted to make a \$500 donation to RAA to

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One of the two pilots making it through the snow climbs into his Challenger... so it could still be termed a fly-in.

Below, the rest huddle in the clubhouse for refreshments.



building and flying his F-1 Rocket; he placed third in air-speed trials held recently in Texas. In the January- February edition of the Recreational Flyer, Wayne has an article about his recent visit to a factory in the Czech Republic which manufactures F-1 and EVO airframes.

RAA OTTAWA RIDEAU

Newsletter editor Bill Reed reports that the March Fly-in was a culinary success and a moderately successful fly-in event. Because of snow squalls only two planes managed to fly in, but many more drove in for the chili bash. The chapter has bought a new generator and is auctioning off the old Honda unit. Members are now making plans to fly to the various events in Ontario and Quebec, ranging from the Collingwood weekend to the Faucheurs event in Sherbrooke.

RAA KAMLOOPS -TVSAC

Wally Walcer reported that his recent ski flight to Huff Lake was enjoyable and he did a touch and go there. He proceeded to try the same at Lions Lake and tried the same but at the last minute was that there were pockets of water in the snow covering the lake. Then it was full power and back into the air. The surprise was that these two lakes were at nearly the same altitude. On balance the day was a good one and the air was silky smooth.

Camille Villeneuve has been champing at the bit to get his Proton out for its first flight of the season. The temperatures have been too low but he hopes that it will soon be warm enough to do his preseason prep and get back into the air.

Gary West is asking that BC chapters and flying clubs post their local fuel prices, and to say whether the price include taxes. A member posted a notice about his Cessna 182 that was stolen from Oliver airport. Fortunately it was recovered a couple days later across the border.

Bill Huxley has completed his new Challenger ultralight after eighteen months of building, and recently made its initial flight, an exhilarating experience. Before the flight, Bill was careful to take recurrency flight training in a Katana, then dual time in a Challenger.

President Dick Suttie is installing a capacitance fuel gauge in the wing tank of his Beaver ultralight and will be writing an article on it. He will soon be leaving for Las Vegas

assist with the cost of insurance, and Earl Trimble presented this at the March 24th Spruce Day at Downsview.

The chapter maintains an extensive workshop with lathe, milling machine, and sheet metal machinery. The March newsletter included a list of chapter-owned tools including nicopress tool, magneto synchronizer, prop balancer, cylinder base wrenches, and a differential compression tester. Ian Parson, Secretary and Newsletter editor.

RAA SCARBOROUGH-MARKHAM

Bob Stobie reports that the February meeting was addressed by Larry Woods on the topic of his Questair Venture (aka the Egg) , which he keeps at Grimsby Airpark.

Larry explained the aircraft's Piper Malibu roots, coming from the same designer. With its normally-aspirated Continental IO-540 engine of 280-300 HP, it cruises at 240 kts (275 mph) with a service ceiling of 25,000 feet, and is flown with a side stick. Larry described the early severe problems with the oleo landing gear, and how they were overcome.

Oonagh Elliott, an Aviation Enforcement Inspector with Transport Canada, will address the chapter's April meeting. She will speak about about procedures for the enforcement of aeronautical violations. In May, Wayne Hadath (our National RAA Treasurer) from Kitchener will tell us about

RAA 2007 Annual General Meeting Delta Heritage Airpark Delta, BC

The RAAC AGM is to be held at the Delta Heritage Air Park on the weekend of July 1st. Reservations for accommodations can be made at the Delta Town and Country Inn, Tel: (604) 946-4404, toll free: 1-888-777-1266, www.deltainn.com. Please quote block booking 2006 before May 29 for special rates.

Agenda

Friday evening 29 June:

1830 hrs. Meet and greet Barbecue at the Airpark coffee shop hosted by DAPCOM, the Airpark management group.

Saturday, 30 June:

1400 hrs. RAAC AGM at the RAA Chapter 85 club house at the Airpark. 1830 hrs. Banquet at the Delta Town and Country Inn. Tickets can be purchased in advance from Terry Wilshire (terwil@telus.net) or

tel:(604) 721-7991, or can be picked up at the Airpark. Ticket price \$35.00 each.

Sunday, 1 July:

1000 hrs. to 1800 hrs. Delta Heritage Airpark all day Fly In with evening Barbeque. (tickets \$10.00).

Transportation to and from the hotel to the airpark can be provided by RAA chapter 85 volunteers (10 min. ride each way). Call Terry Wilshire (see above for contact info) to arrange.



and Long Beach, where for the month of April he will be a firefighter at the Champ Car races. Dick encouraged the chapter members to do a careful spring inspection of their planes before flying. Wildlife have been known to make their winter homes in aircraft.

RAA VANCOUVER CHAPTER 85

On Feb 10th, we started the RAA Fly-outs with a lunch flight to Rowena's. Three planes flew from Delta and another three from Langley. This was followed with a flight to Victoria on Feb. 17th. Bruce Prior and Daniel Weinkan flew out of Delta and were joined by Vern Little and Garry Peare from Langley. The Feb 24th fly-out to Courtenay was snowed out, believe or not.

RAAC Participation at the Canadian Aviation Expo

This year's Canadian Aviation Expo at Oshawa airport on June 22-24, 2007 is fast approaching and once again RAA will be presenting amateur aircraft construction to the flying and non-flying public.

This is one of our best annual opportunities to showcase our sport and recruit new members that share our passion to build and fly their own aircraft. But this is only possible

with your help.

Members are needed to volunteer their time at the show to exhibit their aircraft, coach youngsters in building seminars, and answer all the questions about RAA and it's unique membership.

Please contact the RAA show co-coordinator if you can volunteer some of your time during the 3 days event to work the display tent. Partially completed projects are especially welcome and will be displayed inside a large circus style tent.

Chris Gardiner, RAA show co-coordinator

416 436 3361 / 905 668 5703 Cgardn628@rogers.com

Contributions to our Chapter Activities section are encouraged. Keep your fellow members updated on what is happening across Canada! Send your reports and newsletters to :

Recreational Aircraft Association

Brampton Airport, RR#1, Caledon ON L7C 2B2

Telephone: 905-838-1357 Fax: 905-838-1359

Member's Toll Free line: 1-800-387-1028

email: raa@zing-net.ca

Zodiac 601: Wings for the People

by Gary Wolf



Carol Cooke

ONCE IN AWHILE a new plane comes along that is exactly right for its time. The new plane is usually the darling of the press for a brief period, and then it fades quietly away. The Zenith Zodiac was introduced in 1984, and nearly twenty-five years later is still selling strongly. It appears that a simple all metal plane that provides good performance is perennially appealing to builders and pilots. The Zodiac was born as a plansbuilt light 2 seat airplane that could be built in a one car garage by anyone with a few hand tools and a moderate skill level.

The original Zodiac 600 ads showed 65 hp VW as the powerplant of choice, but when Rotax announced their 80 hp 912 series engine, this quickly became the popular powerplant. In 1992 the original Zodiac 600 became the 601 series when the fuselage was widened from 40" to the current 44", to provide more elbow and seating room. The new 601HD model was designed for 1300 pounds gross weight, and the new 601UL was lightened to fit into Canada's new Advanced Ultra Light Category that had a limit of 1058 pounds. The HD could accept many powerplants up to the O-235, while the UL used the Rotax 582 and 912. The new Zodiac models were well received by the market, not only because of their performance, but also because of the

excellent level of engineering support provided by Chris Heintz. Anyone could send a fax or make a phone call and get right through to Chris Heintz, a qualified aero engineer whose credentials include stress work on the Concorde.

The Heintz philosophy is that his company sells construction plans, and partial and full kits, so that a builder may choose anything from scratchbuilding, to receiving all parts in one box. The full kits go together quickly, as has been proved many times at Oshkosh when the Zenith crew and volunteers have built and flown a Zodiac in seven days, all under the watchful gaze of spectators at the Show. As is common in the kit industry, first timers will take more than the estimated 400 hours to build the Zodiac airframe, but many feel that they could hit that number on a second kit. Heintz is nearly alone in selling construction plans these days, while most manufacturers concentrate on selling kits and completed aircraft. The photocopier is the worst enemy of every designer, and Heintz's 601 plans have been copied and "improved" by manufacturers around the globe. Have a look at many of the recent bumper crop of Eastern European light sport aircraft and you will see how many have their roots in the Zodiac. Some look very tempting, but the question must be asked where a buyer might

**Doing what airplane lovers do
when not committing aviation:
Chris Heintz (centre) hobnobs
with Zenith enthusiasts at
Sun 'n Fun.**

find parts and support five years hence. A Zodiac owner gets full construction plans, and a mature manufacturing company as his backup.

