



The Flypaper

Newsletter of the Radio Control Flying Club of Toronto, est. 1957, inc. 1967

December, 2003

The New Executive, 2003-2004

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Meetings are held in the Cafetorium of the Alexander Mackenzie Senior Public School, 33 Heather Road, Agincourt, *usually* on the first Friday of each month, Oct to May (subject to change – check the Flypaper) Meetings start at 8:00 PM

For the latest club news, photos and other points of interest please check out our web site at:
www.rcfcltoronto.ca

Weather Forecast: Chance of snow.



These handsome and competent men form the new club executive, which was elected at the November meeting. From the left: Richard Staron (President); Arthur Krikorian (Secretary); Guy O'Reilly (Treasurer), Bob Miller (Field Officer); Paul Battenberg (Membership Officer) . In other developments, Steve Horwat takes over from Romeo Ramos for refreshments, and Hans Paule remains Fun Fly Director.

President's Message: **Richard Staron**

First of all I would like to wish everyone a very Merry Christmas and a Happy New Year.

Secondly, I welcome the new executive for the 2003-2004 season. Arthur Krikorian and Robert Miller are new to the exec, so we welcome them openly.

We have one executive vacancy that needs to be filled, and that is for a Wings Officer. As we all know, we all came through the Wings program at some point in time, and it's because of the dedication and commitment of the instructors and Wings Officer that we were able to fly freely and safely. There is very little work during the winter season being a Wings Officer, but it can be busy during the spring and summer months. Remember that you don't have to be there every Wednesday and Saturday. It's up to the Officer to make a few phone calls to the instructors to make sure that they are there. So please step up to the challenge and fill this important position. We would also like to see some of those "seasoned" flyers to dust off their instructor's Wings and come out some time to pass along their knowledge to the up and coming flyers.

For the winter months, where we all are buried in sawdust, glue and paint, we do come up for air once a monthfirst Friday that is, to come out to the club meeting to savour the refreshments and donuts - however another important position that needs to be filled is the Program Director. Without this person looking for volunteers within the club or outside the club to present something about the hobby, the club meetings could get a bit dry to say the least. So how about it guys.....someone or a small group want to make sure that our meetings are interesting, fun and enjoyable. Your effort would be about 2-3 hours per month maximum looking for topics, presenters, demonstrations etc.

Don't forget our tradition of the Frozen Finger Fun Fly on the morning of Jan 1, 2004. For those new to the club, it's a time to share a cup of coffee and some muffins, get in a flight or two, and have a chat with the rest of members who show up rain or snow or freezing temperature. Its all in fun so come on out and enjoy.

See ya on the field.

Radio Control Flying Club of Toronto

2002-2003 Executive positions

President	Richard Staron	416-288-0569	<i>rstaron@eol.ca</i>
Secretary	Arthur Krikorian		<i>arthur@tangestudios.com</i>
Treasurer	Guy O'Reilly	416-443-1299	<i>joulavert1@aol.com</i>
Field Officer	Bob Miller	905-839-7868	<i>robert.miller2@rogers.com</i>
Membership Officer	Paul Battenberg	416-694-4414	<i>paulbat@sympatico.ca</i>
Wings Officer	<i>Vacant</i>		

Non-Executive elected positions

Editor/Publisher	John Riley	416-469-3990	<i>jcmriley@sympatico.ca</i>
Fun Fly Director	Hans Paule	905-837-2664	<i>hpaule@rogers.com</i>
Refreshments	Steve Horwat	416-439-7084	<i>s.u.horwat@sympatico.ca</i>
Program Director	<i>Vacant</i>		

Meetings and other Events

Dec 12/ 03

Jan 1/ 04 – Frozen Finger Fun Fly

Jan 9/ 04

Feb 6/ 04

Mar 5/ 04 - Annual Swap Meet

Apr 2 / 04

May 7/ 04- Beauty Show

From the Membership Officer:

Paul Battenberg

Well guys, it's time to start thinking about renewing your club membership for another year. Our dues will remaining the same for next year, but the MAAC dues have increased by \$5.00 to \$55.00. John is including a club renewal form in with the mail-out version of the Flypaper. For those with computers, the forms are available on our web site, <http://www.rcfctoronto.ca> **Please remember to fill out a MAAC form also if you want to pay that through the club.** A Declaration form is also required for those under 18 and those who do not have their wings. Make out **one cheque only** payable to RCFCT. If you can't make it to the next few meetings, just mail me the completed forms and a cheque, and I will send you a membership card in the mail. Just remember that your MAAC card will take longer to receive.

