



# The Flypaper

Newsletter of the Radio Control Flying Club of Toronto

est. 1957 inc. 1967

February 2003

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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:**  
<http://www.rcfctoronto.ca>

**Weather Forecast:** Continuing crappy for a while, followed by improving weather. Hopefully.



*Drop on by, pull up a chair at the cozy RCFCT Clubhouse, and be socialable! Photo taken on Feb 1.*

## The President's Message

**Richard Staron**

It's February, the days are getting longer, the itch to start flying is getting stronger, the building frenzy is increasing and it's still friggen cold out there. However, there have been a few brave souls that have been flying at our field during the winter and our hats go off to them. Since I love numbers, as of Feb 14, there are only 50 days to go till the first weekend in April.....should be no snow on the ground then.....whoopee!!! One month after that and it's the Beauty show again where you bring out your pride and joy for all to admire and judge.....so get cracking!!!

Oh yes, don't forget our Annual club swap meet meeting on March 7. Can you imagine all the stuff that our members have squirreled away for that special project but just haven't got around to it. Heck, why not sell it, get some cash and buy some more stuff to squirrel away again to sell again at the next Swap meet!!! Come on guys, empty your basements, get some cash and have some fun bartering, negotiating and helping the guys move junk...I mean good stuff from one basement to another. Hint.....new members just love collecting stuff.....(just don't ask me how I know!!) Its for a good cause.....more money in your pocket...just don't tell your spouse ☺

Interested in flying other people's planes? Drinking coffee and eating donuts? Pulling your hair out? Have you got the right stuff? Contact Curt Jones (chief flight instructor)....he's looking for additional flight and ground instructors for

this year. All kidding aside, its really is quite rewarding especially when you hand out Wings to the new pilot. Give Curt a call and support your club.

Hey guys, don't forget to bring in your latest and greatest creation (completed or not) to the next club meeting this coming Friday. Remember, anyone that brings in something to show and or demonstrate will receive a beautiful certificate worth hanging up in your workshop.

Well that's it for now guys, back to the basement to sniff more glue and to make sawdust.

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	Steve Horwat	416-439-7084	<i>s.u.horwat@sympatico.ca</i>
Treasurer	Guy O'Reilly	416-443-1299	<i>joulavert1@aol.com</i>
Field Officer	David Parton	905-430-0913	<i>dparton@interhop.net</i>
Membership Officer	Paul Battenberg	416-694-4414	<i>paulbat@sympatico.ca</i>
Wings Officer	Curt Jones	416-221-3300	<i>airport@attcanada.ca</i>

### **Non Executive 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	Romeo Ramos	416-441-0134	<i>romepamela@AOL.com</i>
Program Director	Mario Moran-Venegas	416-259-5408	<i>moran5@primus.ca</i>

**Meetings and other Events**

**February 14 / 2003**  
Club Meeting. Buy some roses too.

**March 7 / 2003**  
Club meeting. Featuring the exciting *Swap Meet*

**April 4 / 2003**  
Club meeting

**May 2 / 2003**  
Club meeting, Beauty Show

***A change in the Executive:*** Roger Villacorte has moved to California (the place ya otta be), which would complicate his duties as Wings Officer, so that position is now back in the capable hands of Curt Jones. In his announcement to the executive, Roger wrote:

“I would like to tender my resignation as Head Instructor for our Wings Program. I loved to perform those duties and help aspiring pilots for our club. I will be relocating to sunny California on the 1st week of February, and will probably instruct there as well. For sure the warmer climate will immensely help my frozen fingers. I enjoyed the camaraderie and fun that the club has shared with me, and look forward to visiting the club when we do come back for vacation in the future. I wish the club well and for more future pilots to enjoy this great hobby of ours.”

We wish our friend well.

## **From the new, sort of old, Wings Officer: Curt Jones**

I'd like to thank Roger for taking over the Wings program, even though his stay was shorter than we thought it would be. Most of the members already know me, and for the newcomers, I would like to introduce myself. I ran the wings program last year, and we had fifteen students gain their wings. I hope most of them would say that it was a fun time, with a few nervous moments in between. For the newcomers now, come on up

and introduce yourself to me at the meetings. Bring your questions, and, as I've suggested in the past, bring your plane to the meeting too . This is so we can check out your plane, and advise what you may have done wrong or right, before you get out to the field. We've seen in the past the new student who comes out all ready to get his plane up in the air, only to be told that it won't fly that day because it needs work. The poor guy goes home all pissed off, sometimes won't even come back . So if any new students have any questions about how to do something, or what is the right way to do something, just ask us. That way, when the first nice day comes around, you can be confident that it will fly.