In 2000 Heintz introduced the latest version of the Zodiac, the 601 XL, when the fuselage and tail of the 601 were fitted with a new tapered wing and spring main landing gear. And for the first time a Zodiac had real flaps. This model was designed to fit the US Light Sport category, and the factory engine options were expanded to include the Jabiru 6 cylinder and the Continental O-200. The new wing has a Riblett airfoil to increase the speed from 110 to something in the high 140's depending on the powerplant/prop combination. What was maintained was the Heintz philosophy of providing complete construction plans, and already his new wing is being fitted to the planes of some European "designers". The new Zodiac 601XL can still be scratchbuilt in a one car garage by anyone with a few hand tools, and it can even be powered by converted auto engines like the Corvair. 100 hp seems to be the magic number for the new plane, but 80 hp will do.

What is it like to build a Zodiac? Well it is not that difficult, and the factory in Missouri and the Can-Zac Aviation, the Canadian distributor, hold regular rudder workshops to introduce potential builders to the construction process. Chris Heintz pioneered the use of Avex pulled rivets for light aircraft construction, and Heintz's method reshapes the head of the rivet to give it even more strength. Aluminum sheet is very easy to work with, and most of the light sections used for the Zodiac may be easily formed by



hand. Scratchbuilders will need a 4 ft brake, and Zenair sells plans for a simple one made from steel angle. On the Can-Zac Aviation scratchbuilder website www.ch601.org <<http://www.ch601.org/>> there are even free plans for several different brakes designed by their customers. The factory site is www.zenithair.com <<http://www.zenithair.com/>> and airframe plans may be previewed on line, complete with exploded assembly drawings. Both sites are filled with photos of completed planes with examples of various panels and engine installations, and there are several active email forums to which builders may subscribe. If you decide to build a Zodiac, rest assured that any questions have already been addressed.

One of the earliest 601's in Canada was built by Ernie Weightman, who has been flying his 80 hp 912 Amateur-built Zodiac since 1994. RAA asked Ernie why he chose the Zodiac, and here is his response:

J. Ernie Weightman, CH 601 C-GJEW

When I decided to build my own aircraft I found that a "must have-should have" short list was the only way to "get real" in my eventual choice of design. High on that

**Have a look at many of the recent
bumper crop of Eastern European light
sport aircraft and you
will see how many have their roots in
the Zodiac.**



Ernie and his Zodiac.

list was “no fabric” but only because I expected to be forced (cost and location) into outside storage. In 1990 very few designs and kits existed that met this need. Authoritative design and engineering with history, was also a criteria. I was less concerned with high performance than I was with over all functionality. Chris Heintz’s designs qualified for the most part.

The biggest metal working project I had ever undertaken to that time was my Mom’ sugar scoop in school shop class. An all aluminum aircraft was a big leap of faith as to my ability to see it through.

Constructed over 27 months starting in February 1992, my CH601 tail dragger was first flown in August 1994 with Art Mitchel of MAF (formerly Flypass) at the controls. After an hour or so of booting it around the sky, Art checked me out and turned me loose. Marty Swartz had done a thorough inspection job and no issues came out of these exercises. Today, with approximately 550 hours of total flight time the 912 Rotax and airframe have been a trouble free, delightful experience.

The majority of my flying is in and out of grass strips and the taildragger configuration has served very well. The slip ability of the design, coupled with seemingly unlimited rudder authority has provided access to some very limited strips. Given the light weight and lack of inertia, the CH601 with efficient differential disk brakes can arrive using above average approach speeds to deal with cross and turbulent wind conditions and still get stopped in distances of 400’ or less. I fly my approaches at 80 mph and find that flaring (power off) at under 70 mph produces a predictable, controllable landing although the CH-601 can be dragged in under power at much lower speeds (around 60 mph) as circumstances dictate.

Take off is most easily done from a three point attitude,

as the aircraft sits in a natural climb attitude on the ground. Care must be taken however to apply power smoothly and continuously so as to avoid becoming airborne before sufficient speed or rudder control is attained. Tail up departures can be executed early in the power up and provide better control of lift off speed but at the expense of takeoff distance and a lot more foot work. Take off can be accomplished in as little as 300’ but is very comfortable at around 400’ to 450’. A passenger will increase these numbers, but surprisingly in my experience, not significantly. A dual takeoff within 600’ is achievable and rollout on landing about the same if you work at it.

The CH601 T-D configuration does not retain the often quoted scary ground loop characteristics so many talk about related to the many traditional aircraft out there like Champs, Cubs, 140’s, 180’s and such. In fact Art Mitchell will tell you that if you are comfortable with the CH601 taildragger, don’t assume you know how to fly all tail draggers. Having learned to fly on a Champs and Citabrias I would agree.

Climb solo at 80 mph produces 800 to 1100 fpm and dual backs that down to the 650 to 750 range. In busy circuits, one has to throttle back to stay with the crowd.

In summary, I would recommend this aircraft/engine combination to anyone looking for a good knock about flying machine. At 108 mph cruise you are not the last guy home, and the elbow room and baggage space are accommodating enough for most of us. Operating economy and annual costs of maintenance are easy to swallow. A poor man’s RV to be sure.”

Paul Sharpe, 601 HD C-IABP

Paul Sharpe completed his AULA-registered Zodiac 601HD in 2002, but his day job in the left seat of an Air

Canada A-320 does not leave as much time for sport flying as he would wish. Paul has some seventy hours on his 100 hp 912S Zodiac HD and thoroughly enjoys using his plane for day trips and fly-ins. He found that the rough idling of the 912S was improved when he had Tri City Aero retrofit the Rotax slipper clutch. Although Paul’s 601 is registered in the Advanced Ultralight category, he has installed an ELT and transponder for safety. This is also the reason for the bright colour scheme of his self-applied paintwork. Paul said that if he were starting over he would have gone through the MD-RA inspection process to register Amateur-built, so that he could legally use IFR instrumentation to get home if the weather closed in.



Paul Sharpe: a little different than an A-320, and certainly more fun

Paul's Zodiac is a nosedragger, as are most of the 601's these days. Earlier models like Ernie's placed the 912's radiator outside the fuselage in a shallow shroud under the rudder pedals. Paul's rad is centered under the redrive and uses a much smaller heat exchanger. He finds that even in the summer, part of it can be taped over. The oil cooler is in a sealed NACA duct on the right side of the engine cowl, and exits at the lower firewall, below the battery. Paul's airframe was built on a 4 x 8 table in his garage, and went together in a straightforward manner without any surprises.

Here are Paul's performance numbers:

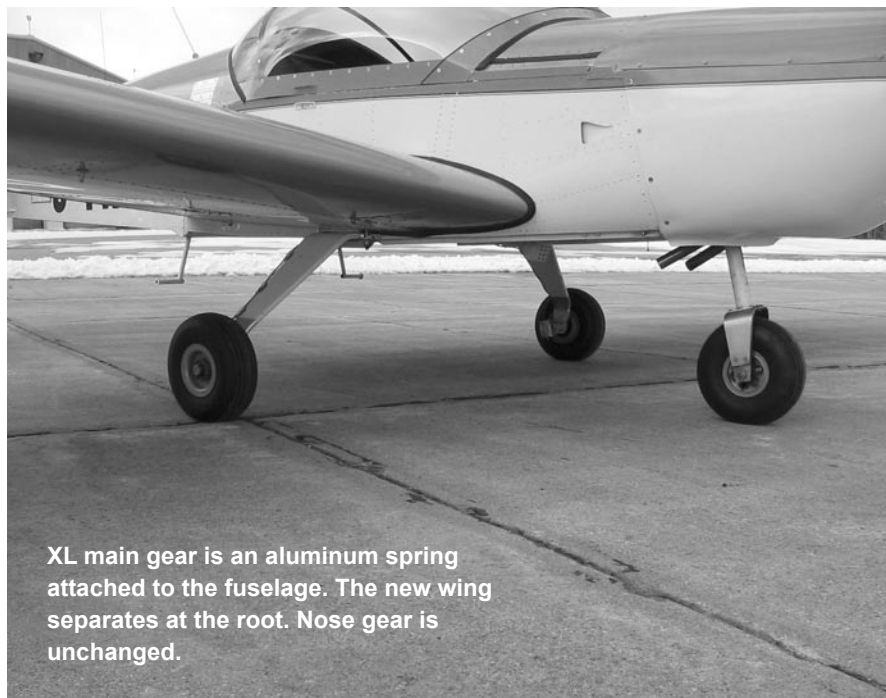
"Cruise: I run the engine at 5200 RPM giving me 100 to 105 mph indicated. Rotax recommends that you run the engine hard, and don't baby it. For what it's worth, Larry Lorretto says the same thing, as does Ken Armstrong. So running it at 75% power as you would a Lycoming isn't applicable with a 912. Top speed is only slightly higher at max continuous power (5500 rpm). I burn 17 litres per hour in cruise.

"Climb rate varies significantly with weight, altitude and temperature, as it does with all airplanes. Airliners use very precise WAT charts to compute performance; no such data for a 601, but on a cool day, no passenger, and half full tanks I can get 1600 feet per minute. On a 30 degree plus day, at 1200 pounds MTOW I get maybe 500 FPM. That is

Within a few hours of opening the box, a builder can have his wings completely assembled, if the plane is to be registered as AULA.

at about 80 mph. Prop is the GSC three blade wood prop, the one made for the higher power ROTAX's with the metal inboard ends. It is 68 inches in diameter, blade angle currently set about 18 degrees.