That's all for this month. In case I don't see you: May you and your family enjoy a great holiday season. Ho Ho Ho, and all that sort of stuff.

From the Treasurer:

Guy O'Reilly

By the time you guys read this I will be working on my second margarita, feet firmly planted in the sand in Aruba!
(Editor's note: now Guy, is this really fair?) I felt it was my duty to scout new flying field locations down there... just in case.

No, the club is not financing the trip. We have implemented a dual signature requirement for cheques, and all club expenditures are verified by a second person. Additionally, the expenses and bank account is looked at annually by a volunteer club member who acts as "Auditor" of the books. This year Hans Paule has agreed to review the books and he should be reporting to the members at the December 12, 2003 meeting.

While on the topic of club finance, you may have heard that the monthly draws at the meetings are not a source of income for the club. Fifty percent of the proceeds are re-distributed as prize and then there is the usual \$25 draw. This is one way we have to encourage people to come to meetings and participate in the club's activities. I will be glad to discuss with anyone ideas about getting more funds for the club.

I have been informed that other clubs have approached the Trillium Foundation to finance some of their activities and field repairs. We will re-consider this funding source as well and I will keep you posted.

Hans Paule has offered a copy of an accounting software to the club. This should provide fancy financial statements for the club in the near future. Thanks Hans!

From the Field Officer:

Bob Miller

Greetings to all from the new Field Officer. I guess I should introduce myself to those of you who may not know me. My name is Bob Miller. I make a living working for the Toronto Transit Commission as a Computer Software Project Manager (yeah I know – 'yawn, stretch'). Well it's a living, perhaps not as profitable as some endeavors (right Arthur?). My interest within the hobby is large aerobats and scale warbirds. I am a brutally slow builder, taking as long to build an ARF as most others do to scratch build a Scale Masters quality warbird. Thus I put a lot of misplaced faith in ARF's as it is my only shot at having something to fly in this millenium other than having someone else build it for me (right Brian?).

Anyway, enough about me and on with business. I will be changing the combination on the lock to the field shortly. In reviewing the parking situation on the road for the duration of the winter I would suggest parking on the north side of Passmore only, thereby allowing enough space for cars to get by. Please be mindful of the ditches now present along the roadside especially with potentially slippery conditions. Parking on the north side also eliminates the need to cross the road. I mention this because I find the vehicles using this part of Passmore are travelling at speeds well in excess of the speed limit making for a dangerous situation, especially with slippery conditions.

Looking forward, we have at least one more season at our existing field as you all know, and next year should see something other than corn planted in the field to the west of the runway, as long as the farmer continues to alternate crop. This is not necessarily a big deal, but anything that enhances our aircraft approach area free of charge is definitely welcomed by me. One of the tasks I would like to get done by the spring is to inventory the current field assets that we have (work tables, picnic tables, fences etc) and decide what we will be taking with us to the new field and what, if anything, we will use as fuel to warm our hands during next winter's flying.