As for the instructors, I would like to thank them for all the work that they did last year. This year I would like to have a few more new instructors available. Is there anyone who would like to donate some of their time to instructing ? Come and see me. It doesn't have to be every Wednesday and Saturday - maybe just once a week . But we do need some new blood and help to run this program.

A reminder about the rules the club has set out for training: the *only* official time that training happens is on Wednesday afternoons until the evening, and Saturday mornings from 9am to 12 noon. Students can fly with an instructor at other times, as long as it is on a one-to-one basis at a convenient time for the instructor. All instructors have to use buddy boxes , unless the student is capable of flying the plane, and can take off and land on his own.

## Editor's Note:

*John Riley*

I was asked to remind everyone that membership renewal time is coming to a close – time to get those cheques in! Those who haven't renewed by March will cease receiving the Flypaper – *and wouldn't that be a shame.*

## A Donation Request from the Aerospace Heritage Foundation of Canada:

RCFCT member (and former Secretary) Keith McLaren is also a Director of the Aerospace Heritage Foundation of Canada (AHFC). On behalf of the AHFC, Keith has a request for us: they're looking for an RC model aircraft, preferably a warbird, (but will accept anything) that has all control surface functions working, that they could use for demonstration purposes to the various Air Cadets around the GTA. This would mean that an old radio with receiver, servos and batteries would be required also. It could be an old AM one that someone might have kicking around. No engine would be needed, as it will never be flown. Although the items would have to be donated, you could quite likely get an income tax receipt for a charitable donation. Here's a bit of background information on the AHFC (from their website, [www.afhc.org](http://www.afhc.org)) and the Air Cadets ([www.aircadetleague.com](http://www.aircadetleague.com)):

### THE AEROSPACE HERITAGE FOUNDATION OF CANADA - Who are we?

The Aerospace Heritage Foundation of Canada, is a group of aviation pioneers and enthusiasts, who are trying to gather plans, models, parts, drawings, photography or any artifacts relating to Canada's great aircraft manufacturing industry of the era from 1945 to the mid 1960's with particular interest in locating any memorabilia relating to the A.V. Roe company.



One of our goals is to locate and retrieve at least one of the nine Avro Arrow models that were fired aboard Nike Booster Rockets into Lake Ontario 40 years ago for Vehicle Configuration Aerodynamics testing, as there were no large scale Supersonic wind tunnel facilities in those early days.

**Objective:** - "Promote past and present achievements of the Canadian aerospace industry and it's pioneers"

- To ensure that Canada's aviation history and key contributions will be delivered to our young Canadians to fire their imaginations for their careers in the future developments of Canadian Aerospace.

## Air Cadet League

- There are over 25,000 Air Cadets in 444 squadrons across Canada.

Part of their Mission Statement:

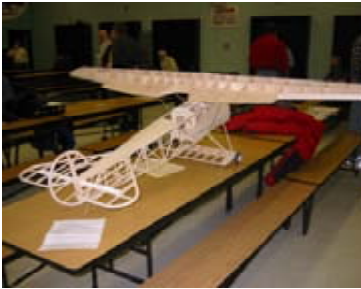
-To promote and encourage among young people a practical interest in aeronautics, and to assist those intending to pursue a career in the field of aviation.

-To provide a voice in Canada for the Air Cadet Movement as a whole so that the Canadian public are kept aware of the accomplishments and capabilities of the Movement and of its ability to fulfill its aims.

-To advise and assist the Canadian Forces in developing and improving Air Cadet training programs, manpower needs of the Cadet Instructor Cadre, and in resolving problems relating to the implementation of policies and procedures.