"Sink rate - maybe 800 fpm, but I'm not sure as I don't descend often with power at idle. At 80 mph the nose won't be that low, but you feel like you're descending in an elevator; the glide angle is quite steep!



XL main gear is an aluminum spring attached to the fuselage. The new wing separates at the root. Nose gear is unchanged.

"Stall is very docile, especially with an aft C of G, which is where it normally is; pull the power back to idle, nose up maybe 10 to 15 degrees and wait; as the speed approaches the stall, the pitch will start to oscillate up and down a few degrees with a fairly flat attitude, and the airplane descends about 800 fpm. With a forward C of G, you will get a clean break, the nose drops significantly but there is no wing drop, and you can recover with power losing only a few hundred feet of altitude."

Paul's plane has the throwover canopy with the hinges designed by Art Mitchell. Either side may be unhinged, and the folding canopy prop works for either direction. Paul made his interior panels from corrugated plastic signboard material, sprayed with 3M adhesive and adhered to fabric. The bucket seat fillers were made from layers of foam, with the same fabric adhered with 3M. Obus Forme seats are dropped in over these, resulting in a light and inexpensive interior that is comfortable for Paul and his wife. For day trips the package shelf provides more than enough luggage space. C-IABP has the centre stick and Paul finds this very comfortable with his forearm on the centre armrest. The plane is controllable with only finger pressure, a bit lighter in pitch than in roll, but reasonably well balanced. Paul added an electric aileron trim and finds this to be invaluable when flying solo. He also has a Matco elevator trim. There is no rudder trim because the plane follows its nose well, and rudder is rarely used except when slipping the plane for a short field landing. Paul's plane carries its fuel in the leading edges of the wings. The earlier models had a cowl tank which may still be fitted, but Paul wanted the space available for access to the backside of the panel.

The major change to the 601 series occurred when Chris



**Rick Tedford of North Bay
with his 601XL**

one side of each skin must be left open for the MD-RA precover inspection.

Rick Tedford, 601 XL C-FRTT

Rick Tedford was one of the first builders of the new 601XL and he chose the 6 cylinder Jabiru 3300 as his engine. Here is what Rick has to say about his plane:

"My 601 XL first flew on November 20th, 2003 unintentionally. Depending on the weight, the takeoff roll is 4-500 feet. I apply light backpressure on the stick at 60 mph indicated, and climb out between 90-100 mph. At that speed the ROC is usually 900-1200 fpm, the engine is revving 2800 at first, then goes to 2900 during the climb. Cruise is 2750 to 2900 rpm and indicated airspeed is 120 to 135mph. The Jabiru 3300 can run all day at 2900 rpm. The maximum straight and level speed is 155 indicated at

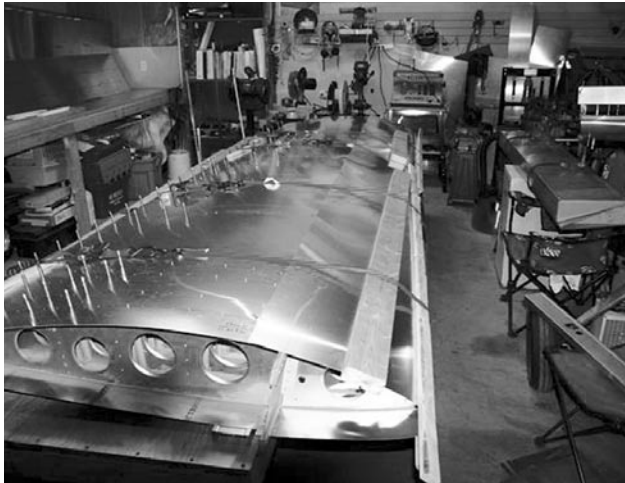
3200 rpms, and this was confirmed last week with a GPS, at a temperature of +7 celsius.

"In a typical circuit I will apply carb heat on the downwind leg and slow to about 80 mph when turning base. Eighty mph is the maximum flap speed for this plane. Descent at 70 mph begins on the base leg, and we are usually coming down at 600 fpm. Normally I extend the flaps and descent is then 800 fpm at 65mph. I reduce speed to 60 mph when over the numbers, and touchdown occurs about 50 mph, or even lower if the angle of attack is higher. On a typical day when the wind is 8-9 knots, rollout will be from 300-500 ft. Usually I have to apply power in order to get off the active runway here in North Bay because it is 10,000 ft

Heintz designed the new XL tapered wing with its 8" spar and Riblett airfoil to replace the earlier 11" spar height of the 60/601HD/601UL. Formerly there had been a 7 ft wide wing centre section that held the bungeed main gear struts. The new wing bolts to the carrythrough right at the edge of the fuselage. The main gear was changed to an aluminum spring type attached to the fuselage itself. The front of the seat could then become lower, and the lower cabin longerons were reinforced with steel receivers for the landing gear. The rest of the fuselage remained essentially the same, as did the tail with its trademark Zenith all-flying rudder. The rear fuselage skins did change from .016 to .025 thickness, but the tail and ailerons remained with .016". Fuel is now in the leading edge, and wing luggage lockers are an option. The latest of the HD models had a tip-forward canopy, and this is now the standard unit on the 601 XL. The new wing is tapered and it gives a much more purposeful appearance to the plane. It also gives an appreciable increase in speed when coupled with the 120 hp Jabiru 6 cylinder aircooled engine. All skins are prepunched now, and in the quickbuild option the fuselage is fully assembled and riveted, and the entire wing is assembled in a factory fixture with clecoes, then disassembled and boxed. Within a few hours of opening the box, a builder can have his wings completely assembled, if the plane is to be registered as AULA. As an Amateur-built,



**Kuba Mysluk's aircooled 2 cylinder BMW
conversion with gear reduction box.**



Left: Scratchbuilt wing gets its initial fitting for the nose skin. Centre: The tapered XL wing has a Riblett airfoil. Some nose ribs are removed for the leading edge fuel tank(s) Bottom: everyone gets to try out Dave Leslie's scratchbuilt project



long.

"The stall characteristic of the 601 XL is a gentle mush, and when it breaks there is a slight shudder. I have never spun this plane but I think that I would have to do a powered stall and then kick it over with full rudder.

"I do cross country flights of up to 200 miles, and a lot

of local flights lasting an hour or so. At heart I am a pea patcher. The gross weight is 1350 pounds and I have seldom loaded to the limit. The aircraft can fly for 3.5 hours at 2800 rpms, plus the reserve, and this gives a range of 400+miles, subject to wind speed and direction. The tanks hold a total of 84 litres of 100LL and I wish I had bigger tanks. (*Editor's note- larger tanks are now an option*)

"The Jabiru 6 cylinder produces 120 hp at 3300 rpms. I have had oil cooling problems but I am working on them. The prop is a Sensenich GA composite and appears to be working well. I occasionally fly in the winter but the temps have to be above -10 before I will go up. The clear canopy provides a reasonable amount of heat, and can get a but warm while taxiing in the summer.

"From an ergonomic point of view this is the most comfortable aircraft I have ever flown. There is plenty of storage space on the package deck, and it can hold 40 pounds. The wing lockers will hold 40 pounds each, and for solo travel a lot of luggage can be carried. Due to the light wing loading it can get pretty rough during severe turbulence, but this is to be expected.

"I have dual sticks and pitch control is very light. The ailerons are a bit heavier, and I think that this is due to the hingeless design. There is very little adverse yaw during turns. Cross control does require a bit of work so I prefer to use the flaps. There is 14 ft of flap on a 27 ft wingspan. I have landed in a 20 knot crosswind and it is not something that I would recommend as a regular event. The panel has a six pack of flight instruments, and all engine functions are monitored by gauges. A King radio and a Mode C transponder, plus a Garmin 196 are the electronics.

"This was my first experience with a kit and I will admit that it was a bit of a learning curve. The whole project took two years, which included a house move and the construction of a new heated 16 x 24 workshop.

"Support from the dealer and the head office were excellent, and they always returned my phone calls without delay. The Lancaster Aero fellows were very helpful too and they responded promptly to my queries. I believe that the 601 XL airframe is a good match for the Jabiru 3300. Now that I am up in North Bay, if I had it all over to do again I would choose a Zenith, but this time a roomy 4 seat 801 on amphib floats, to head out into lake country."

Dave Leslie

Some builders prefer to scratchbuild from plans, and Dave Leslie is one of these enthusiasts. Dave bought his plans 15 months ago from Mark Townsend of Can-Zac

Aviation, the Zenith dealer for Canada. Dave has invested about \$3000 in aluminum sheet and bar stock for the airframe, and for chrome moly tube for the controls and nose gear. He bought an aftermarket bubble 601 canopy for \$340 US from Todd's canopies, and formed his own aluminum

landing gear in a press. He then made a spare set of gear and traded it for a fiberglass cowling for his project.