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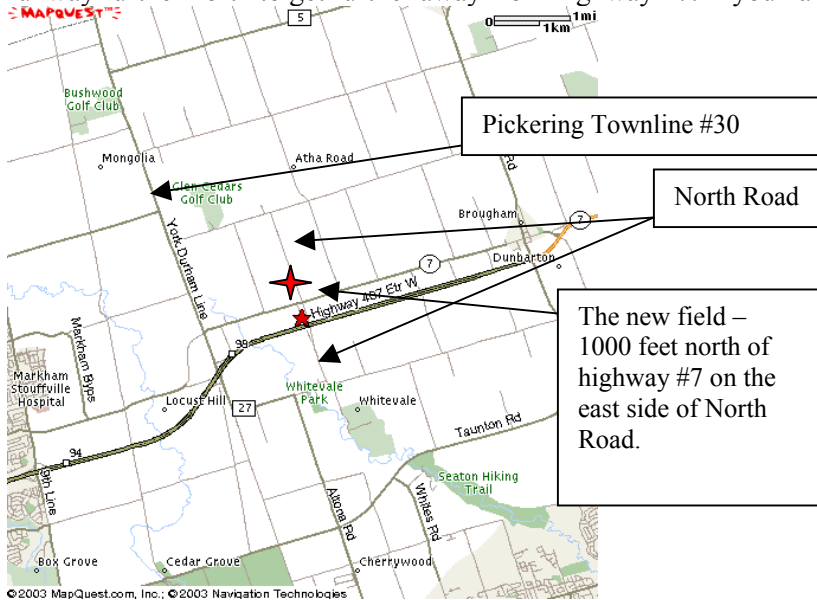
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Regarding the new field, please see the map below for its location. We have used pink ribbons on stakes to do a rough layout of the new field with respect to parking area, pits, flight line and runway. We are also considering moving the runway further north to get further away from highway #7. If you have a chance, take a drive by and have a look.



In setting up the new field we will be jointly deciding what facilities will be provided. The first order of business is to get a culvert installed to allow us to drive into the field from North Road. If anyone has contacts on where we can obtain building materials in a cost-effective fashion please advise. I have seen some interesting use of donated building materials at other fields. There are also a few new types of stands we could consider constructing. Check out the picture below for an example.



For those of you who have internet access and are curious about field construction please check out the following website:
http://www.rcmf.canadianwebs.com/field_construction.htm

I am looking forward to having lots of volunteers wishing to participate in the tasks required to create and maintain the new field. It's going to be a lot of work but it's also going to be very worthwhile. A longer, flatter runway will go a long way to increasing the enjoyment of flying all types of aircraft.

Anyway, that's all I have for now - Best wishes to all for the Christmas season.

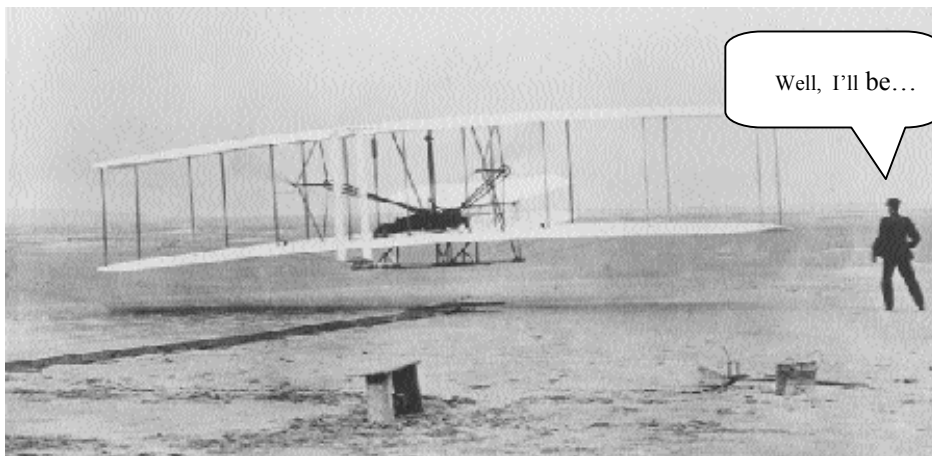
Editor's note:
John Riley

Thanks to the membership for letting me sit in the Editor's chair for another year. I suspect that the *Flypaper* format will continue mostly in its present form (although you never know when some wild and foolish new idea might hit), with exec messages, club news, and aviation related articles, all illustrated with pictures and the occasional joke. It's become easy in the last few years to incorporate pictures and illustrations, thanks to digital cameras and scanners. The only limitation to graphical content is the resultant file size for the electronic pdf version, which I try to keep within about 1 Mb. Compression algorithms can reduce the picture file size somewhat, but too much of that and they start looking sort of digital and crappy. Despite that however, we can still accommodate pictorial content, and members are encouraged to send in any interesting photos they'd like to see in the *Flypaper* (like your new plane perhaps), either electronically, or as hard copies (in which case they'll be returned promptly).