### From the Last meeting...



There were 44 people in attendance at the January meeting – not a bad turnout, although there’s easily room for more. Jack Humphries gave an interesting talk about MAAC, and FAI competition. About \$20,000 of the MAAC budget supports world championship competition, and in 2004, the F3J RC glider competition, an event that Canada is strong in, will be held in Calgary – make those vacation plans now....Shown to the left is the frame of Don McDougall’s Focke D.VIII, from a Balsa USA kit. Don plans to power it with a Saito 150....A number of certificates were handed out in recognition of members who participate at club meetings, including Romeo Ramos, for supplying coffee and donuts to meetings for *five years*. Speaking of coffee, it’s now served only at the break, to avoid the noise and

distraction that was occurring during presentations. Richard asked us all to be courteous, meaning *quiet* during presentations, and hopefully everyone will honour this very reasonable request. Talks and presentations are among the highlights at club meetings, and we don’t want them to dry up because presenters are fed up with noise....Shown to the right is Curt Jones’ RV3, with a wingspan of 84”. Constructed of balsa and plywood, Curt expects this puppy to weigh about 20 lbs when finished. The engine is a Saito 300 twin, and the plane will be tried out for glider towing. Pictured below, left, is Richard Staron’s regulated vacuum pump, the intended purpose of which is to be used for vacuum bagging. Hey, maybe somebody could give a talk about how that works....



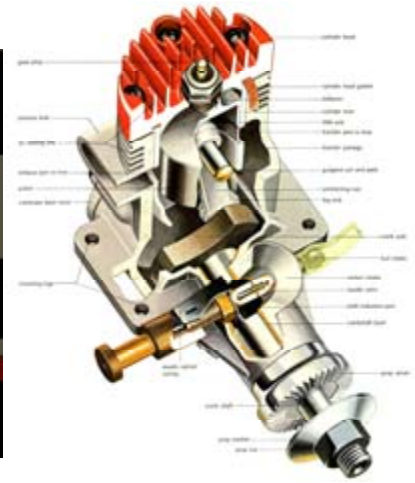
Hans Paule showed plans he has for the 1903 Wright Flyer. He hopes to have a model ready for the beauty show, and suggested that he could assist others in getting plans too, so they could do the same. This being the centenary year and all, what more appropriate choice could there be?

### Upcoming...

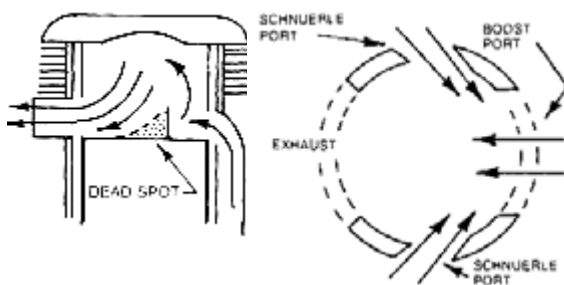
This’ll be good – Ron Chapman has agreed to give a talk at the next meeting, probably focusing on radio system connectors and switches, and the associated reliability issues. A founding member of the RCFCT, Ron is noted for his original design, huge aerobatic aircraft that are powered by his own engines. Ron is also a champion pattern flier as well – so prepare your questions for Ron about pretty much anything to do with RC flying.

## Factoids about model glow plug engines

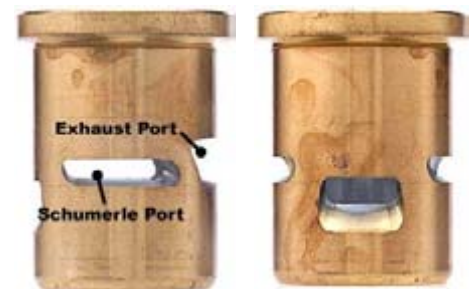
Our membership of course has devotees of gliders, electric and gasoline powered planes, but most of us use glow engines, and probably most of us got started with two stroke glow engines. Sometimes cited as the most powerful of internal combustion engines, these unique, semi-diesel engines are pretty neat – at cocktail parties, lay people tend to be impressed when told that your .40 size engine develops (theoretically at least) 1 horsepower. So here is some model engine info that will be old hat to many of you (feel free to correct any errors), but perhaps sort of interesting to some.