Dave has already bought his engine, a Corvair package converted by William Wynne, the main proponent of these engines for aircraft use. William flies one of these conversions

on his own 601 XL, so he is thoroughly familiar with the requirements of the plane. Dave attended William Wynne's seminar at the KW-RAA event last year, which confirmed his belief that this is a good engine for his purpose.

Dave is following the plans closely and finds them to be well drawn. He has made the centre stick with a console, and plans to use a glass panel. Hints to his wife to sew up an interior were not working, so he bought a ready-made leatherette interior for about \$800 US. He found a full set of used master cylinders and installed rebuild kits, then bought new Matco wheels and brakes. The fuel tanks were welded up locally and future plans might include a set of fiberglass wheel pants. This plane should be flying by late summer at something under \$15K depending on the panel. Dave is impressed with the level of support from Can-Zac, despite that he is a scratchbuilder and is making almost everything himself.

Besides the Corvair, there are many other engines that are being used in Zodiacs all over the world. The 601 airframe is adaptable enough to accept almost anything from 80 to 125 hp, and Continentals and Lycomings are being fitted frequently. Subaru EA 81 engines were the scratchbuilder's choice awhile ago but in stock form they produce only about 70 hp. A cam and carb, plus some cleanup of the ports, and then a redrive will make a suitable powerplant. The problem with this is weight and cost. A professional Subaru conversion will approach the price of a half time 80 hp Rotax 912. There have been a lot of these half time Rotaxes placed on the market by owners of all types of aircraft, because many are repowering with the 100 hp Rotax 912S. Barnstormers.com is where to look.

One conversion that is unusual in North America is the BMW motorcycle opposed twin, but in Europe it is becoming very popular. Kuba Mysluk and his colleagues in Poland and the Czech Republic have produced a fleet of BMW conversions for the local flight schools that use Zenith 601 HD's. They generally use the fuel injected version and fit it with their

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own slipper clutch and a Polish or German gearbox. The results are very impressive and they provide good fuel mileage (very important in Eastern Europe) and power halfway between the 912 and the 912S. RAA will be doing an article on these in an upcoming issue.

Safety is always a concern with non-certified aircraft, and the Zenith 601 has an enviable record. There have been two safety issues since the beginning of the series, and both were dealt with expeditiously by the factory and the dealers. The first was to do with deformation of the rudder pedals when the pilot would push the entire rudder pedal instead of just the toe brake. The recommendation was to reinforce the lower junction with a welded steel triangle, or to replace with the latest units made from thicker tubing. The other recall was for the main spar splice plates, some of which had inadequate edge clearance. Owners were asked to measure their edge clearance, and new 4130 steel plates were issued at no charge. The 'no charge' is an unfamiliar term in aviation, where a recall is usually at the owner's expense. This level of commitment is appreciated by the builders, and Zenith plans to maintain the customer-first philosophy. Chris Heintz is now in semi-retirement, and his sons will keep the Zenith flag flying. Chris is still providing engineering expertise, and like any father he is still watching over his family, both the sons and the planes.

RAA

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March 27, 2007

Toronto Airspace Changes Pilot Briefings Planned

The current airspace structure surrounding the Toronto area was implemented in 1989. Already among the busiest parcels of airspace in the country, the changes in 1989 were drafted after a comprehensive consultation process which sought to balance the needs of all users requiring access to the airspace. In the 18 years since, demand for air travel and the population of the Greater Toronto Area has grown. As this occurred, the IFR and VFR traffic flows have evolved to accommodate the changing traffic demands.

Transport Canada and NAV CANADA work together to ensure that safety is maintained in Canada's airspace. In recent years there has continued to be an increase in the number of reported conflicts between IFR and VFR aircraft in the Toronto area. A review of data showed that two specific flows of IFR air carrier traffic in the Toronto Area were most often involved in these conflicts.

Although NAV CANADA is initiating an airspace and services review of the Windsor to Montreal corridor, including the Greater Toronto Area as part of the Company's ongoing mandate to effectively plan and manage all airspace, Transport Canada requested that NAV CANADA explore near-term mitigation measures in advance of this upcoming review.

NAV CANADA reviewed current operational practices

and traffic flows to determine the extent of the area where conflicts could potentially occur. After analyzing a number of options, NAV CANADA and Transport Canada agreed on an acceptable mitigation plan.

The mitigation strategy involves three parts:

- a) expansion of existing Class E transponder required airspace;
- b) enhancements to the Toronto VTA; and
- c) customer education to enhance the situational awareness of both IFR & VFR users.

The CARs require aircraft to be equipped with transponders which incorporate an automatic pressure reporting device (mode C) when operating in Class E transponder required airspace as designated in the Designated Airspace Handbook (DAH). In Canada, a transponder is required for operation within all Class E airspace between 10,000' ASL and 12,500' ASL within radar coverage. These requirements, and a map indicating where radar coverage exists, are reviewed for pilots in the AIM RAC 1.9.2 (<http://www.tc.gc.ca/Civilaviation/publications/tp14371/RAC/1-1.htm#1-9-2>) The Class E transponder airspace around Toronto will be expanded effective July 5th 2007. The details of this airspace will be included in an upcoming AIC which will be published May 10th 2007. (www.flightplanning.nav-canada.ca).

In advance of the July 5th implementation, new Toronto VNC and VTA charts will be available. The new Toronto VTA will include enhancements to better depict the low altitude paths of IFR air carrier aircraft operating outside of Class C airspace.

Finally NAV CANADA will be travelling to a number

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Toronto Aerospace Museum *continued from page 7*

Malton as a flying jeep to replace light observation aircraft and helicopters, and had a large ducted fan at its centre. The museum will perform NASM prescribed conservation work.

As a former RCAF/CAF base, Downsview was the home for almost 50 years for No. 400 and 411 (Reserve) squadrons, and in the 1950s and 1960s Downsview was also the home for 436 (Transport) Squadron flying Fairchild C-119s, and VC 920 of the naval air reserve flying TBM Avengers, Beech Expeditors and Harvards.

Military aircraft in the Museum collection include the last DHC-built CS-2F Tracker, No. 1600 for the Royal Canadian Navy and three trainers: a CAF Beech Musketeer, Canadair CT-133 "T-Bird", No. 133581 and CT-114 Tutor, No. 114168.

Many other aircraft are being sought.

of airports in the Toronto area to conduct information sessions. Transport Canada and NAV CANADA have teamed up to deliver these briefings. Accordingly, these briefings will qualify as recency seminars, and log book stickers will be distributed. The briefings will focus on a number of topics including the air-space changes, the VTA changes, IFR routes used by high performance IFR aircraft outside of Class C airspace, uncontrolled airport procedures, and the upcoming airspace and services review.

Included here is a partial list of the dates, times and venues. COPA and the RAA have agreed to help advertise these briefings, so please check the COPA website (www.copa-national.org) and/or the RAA website (www.raa.ca) Transport Canada's website (<http://www.tc.gc.ca/OntarioRegion/civilaviation/system/seminars.htm>) will include up to date information about when and where these briefings will be conducted, or they may be contacted for information at (416) 952-0175.

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Hamilton Airport	Canadian Warplane Heritage	May 5 th 10 am-12 pm
Brampton Airport	Brampton Flying Club	May 6 th
Waterloo Airport	Air Cadet Hall	May 12 th 10 am -12 pm
Lindsay Airport	Kawartha Lakes Flight Centre	May 13 th 10 am - 12 pm
Toronto City Centre Airport	Porter FBO	May 23 rd 7-9 pm
Brantford Airport	Brantford Flight Centre	May 26 th 10 am - 12 pm
St Catharines Airport	St Catharines Flying Club	May 27 th 1 - 3 pm
Burlington Air Park	Spectrum Airways	May 31 st 7-9 pm
Peterborough Airport	To Be Determined	June 2 nd 10 am - 12 pm
Buttonville Airport	Toronto Airways	June 10 th 10 am - 12 pm
Belleville Ontario	Fairfield Inn & Suites (401)	June 16 th 10 am - 12 pm
Transport Canada	4900 Yonge St. (Auditorium)	June 20 th 7-9 pm
Oshawa Airport	Canadian Aviation Expo	June 22 nd & 23 rd

Heritage Advocacy

It's only natural that a museum in Toronto, Canada's aviation gateway should have commercial aircraft, including airliners, as part of its collection.

In 2005, the Toronto Aerospace Museum was forced to initiate a Cultural Properties campaign to keep the last surviving Trans-Canada Air Lines Lockheed L-1049C Super Constellation in Canada. These efforts were supported by the Air Canada Pionairs retirees, the Retired Airline Pilots of Canada (RAPCAN) and the Toronto Chapter of the Canadian Aviation Historical Society and more than 2,400 individuals.

Aircraft CF-TGE, Fleet No. 405 (later CF-RNR with World Wide Airlines) had been in Canada since May 1954, regularly flew out of Toronto between 1954 and 1962, and had been a local fixture near Lester B. Pearson International Airport since 1996 when it arrived by truck from Quebec

and was refurbished as a heritage theme restaurant.

Sadly, the Canadian Government issued an export certificate for this great airliner in March 2007. The aircraft has been lost to Canada but will find a good home at the Museum of Flight in Seattle, Washington.