Currently about 30 or so members receive the *Flypaper* in printed form, and the other 100+ get it electronically. While those without computers can rest assured that they will always get a copy by mail, please let Paul or myself know if you have been doing so but are now online and can get it by email. Keeping the number of printed versions low saves a significant amount of time and money.....Best wishes for the upcoming holiday season.

The Wright Stuff...

(Sources: *Flying*, Dec 2003; *American Science and Invention* (1954); *World Book Encyclopedia*; various web pages)



As you may have heard, Dec. 17 marks the 100th anniversary of you-know-what, so here's a few factoids, some perhaps a little obscure, that you can work into conversations during the upcoming holiday cocktail party circuit.

The Aircraft: What's with the anhedral (downward pointing) wings, given the fact that the stabilizing dihedral effect was understood? The answer evidently, is that the Brothers assumed their flying would be close to the ground, and were concerned that a gust of wind would catch a wingtip and flip the plane over. Also, they were more interested in 3-axis controllability (overlooked in many previous attempts), rather than inherent stability. As it was, the short coupled craft was so unstable, it was barely possible to fly. With a gross weight of 750 lbs, and a wing area of 510 sq. ft., the wing loading was remarkably low - 23.5 oz/sq ft, about the same as my Sig Four Star 40. As it was, following the 4th flight of the day, a gust of wind did catch the parked plane, flipped it over (anhedral notwithstanding), and damaged it sufficiently that it never flew again, although some parts were recycled.

Another anomaly with the Wright Flyer was the canard (elevator first) design, which was in contrast to established gliders of the day, and opposite of the now regarded conventional aft tailplane design. There are two plausible explanations: first, the movement of a canard surface results in a force in the same direction as the movement of the airplane, unlike a tail mounted elevator, where a downward push is needed to pitch up, adding to the lift required to climb. The second reason offered is crash protection for the pilot, as there was a sort of cage produced by the canard design. Otto Lilienthal, a renowned glider pilot whose work was closely studied by the Brothers, was killed in a crash in a conventional glider (with the exposed pilot up front) in 1895. Sadly, a similar first happened to the Wrights: the first powered airplane fatality occurred in 1908, when following a propeller failure, a Flyer piloted by Orville crashed, killing passenger Lt. Thomas Selfridge.

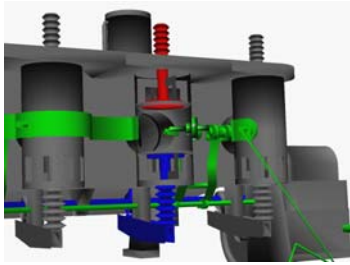
The Powertrain: Described on some web pages as "marvelous", the December edition of *Flying* magazine rather uncharitably describes the engine used by the Brothers as "wretched". That may be so in today's terms, as the 200 lb, 207 cu. in. engine only generated 12 horsepower (at 1200 rpm), but things were trickier a century ago, when it came to homemade gas engines. On the other hand, the propellers are regarded as exquisite (even by the snobs at *Flying*), with an efficiency of 68%. Together, the system produced 90 lbs of thrust, sufficient to overcome the 22 knot stall speed (not much for 3-D work though).

Gasoline engines for transportation were still fairly new; in the U.S., the first gas powered "horseless carriage" was sold five years earlier, in 1898. Designed by the Wrights, and built by hired machinist Charles Young, the early Flyer engines were noted for their reliability compared to other internal combustion engines at the time - over their careers, the Wrights produced a total of about 200 engines. The 1903 engine was a basic water-cooled horizontal 4 cylinder 4-stroke, with some interesting features. With no throttle, the carburetor was pure simplicity, and had no moving parts. Gravity fed fuel, from a modest ½ pint tank, dripped through the throat of the carb (made from a tomato can) onto a hot pan that extended from the cooling jacket. The fuel evaporated, and mixed with air in the intake manifold. The intake