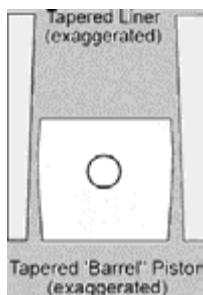
**Schnuerle:** How do you pronounce this word anyway? Hard enough to spell. Anyway, Schnuerle porting for 2-cycle gas engines was patented in 1925 (by, I would guess, Mr. Schnuerle), but didn't really appear much in model engines until the 60's. The diagrams show how it increases power by packing more fuel/air mixture into the cylinder. While loop scavenged engines, with a baffle on the piston, are one way to allow the exhaust out and keep most of the fresh mixture in, Schnuerle engines, with their more elaborate boost and transfer ports, do a better job of cramming more of the mixture in, directing the intake away from the exhaust, allowing greater combustion and more power.



*On the far left, conventional porting leaves a dead spot. Left, a top view of a Schnuerle ported cylinder – the ports are angled, which can be seen in the photos of model engine cylinder liners to the right.*



**Know your ABC's?:** Glow engines are typically advertised as either *ABC* (type) or *ringed*. ABC engines have a close fitting piston/cylinder assembly, and the letters are metallurgical in origin – Aluminum piston (high silicon content), with a Brass cylinder liner that is Chrome plated. The deal with the different metals is that they allow for different rates of expansion in the components resulting from heat. If the piston and cylinder were made from the same material, they'd seize up as soon as they got hot; with an ABC design, piston/cylinder clearance is better maintained when it's hot. The chrome provides a durable surface – sometimes this is replaced with nickel, which is less expensive (ABN). Ringed engines use a piston ring, similar to the familiar automotive type, to ensure a good piston/cylinder seal. Sometimes a *Dykes* ring is used – these appear near the top of the piston, and have an L-shaped cross section. Dykes rings seal against the cylinder wall in response to cylinder pressure, and have the advantage of less frictional drag when under less pressure at the bottom of the stroke.



Engines generally don't have perfectly cylindrical pistons and liners, but rather, as illustrated on the left, barrel shaped pistons, and tapered cylinders. The cylinder taper is typically 0.002-0.003 inches per inch of liner height, and the reason why is that a close fit is only needed near the top of the cylinder, to ensure good compression and a seal during the power stroke. Reducing the friction lower down translates into less wasted heat generated. There are four reasons for the barrel shaped piston: 1) to reduce contact friction with the liner; 2) to form a sealing oil wedge at the top of the piston; 3) the piston is hotter at the top and therefore expands more there; 4) to avoid catching the ends of the piston on the ports as it slides past.

**Pioneers:** Below are photos of a few of the gents that played a role in the development of model engines, helping make things fun for all of us:

*From left: Shigeo Ogawa, founder, O.S. Engines (nice suit!); Clarence Lee, engine guru and longtime RCM columnist; Gen Saito, founder, Saito Engines; Duke Fox of Fox Engines; Bill Brown, who built one of the first model engines in 1929, and whose engine powered the first RC model plane.*



## For Sale:

Unionville Hobbies 8 ft. De Havilland Beaver, complete with 90 O.S. 4 stroke engine and Futaba F G series FM radio. Fabric and dope finish. ----- \$500.00

7 ft. converted free flight model called Power House, complete with 60 O.S. 4 stroke engine and JR FM radio. Fabric and dope finish. ----- \$350.00

Twin engined model called Magnum 96, equipped with 48 OS Surpass engines and Futaba FM radio. Fabric and dope finish. ----- \$600.00

Goldberg Extra 300 S Complete with Super Tiger 60 2 stroke engine and Futaba FM radio. Fabric and dope finish. ----- \$500.00

1937 Scale Model Beechcraft Staggerwing, complete with 70 OS Surpass engine and Airtronics FM radio. Fabric and dope finish.----- \$600.00

For more information, or to take a look, call Lloyd Hunter at 416-438-4103.

### THE ORIGINAL AEROWORKS EDGE 540 T

- 108" WING SPAN – 26 LBS
- 3W 80B2 – 7.5 HP TWINN CYCLE ENGINE
- 3W ELECTRONIC IGNITION
- 24 x 11 MENZ PROP
- JOHNSON SMOKE MUFFLERS
- ALL SERVOS (JR + HJITEC)
- AWESOME VERTICAL PERFORMANCE

### Special bonus:

ONE YEAR FREE MEMBERSHIP AT PRIVATE 200 ACRE FLYING SITE !!!

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