The major fundraising campaign to be launched in 2007 will also ensure that future opportunities to build the collection will not be missed.

RAA

Disclaimer: "This article reflects the views and opinions of the author, and not the policy or position of the Toronto Aerospace Museum or Parc Downsview Park, Inc. For further information on these two organizations, visit www.torontoaerospacemuseum.com and www.pcp.ca".

Product Reviews

DRDT-2 Dimpling Tool from ExperimentalAero By Don Sinclair

In early 2006 I decided I wanted to realize the lifelong dream that most RAA members share, the building of an aircraft. After many months of research I decided on an RV-7, a design that includes flush rivets, many thousands of them, which led to the purchase of many new tools including the one reviewed here.

A number of years ago a mechanical design engineer named Paul Merems decided to create an alternative tool for dimpling, which is the process of forming the small counter-sunk area in which the rivet will sit. The accepted method to dimple aluminum used in the experimental building field has been the impact c-frame tool. The c-frame can be used for both dimpling and riveting, so the DRDT-2 does not replace the standard c-frame for all functions. There are two main reasons for why someone would want to create a different method for dimpling. The first is the desire to create dimples with a slightly lower noise level, since a c-frame is very noisy and requires hearing protection. Considering that thousands of dimples are required in a flush riveted aircraft, this is not a minor consideration. A second reason is repeatability. While a very experienced and careful builder can make excellent dimples using a c-frame, it takes a great deal of care and a lot of 'feel' to be able to accomplish this consistently thousands of times. Other important factors were ease of use, that it be a relatively safe tool to use, and not cause excessive fatigue to the operator. After a number of refinements, Paul Merems has developed the DRDT-2 and sells it directly via ExperimentalAero as well as through a number of companies involved with the experimental aircraft industry.

Being a first time builder I don't have the experience of creating thousands of dimples using a c-frame. I found the idea of using a tool that can produce consistent results with a novice at the controls quite appealing, so I bought one. The fact it could be utilized while others slept in the house was also a huge benefit in my case. My first real exposure to dimples and flush rivets was a practice kit resembling a portion of a control surface. Since this was my first attempt at flush riveting, I really wasn't sure if I was using the DRDT-2 correctly, but ended up with what I thought were reasonable looking flush rivets. Anxious to get building, I put together the horizontal stabilizer (HS) and thought I had done a reasonable job of the flush riveting, but I wasn't really sure as it didn't look quite as good as my practice kit. In order to obtain some sort of baseline of what proper dimples should like, I closely examined installed the flush rivets and dimples on a number of aircraft and projects that had been created



DRDT-2 and Avery C-Frame

using the standard impact c-frame method. My conclusion was that I had not produced as smooth a finish as others had done using a c-frame. At this point I wanted to know what I was doing wrong. An order to Avery Tools and I now had both an impact c-frame to compare with my DRDT-2 and began experimenting. Within a very short period of time I saw that I had been under dimpling with the DRDT-2 and that was responsible for my result, so I set out to come up with some sort of criteria to measure the quality of the dimples.

The one quality of dimples and thus flush rivets on my HS that I was not impressed with was the distortion of the skins, resulting in less than ideal reflections around the dimples. I know that what I did was safe and is no worse than many planes out there, even some certified ones, but I still wanted to know more about the process and how to improve my results. There were three areas I wanted to concentrate on when making the dimples. The first was how to create the dimple with minimum residual distortion in the aluminum surface around the dimple. The second was after doing the first, how well does the rivet sit in the dimple, and third - the visual appearance of the final flush rivet. I started with four sheets of aluminum of thickness from 0.016" to 0.040" each with about 60 to 75 holes (both for AN426AD3 and AN426AD4 sizes) in which tests could be performed. Using both the impact c-frame and the DRDT-2, I made a large number of test dimples until I could obtain consistent and good results with both tools, allowing for my novice status.

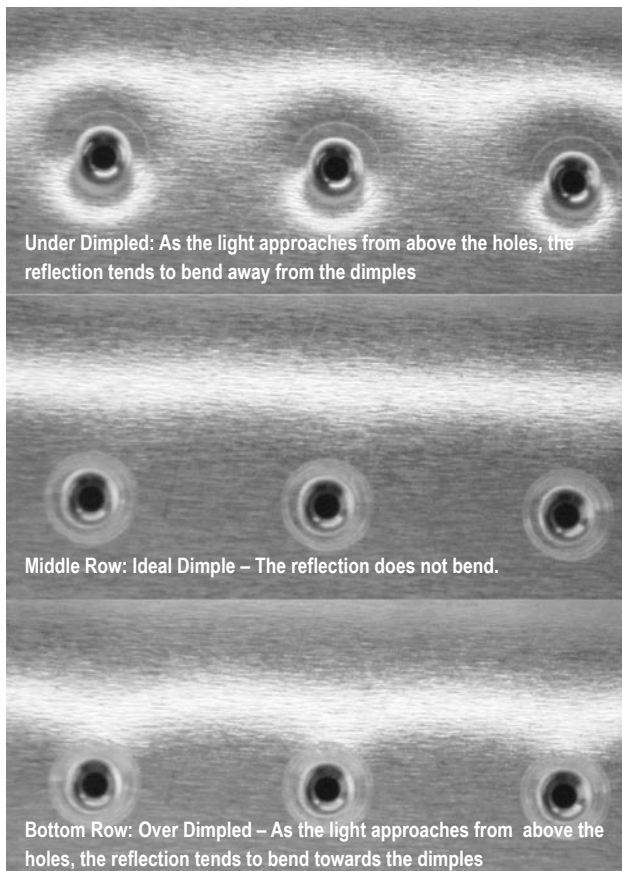
The basis for judging a properly created dimple came down to using light reflection from a four foot long fluorescent tube mounted over the work area. In the case of an under done dimple, the light reflection tended to bend away from



The DRDT-2's working end



Scale to assist in calibrating the preload



Under Dimpled: As the light approaches from above the holes, the reflection tends to bend away from the dimples

Middle Row: Ideal Dimple – The reflection does not bend.

Bottom Row: Over Dimpled – As the light approaches from above the holes, the reflection tends to bend towards the dimples

the dimple as the light reflection approached the hole, and an over done dimple had the reflection being bent towards the hole. Again, this is what I used as criteria and I have no authority to do so other than it makes sense me.

When it came to producing a dimple where there was minimum light distortion, for me it was much easier using the DRDT-2, as consistency in results was not difficult; in fact, it was downright simple. Setting the correct amount of preload is important, but not difficult, I added a simple circular scale that allowed me to add pressure in 1/16 turn increments. To obtain consistent results with the c-frame required a lot more attention and expertise than I possess at this time. Having said this however, if forced to comment on the visual appearance of the dimple and how the flush rivet fits prior to final riveting, I would have to say that in the hands of much more experienced builder than I, the c-frame can produce what appears to be a marginally better fitting flush rivet in a dimple. The dimple seems to be crisper in the transition from the skin surface to the 100 degree counter-sunk surface. Once the rivet is set though, without knowing which ones were done with which tool, I could not tell the difference even though that theoretically there should be a slight difference given the marginally visual difference prior to the riveting process. To make thousands of dimples with a c-frame, and not under or over dimple any, would be the sign of a truly accomplished builder.

For my purposes, excellent quality dimples with consistency and quiet operation are the standout advantages of using the ExperimentalAero DRDT-2. The cost of the entire tool directly from ExperimentalAero was \$340 US plus shipping. A front end only version with plans for the metal structure are also available at a much lower cost for those who wish to have the frame made locally. The DRDT-2 was more expensive than the standard c-frame, but given the quality and most importantly the consistency of the result, it will be my tool of choice when it comes to dimpling.

More information may be obtained from the manufacturer.

ExperimentalAero www.experimentalaero.com 12351 E. Lou Bock Pl. sales@experimentalaero.com Tucson, AZ 85749

Technical Stuff



DOLLAR STORE TIEDOWNS

Building an aluminum wing and you need a dozen cargo straps? Hmm... 12 straps at \$5 each adds up fast. Fortunately the dollar stores sell light duty cargo straps at a dollar each. My local is Dollarama and they even have their own brand. Breaking strength is 300 pounds, so you won't be using these for snowmobiles or motorcycles. However they are 15 ft long and perfect for pulling an aluminum leading edge snugly over the nose ribs. I am sure that the composite and wood crowd can use these too. At a buck each, you can have one at each rib station.

Gary Wolf

Composite Corner: A Caution on Using "Jeffco" Fuel Tank Sealant

I used this product after hearing good reviews from the internet and comments from builders. I had a major difficulty with this product that I wish to warn others about. Keep in mind as you read this that I highly recommend this product but be forewarned of the following.