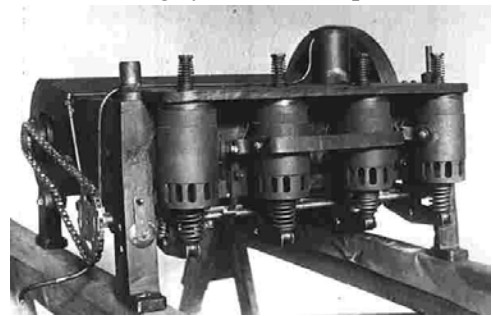
valves were like check valves – they opened in response to the suction from the intake stroke, while the more familiar exhaust valves were operated by a cam with a timing chain. Both valves opened to a combustion chamber, situated above the cylinder, which is why the compression ratio was a modest 4:1. The cooling system was imperfect – the

power produced diminished with extended running, and two of the combustion chambers (closest to the pilot) would glow red hot. The ignition system was unique too. A magneto provided the juice, which was low tension (10 volts). Rather than a spark plug, a set of mechanically operated

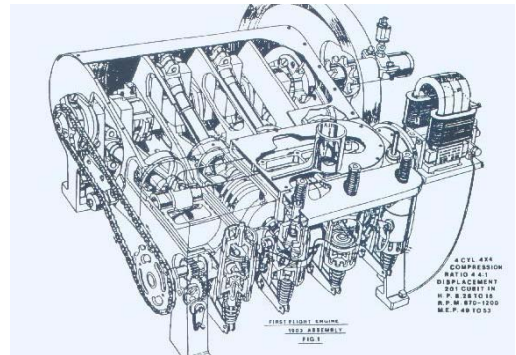
points that were normally closed would open, providing a spark.



This cross section shows the combustion chambers. The intake valve is red, and the exhaust valve is blue. Electrical components are green



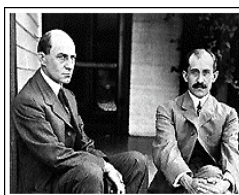
Above, the original Flyer engine, shown here mounted on a bench. Below, a cutaway drawing



The Brothers: Wilbur and Orville were the youngest of five siblings, raised mostly by their older sister Katharine (who was said to be the fun loving one). Their father, a bishop in the United Brethren church, was a strict and stoic man, and one gets the impression that life in the Wright household was a serious, sober and forthright affair. Interested in aviation since their teens, when they built gliders, the Brothers were mostly self-taught, and, as bicycle mechanics, of modest financial means. Even though powered flight had been unsuccessfully attempted by a number of big-name scientists and engineers, in hindsight it's not surprising that the Brothers were the first. Tightly focused (isn't it amazing what the lack of television can do?) and methodical, they were a far cry from eccentric backyard tinkerers, but rather could be regarded as the first aeronautical engineers. Their successful Flyer was the descendent of a series of gliders constructed over the previous three years, with constant refinement and experimentation. Among other things, they developed the first wind tunnel, using an old starch box, and they tested over 200 airfoils in it by 1901. By the time of the first flight, they'd applied for a patent for an aircraft with a 3-axis control system.

It was a mixed bag following their first few flights, with no instant fame and ticker tape parades. Uninterested in prizes and publicity, the Brothers wanted to reap a financial return on their efforts, but found themselves embroiled in legal battles with competitors, and initially not taken seriously by their government. The personal qualities that served them so well during the Flyer development were less useful for developing a business plan. Wilbur died in 1912 of typhoid fever, complicated, according to Orville and Katherine, by their court battles with rival Glen Curtiss. By the end of World War 1, the predominant American airplane was the Curtiss Jenny, not anything the Wrights produced. It wasn't until 1942, six years before Orville's death, that the Smithsonian Institute recognized the Wright brothers as the inventors of the first airplane.

The Anniversary: A group called the Wright Experience (www.wrightexperience.com) has built a replica Wright Flyer, and they will attempt to re-create the historic first flight on Dec. 17th at Kitty Hawk. Two pilots have been selected, and just as the Brothers did, a coin toss will determine who gets to try it out first.



Wilbur and Orville Wright