I received the product in a box with 3 separate containers inside as you would expect. No literature of any kind accompanied the product as it was boxed by Aircraft Spruce outlet in CA, USA. Here is where I made my big mistake. I have read that it just needs to be painted on after mixing in the 2 to 1 ratio and thinking it was like epoxy paints which I have used I mixed up 1/4 of the total volume for two of us to begin painting of the first coat. Two of us began painting in the "Jeffco" and approximately 10 minutes later the two litre pail of "Jeffco" began to steam, then exothermed into a rock hard unusable solid. I was very mad at having wasted 1/4 of the total volume. Subsequently I found that the two of us could only mix a maximum volume of 6 oz of the material and get it painted in before it would begin to thicken to an

unusable viscosity.

This product was delivered without any instructions in the box at all. Packaged by Aircraft Spruce and no instructions from them as well. I discussed this with the Aircraft Spruce Customer Relations but they said it was not their responsibility to include instructions if the manufacturer did not. ACS would not assist in a partial reimbursement for lost product and did not appear to care about product mixing information to be included in the future. I was not happy with their Customer Service interest in this issue.

Mixing volumes are a straight forward 2 to 1 by volume as can easily be seen by the volume that you receive in the three containers supplied. Mix the product in small 6 oz volumes so that you are able to apply before it starts to become too thick to work with. Paint each coat on thick, let 1st coat dry 6-8 hours and then paint on another thick coat and a third if you like. After the first coat is on and has set up, the surface will have a slight tackiness that will assist in allowing the next coat to bond. Use a mirror and check all surfaces for good coverage over your epoxyed fiberglass and under any edges or ledges.

Calvin Thorne

Calvin Thorne is a commercially rated pilot living in Cochrane Alberta and is a director in the Calgary RAA chapter. He rents a 1958 Supercub from a friend while building a VISION EX composite aircraft from scratch. He can be contacted at email: HYPERLINK "<mailto:cbthorne@telus.net>" cbthorne@telus.net and his Vision EX website can be found at <http://www.3.telus.net/public/adele0/tailfeathers.html>



Cheapo Landing Gear for Ultralights

Building an ultralight and looking for an inexpensive and light main landing gear? Consider using the flat fibre-glass spring from an early 90's Buick Century. It is 46" wide,

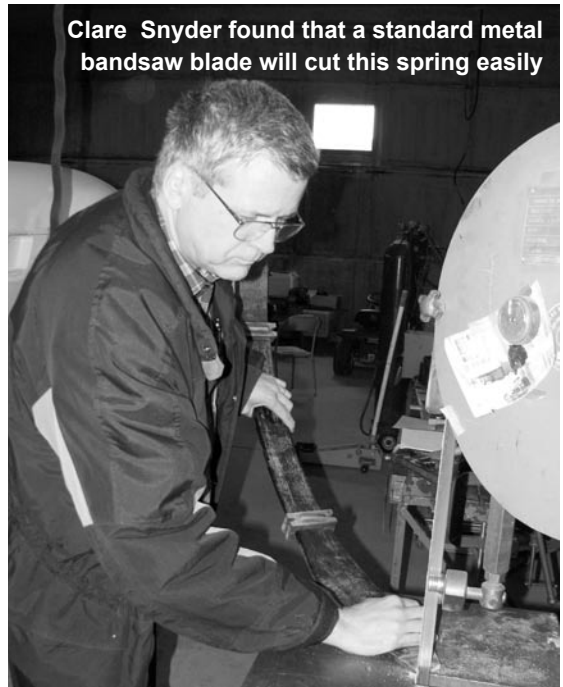
Warton Ontario welcomes all pilots to the 5th Annual Bruce Peninsula Festival of Flight, sponsored the RAA chapter and RAA Canada. Breakfast is available at the Rooftop Cafe, and lunch is our famous barbecue. Paved runway, friendly people, and a chance to see a beautiful part of the province. Saturday August 11th. See you in Warton!



just over a foot high, and weighs only seven pounds. Clare Snyder stood his svelte 200 pounds on the spring and it deflected one inch. End fittings to take the axles could be bent from 1/2" aluminum plate and fastened with bolts. The blades of the Century spring are approximately 1/2" by 4", and the centre is 5/8" by 3". The fibreglass may be drilled or sawn easily for custom fitting.

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Clare Snyder found that a standard metal bandsaw blade will cut this spring easily



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July 3 to July 20 2007

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These fun flying trips are much like LIFE - the object is NOT to get to the end, it's TO ENJOY THE TRIP ! We don't always get to the place we expected , but we DO see interesting places, meet interesting people, and share a lot of fun. Fly along with us, learn a bunch, share lots of experiences, and create some happy memories !

Please call & get on the Mailing List. Don't be shy ! Acey-Ducey, Bonanza, Champ - - to Extra, Yankee, & Zenith - (and everything in between !) Everyone can fly along - and we'll ALL have FUN !!

July 2 - Monday - Brampton - Evening kick-off BBQ !

July 3 -Tuesday - Gore Bay-Manitoulin, ON (CYZE) R.O.N. (Remain Over Night !)

July 4 - Wednesday - Manistique, MI (R.O.N.)

July 5 - Thursday - Ashland, WI (R.O.N.)

July 6 - Friday - Thief River Falls, MN (R.O.N.) Fly in for lunch at Grand Rapids, MN, then on to TVF. Super 8 motel, steak house next door - rest up for Saturday.

July 7 - Saturday - Lyncrest (Winnipeg) (R.O.N.) Rambling up to Piney/Pine Creek for customs (where you can cross the border WITHOUT filing a flight plan !), then on into Lyncrest for a GREAT BBQ PARTY & fun !

July 8 - July 12 - Rambling Enroute to B.C. Possible stops at Brandon, Killarney, Carlyle, Moosejaw Municipal, Swift

Current, Maple Creek, Medicine Hat, High River, Okotoks, Golden, Revelstoke, Vernon, and on to Chilliwack. We'll try to have a Murphy Aircraft Mfg. Ltd. factory tour (& maybe a party !)

July 13 & 14 - Fri. & Sat. - Arlington, WA - (R.O.N.) EAA Western Regional Fly-in. Fun & Camping !

July 15 - 20 Rambling Back, to Brampton (or OSH) We'll head back east, possibly Rambling by the southern route, with a Side-Trip to "Cicely, Alaska". It's MUCH closer than you imagine! Then to Sandpoint, ID, and Libby, MT, visiting the Montana Float Co., & on HOME ! Depending on the group, we might just go to Oshkosh, WI.

This is a casual, low-key, semi-disorganized FUN trip !! (We'll be Winging It all the way !) Suggestions welcome - navigation by consensus !!

Planning meeting on June 3rd, at Brampton RAA.

We will organize the group purchase of maps, enroute mountain flying briefings, and anything else you suggest. There will be a small daily collection to cover tie-downs, camping fees, etc. This means only ONE person dealing with airport staff - makes their life easier! (Of course, your fuel & oil (and beer !) are up to you....)

-Please register for the Ramble NOW ! Send \$5 cash and we'll add you to the special Rebel Ramble mailing list - you will be kept up to date, and it will help us with planning ! THANKS!

Bob & Anna Patterson (905) 457-5238
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bob.patterson@interbiz.ca Please shop at our store:
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President's Message (continued from page 2)

RAA AGM IN DELTA BC

Chapter 85 stepped up to the plate to host the 2007 RAA AGM at their Delta Airpark facility, as part of their annual Canada Day weekend fly-in. They are welcoming all RAA members to attend this gala event, which will include a banquet and a Sunday breakfast. A block of rooms has been reserved at the Delta Town and Country Inn, and these will be held until May 29th. Quote block #2006 to receive the room rate of \$95.00 . The weekend begins with a meet and greet barbecue on Friday night of the Canada Day weekend. Western RAA members will now have the opportunity to have direct input into RAA, while enjoying the hospitality of members of Chapter 85.

DOWNSVIEW SGM AND MUSEUM VISIT

March 24th was the date that RAA members and guests met at the Toronto Aerospace Museum, with everyone's

attendance fee sponsored by Aircraft Spruce Canada. Member Bill Tee is a docent at the Museum and retired employee of DeHavilland, and he conducted tours of the displays in the morning and afternoon.

Lunch was a buffet while the business meeting took place. We were addressed by Claude Sherwood, the volunteer CEO of the Museum. Mac Mazurek then took the floor to update our members on the progress of the charitable status initiative. He presented a motion to open the bylaws to allow the Board to add specific wording to include which might become necessary is and when CCRA grants charitable status to RAA Canada. After discussion a vote was taken and the motion was passed with a considerable majority.

Ultralight Flight School Insurance

During the past winter RAA has been in receipt of information that the underwriters were becoming reluctant
continues

tant to sell liability coverage to Ultralight flight schools for the 2007 season.

The problem was that recently the claims had been too frequent and expensive, so underwriters have begun leaving this market. This situation actually began last summer and the dodge that some schools used was to tell the student to buy his own liability coverage from COPA. However this did not actually provide coverage because the COPA policy is not valid when used for commercial purposes. It has a clause to cover flight training when the student owns his own plane, but not when the instructor or a school supplies the plane.

Bryson had been writing many of the policies for the Ultralight flight schools and as of this week they will still write coverage if the school uses specific Advanced or Basic Ultralight aircraft that are on the insurer's own approved list. However for the Basic UL's there is no option for the instructor to buy insurance if the student has an accident and decides to sue the instructor for damage to the student's person. Unfortunately too many "instructors" have been using their ratings to take their friends for rides in Basic Ultralights, and some have even been push-

ing the envelope by registering old certified planes in the Basic UL category. It is little wonder that the underwriters are becoming more cautious about UL training. The UL training liability coverage had always been inexpensive, usually around \$600/year, but now the quotes are in the \$3000 range, about the same as a conventional flight school using a Cessna 150. This is to be expected when planes up to 1400 pounds have had bogus registrations in this category and have been used for UL flight training. Imagine being the underwriter who finds that he has unknowingly been covering a student for solo flight in a heavy conventional plane, after as little as five hours total instruction time.

Expect that training costs for the entry level permit will rise, and thank those worthies who have been abusing the trust that had been placed in them. The UL industry is supposed to be self regulating, but some have taken advantage of the lack of oversight, and the rest are now paying for their stupidity. If you intend to take UL training this season, it would be wise to ask the instructor to show proof of insurance. Do not get into the plane unless you are satisfied with the answer.

RAA

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Artwork: Rates apply to camera ready artwork. Digital files are preferred and should be sent as email and in .txt format, PDF, JPEG, MS WORD, Photoshop or other common file types. Advertising is payable prior to printing of magazine unless other arrangements have been made. Payment is in Canadian funds. 10% Discount applies to one year (6 issues) insertion paid in advance. Commercial Classified ad rates 1/8 page minimum.

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For Sale

1 Set of Zodiac 601 Wings HD complete with wing lockers and joiner plates. Total time 450 HRS. No damage. Asking \$1950.00 CN. 2 New Zodiac series Canopies grey tinted, still with flanges and paper covered. Asking \$ 550.00 CN each. Please contact Erwin Hornemann @ 905 457 3716, ore Email me @ erwin.hornemann@sympatico.ca

CF-VML (Classed as "Amateur built") 1968 Taylor Mono Plane Aircraft legal to return to flight. 150 hours TTAF (flown with VW engine), One owner ago removed VW engine. A75 with very low time slick mag's 150hours SMOH added and current owner and signed off by Ministry. Currently based at CYKF (Waterloo) Too many projects on the go this one needs a new home. Willing to part out. Asking \$4000 for engine and \$3000 for fuselage or best offer. I have over \$12k invested. Call Darren Pond 519-651-2522 or pilotpond@rogers.com for details.

EA81 subaru engine by NSI, 110 hp. model .complete firewall forward. Presently flying on a kitfox model 5, includes a in-flight adjustable propeller, (model cap 140). Total time since new 70 hrs. Asking \$ 14500 or best offer. call yvon at 1-705-967-5311 after 6 pm. or at work 1-705-897-3333

Avid Catalina complete kit. Purchased in 1999 for \$22,900, will sell in a weak moment for \$15,000CDN. 613-756-3815 or 613-281-7027

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2 Zenith 300 projects 30% completed.

Excellent workmanship. Price of materials only. \$3000 Ayton On pennantmanor@hotmail.com

1941 Taylorcraft with Lycoming 65, approx 500 hours on engine, about 2400 on airframe. Cream with red trim excellent condition, in annual until June 2007. \$18K OBO. Owner recently deceased. Please contact Glen Morrison at 519-837-1068.

1996 Zenair Zodiac, Cont. 0-200 161 hrs. A/F 374 hrs. Beautiful flyer. Photos available on request. Must sell, bought RV-9a. Asking \$28,000 CDN. 519-442-2962 dorothybenton@hotmail.com

1975 Cessna 150M C-GE BX. 5006 TT, 1671 SMOH Continental 0-200A. Annual completed July 2006. Wheel Fairings, Nav/Com intercom. Mogas STC. \$26,000. Markham Airport. Call John Parker @ 416-444-3015 or e-mail to john.lynn.parker@sympatico.ca

Modified A-75 Continental, balanced, no electrical, 64 hours AMO, dual advance magnetos, cross exhaust, price: CD\$ 10 000 Call for details: (905) 484 - 0804 Rob

Aeronca Champ, 1946 3500 total 1200 eng. C85-8F complete restoration May/05, new spars, new mags, 5 gal wing tanks, New tires, Scott tail Wheel, Handbrake, Stitts covering, White, New interior, Everything replaced with new parts, Immaculate. \$35,000.00 CDN, located, Calgary. 403-931-3449, George

Zenith Tri-Z project. All aluminum and 4130 steel for Tri-Z, including stainless steel firewall, and fibreglass cowling. Includes a pickled zero time C-145 6 cylinder built by a certified engine mechanic. Many parts are already fabricated including wing spars and ribs, elevator assembly and wheel parts. Plane and engine manuals are included. \$17 K OBO. Call Bob Higgins at 905-827-0204

For Sale - Lycoming 0-320H2/160HP engine. All logs, certified, cylinders 2 and 4 overhauled, 1900 hrs. \$8000. Contact Don 519-372-1383 or kinger@bmts.com

Modified A-75 Continental, balanced, no electrical, 64 hours AMO, dual advance magnetos, cross exhaust, price: CD\$ 10 000 Call for details: (905) 484 - 0804 Rob

C-85 cylinders complete with pistons, rings. \$800.00 phone for details. 519 323-0026

For Sale: Pair of C150 flat spring landing gears. Delcom 960 portable Radio. Red Dragon engine pre-heater Cessna 300 Nav/Com as removed from C150 For more detail contact by email: rudyhane@rogers.com or phone 519 648-3006 FEB 07

RV-7 Empennage. Prepunched with 0.020" skins, rudder taillight fairing and electric trim kit. Orndorff videos included. Approx. 80% complete with assistance from Kitplane Builders. CDN\$1000.00 firm. Located in Stouffville, ON. Sean at (905) 640-4278 or sean@fungfamily.com FEB 07

Falco F.8L Parts For Sale

Complete tail section from frame 8 including empennage. (Slight damage) \$1,750

IO-320 B1A (prop strike) 854 hrs. \$8,000 with mags, starter, alternator.

Manifold Pressure/Fuel Pressure Gauge Instrument Flight Research \$200

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Davtron M881B chronometer \$100

Accelerometer \$200

Airspeed in knots \$100

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Contact: Mike Schuler 416 274 7467 email: mschuler@cbsci.ca or Bob Trumbley 416 258 1424 email: bob@trumbleyhampton.on.ca FEB 07

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For Sale: Eastern Electronics model E50 magneto synchronizer. Like new condition, still in the box. \$40. Proceeds to RAA-Toronto Region. Ken 905-857-3218; kennan@rogers.com FEB 07

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wings. Also, fuel kit and control kit.
I have a full instrument package and
partial Corvair engine also for sale.
\$9500 OBO Doug @ 204-896-3930 or
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For sale, 68" 3 blade GSC prop. 75mm
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New In Canadian Skies



Gord Cook's Falco

Gord Cook of Fruitvale BC is the proud owner of this gorgeous Falco hangared in Trail.

He ordered his Falco plans from Sequoia back in 1982, the build of this complex aircraft taking about 24 years. The test flight was conducted by Rick Scott, an Air Canada pilot who drives a Globe Swift for fun.

At 5000 feet top speed indicated is 170 knots, the stall is 55 knots in landing configuration, and clean at 60 knots. Typical of the breed, Gordon reports that like most Falcos the clean airframe "picks up a lot of speed

going downhill and is light on the controls.

"Thanks to all who have helped me with this huge undertaking and lifelong dream—the neighbors in Surrey who were always there to lend a hand—Rob Carey, my mentor from the early days of construction—Bruce Langille, whose truck and trailer brought the Falco to Trail—Phil Maloy, our local AME, who helped me with engine related problems—Larry Levesque, in whose hanger the Falco resides—Rick Scott, who put the icing on the cake by test flying the airplane—and my wife Doreen who put up with me and the airplane for the past 24 years".

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RAA Chapters and Meetings Across Canada

The following is a list of active RAA Chapters. New members and other interested people are encouraged to contact chapter presidents to confirm meetings as places and times may vary.

ATLANTIC REGION

HAVELOCK NB: Weekly Sunday morning get together year round, all aviation enthusiasts welcome. Havelock Flying Club - 25 mi west of Moncton. Contact Sterling Goddard 506-856-2211 sterling_goddard@hotmail.com

QUEBEC REGION

COTE NORD (BAIE COMEAU): Meeting times to be advised. Contact Pres. Gabriel Chouinard, 418-296-6180.

LES AILES FERMONTOISES (FERMONT): First Sunday 7:30 pm at 24 Ilerville, Fermont. Contact Pres. Serge Mihelic, 418-287-3340.

MONTREAL (LONGUEUIL): Chapter 415, Meeting in French second Wednesday at 8 pm, at CEGEP Edouard Montpetit 5555 Place de la Savane, St. Hubert, PQ. President Jacques Genest president@raa415.qc.ca (450) 447-9042

OUATOUAIS/GATINEAU: Every Saturday 9:00 am to noon at the restaurant l'Aileron in the airport terminal. Contact Ms N.C. Kroft, Gatineau Airport, 819-669-0164.

ASSOC DES CONSTRUCTEURS D'AVIONS EXPERIMENTAUX DE QUEBEC (QUEBEC): Third Monday 7:30 pm at Les Ailes Quebecoises, Quebec City Airport. Contact Pres. Ray Fiset, 418-871-3781. rayfiset@qc.aira.com

ASSOC AEROSPORTIVE DE RIMOUSKI: First Saturday at 9:00 am, La Cage aux Sports, Rimouski. Contact Pres. Bruno Albert, 418-735-5324.

ASSOC DES PILOTES ET CONSTRUCTEURS DU SAGUENAY-LAC ST JEAN: Third Wednesday 7:00 pm at Exact Air, St Honore Airport, CYRC. Contact Marc Tremblay, 418-548-3660

SHERBROOKE LES FAUCHEURS de

MARGUERITES. Contact Real Paquette 819-878-3998 lesfaucheurs@hotmail.com

ONTARIO

BARRIE/ORILLIA: Fourth Monday 7:30 pm, Lake Simcoe Regional Airport. Contact Treas. Gene Bemus 705-325-7585 gene@encode.com

COBDEN: Third Thursday 8:30 pm at Club House, Cobden Airport. Contact Pres. Clare Strutt, 819-647-5651.

COLLINGWOOD AND DISTRICT: The Collingwood and District RAA, Chapter 4904, meets the first Thursday of every month, at 7:30 p.m. except July and August, at the Collingwood Airport or at off-site locations as projects dictate. For more information, contact Keith Weston, 705-444-1422 or e-mail at kcweston@sympatico.ca

EXETER: Second Monday 7:30 pm at Summers-Sexsmith Airfield, Winters-Exeter Legion. Contact Pres. Ron Helm, ron.helm@sympatico.ca 519 235-2644

FLAMBOROUGH: Second Thursday 8:00 pm at Flamborough Airpark. Contact Editor Frank Ball fdmneball@sympatico.ca 905 822-5371

HAMILTON: Second Friday 8:00 pm Months of Feb, April, June, Aug, Oct, Dec, at Hamilton Airport. Contact Pres. Brian Kenney, 905-336-5190

KENT FLYING MACHINES: First Tuesday 7:30 pm at various locations. Contact President, Mac Mazurek 519-692-5309 macmaz@mnsi.net

KITCHENER-WATERLOO: Meets the third Monday of each month in the upstairs meeting room of the cadet building at CYKE, except during the summer months when we have fly-ins instead. Please contact arankadd@rogers.com for information, or call 519-885-1155.

LONDON-ST. THOMAS: First Tuesday 7:30 pm. At the Air Force Association Building, London Airport. Contact President Angus McKenzie 519-652-2734 angus@lweb.net

MIDLAND-HURONIA: First Tuesday 7:30 pm Huronia Airport. Contact

Secretary, Ted Aldred 705-526-4909 wings@csolve.net

NIAGARA REGION: Second Monday 7:30 pm at Niagara District Airport.

Contact Pres. Len Pettersen swedishcowboy29@aol.com

OSHAWA DISTRICT: Last Monday at 7:30 pm at Oshawa Airport, 420 Wing RCAF Assoc. Contact President Chris Gardiner 905-668-5703 cgardn628@rogers.com

OWEN SOUND: Contact President Roger Foster 519-923-5183 rpfooster@bmts.com
OTTAWA/RIDEAU: Kars, Ont. 1st Tuesday. Contact: Secretary, Bill Reed 613-831-8762 bill@ncf.ca

SAUGEEN: Third Saturday for breakfast at Hanover Airport. Contact: Ed Melanson 519-665-2161 meled@weightman.ca

YQG AMATEUR AVIATION GROUP (WINDSOR): Forth Monday, 7:30 pm Windsor Flying Club, Airport Road, Contact: Kris Browne e_kris_browne@hotmail.com

SCARBOROUGH/MARKHAM: Third Thursday 7:30 pm Buttonville Airport, Buttonville Flying Clubhouse. Contact Bob Stobie 416-497-2808 bstobie@pathcom.com

TORONTO: First Monday 8 pm at Ch 41 Hangar on north end of Brampton Airport Contact: President, Earl Trimble 905-787-8524 northerntrailwind@aol.com

TORONTO ROTORCRAFT CLUB: Meets 3rd. Friday except July, August, December and holiday weekends at 7:30 pm Etobicoke Civic Centre, 399 The West Mall (at Burnhamthorpe), Toronto. Contact Jerry Forest, Pres. 416 244-4122 or gyro_jerry@hotmail.com.

WIARTON: Bruce Peninsula Chapter #51 breakfast meetings start at 8:30am on the second Saturday of each month in the Gallery of Early Canadian Flight/Roof Top Cafe at Wiarton-Keppel Airport. As there are sometime changes, contact Brian Reis at 519-534-4090 or earlycanflight@sympatico.

MANITOBA

BRANDON: Brandon Chapter RAA meets

on the second Monday of each month at the Commonwealth Air Training Plan Museum at 7:30 PM except in the months of July and August. Contact Pres. John Robinson 204-728-1240.

WINNIPEG: Winnipeg Area Chapter: Third Thursday, 7:30 PM. Contact Jill Oakes 204-261-1007 raa_wpg_executive@yahoogroups.com

SASKATCHEWAN

NORTH SASKATCHEWAN: Third Monday 7:30 pm at Westwind, Hangar #3. Contact President Garth Pippin for info at 306-666-4476

ALBERTA

CALGARY chapter meets every 4th Monday each month with exception of holiday Mondays and July & August. Meetings from 19:00-22:00 are held at the Southern Alberta Institute of Technologies (SAIT) Training Hangar at the Calgary Airport. Join us for builder discussions, site visits, tech. tips, fly out weekends and more. Contact president Calvin Thorne at 403 932-4325 or email: cbthorne@telus.net

EDMONTON HOMEBUILT AIRCRAFT ASSOC: First Tuesday 7:30 pm EAHS boardroom. Contact President Bill Boyes 780-485-7088

GRANDE PRAIRIE: Third Tuesday, Chandelleville Aviation Hangar, contact Jordie Carlson at 780-538-3800 work. or 780-538-3979 evenings. Email: jcarlson@telusplanet.net

MEDICINE HAT: Last Thursday of the month 7:30 pm RAAC Club Rooms, Airport. Contact Secretary, Boyne Lewis 403-527-9571 handblewis@thehat.ca

BRITISH COLUMBIA

ABBOTSFORD: Third Wednesday 7:30 pm Abbotsford Flying Club, Abbotsford Airport. Contact President, John Vlaka 604-820-9088 email javlakeca@yahoo.ca

DUNCAN: Second Tuesday 7 pm members homes (rotating basis). Contact Pres. Howard Rolston, 250-246-3756.

OKANAGAN VALLEY: First Thursday of every month except July and August (no meetings) at the Kelowna Yacht Club. Dinner at 6:00pm, meeting at 7:30pm Contact President, Cameron Bottrill 250-558-5551 moneypit@junction.net

QUESNEL: First Monday/Month 7:00 p.m. at Old Terminal Building, CYQZ Airport. Contact President Jerry Van Halderen 250-249-5151 email: jjwvanhalderen@shaw.ca

SUNCOAST RAACHAPTER 580: Second Sunday 13:30 pm Sechelt Airport Clubhouse, sometimes members homes. Contact Pres. Gene Hogan, 604-886-7645

CHAPTER 85 RAA (DELTA): First Tuesday 8pm, Delta Heritage Airpark RAA Clubhouse. 4103-104th Street, Delta. Contact President Gerard Van Dijk 604-319-0264, vandijk@yahoo.ca. Website <http://raa85.b4.ca>.

VANCOUVER ISLAND AVIATION SOCIETY (VICTORIA): Third Monday 7:30 pm Victoria Flying Club Lounge. Contact Pres. Roger Damico, 250-744-7472.

THOMPSON VALLEY SPORT AIRCRAFT CLUB: Second Thursday of the month 7:30 pm Knutsford Club, contact President - Dick Suttie Phone 250-374-6136 e-mail - richard_suttie@telus.net

ALASKA HIGHWAY: Third Wednesday of the month (except July & August) at 7:30 PM, alternating locations: even numbered months in Fort St. John and odd months in Dawson Creek. Phone Richard Lawrence for location, details at 250-782-2421.

Chapter executives please advise of changes as they occur. For further information regarding chapter activities contact RAA Canada, 13691 McLaughlin Rd, R R 1, Caledon, ON L7C 2B2 Telephone: 905-838-1357 Fax: 905-838-1359 or call toll free: 1-800-387-1028 email: raa@zing-net.ca www.raa.ca

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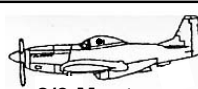
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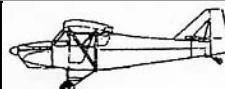
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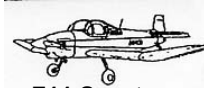


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