



# THE BURLINGTON RC FLYER'S NEWSLETTER

Volume 20 No.2

A.M.A. Chapter 1752

April 2003

## MEMBERSHIP MEETING

**April 8, 2003**

Place: Lexington VFW HALL  
2 Hayes Lane (off Woburn St) Lexington, MA  
Time: 7:30 to 10PM

### RAFFLE

Prizes:

Tower Hobbies Kaos 40 ARF  
2 Tower Hobbies Tower Power Glo-Starters  
2 Gals Fuel

Show & Tell (bring a plane for a free raffle ticket)  
Coffee and donuts

## Club Activities

### Field Day

**April 13 at 10 a.m.**

*(rain date April 27)*

followed by an impromptu fly-in  
approx 12:30 p.m.

### Two fun flies are planned:

**May 11 at 10am**

*(rain date May 18)*

**and**

**July 13 at 10am**

*(rain date July 20)*

## Secretary's Report for Membership Meeting held on February 11, 2003

The meeting was called to order at 7:36 P.M. The Secretary's report was read and accepted. A new member, Bob Pawlak, was introduced. The treasurer reported a balance of \$1432.59 as of the date of the meeting and John Hatfield stated that membership stood at 60.

### Old Business

Sandy Holmes passed out copies of the relevant part of the by-laws which states that an expenditure of more than \$200 requires a vote by the membership, and that buying the new lawn mower had violated this by-law.. He asked whether a landscape company had been contacted to mow the runways. Larry Oliver agreed with Sandy Holmes's position and said that he had a mower, which needed minor repairs, that the club could have had. Jack Stanley suggested that the Board of Directors propose an amendment to the by-laws permitting the expenditure of more than \$200 in an emergency without membership approval. Juhan Sonin said that before buying the new lawn mower we were mowing the field by hand, which was unacceptable. The lively discussion was summarized by Bob Johnson. He pointed out that the club was founded for the flying of radio controlled planes and that having mowed runways was essential for that purpose. Also, as a non-profit organization, we do not need a large bank balance at the end of the year.

### New Business

Jack Stanley passed out all-season flying buttons to those who recently flew in the snow. Juhan said that orders for fuel were being taken and that the bulk order would be placed in two weeks time. It was decided that there would be a Frozen Finger Fly on March 9 where coffee and donuts would be provided. Juhan offered to collect the frequency channels used by members for display on the web page.

### Show and Tell

Bruce Frederick showed his electric Hi-Tech Sky Scooter plane. He said it flew slowly, was pretty stable, and had a flight time of about 5 minutes. He said the weakest link in flying the plane was the pilot! Bill O'Connell showed his new Ultra-Stick 120 which had not yet flown. Mel Suarez brought his new helicopter, and demonstrated the control functions. Bob Johnson showed his new 4 stroke Sig 40 "It was sort of scale and fun to build". He said that the 21<sup>st</sup> century covering turned out well. It costs a little more but does a great job. Rob Frederick brought his new Hanger Ultra-Stick, which has a 4 stroke engine. Teddy Wang showed his Dragonfly and Uproar plane models, which he said were for sale. Mel Suarez talked about a fun fly that he had attended, flying off Martins Pond in North Reading. The raffle winners were Don Furia ( flying wing ), Bob Riser ( fuel ) and Jerry Tabler ( glue ).

The meeting adjourned at 9:10 P.M.  
Alfred Prudhomme Jr, Secretary.

### TREASURER'S REPORT (Gil Levey)

Balance 1/16/03 \$ 1432.59

#### INCOME

Dues	\$ 590.00
Coffee	\$ 13.00
Raffle	\$ 114.00
Interest	\$ .67
Mower contribution	\$ 150.00
TOTAL Income	\$ 867.67

#### DISBURSEMENT

Donuts/Coffee	\$ 13.57
Postage	\$ 49.60
Newsletter	\$ 63.00
Raffle	\$ 60.00
Web Site	\$ 119.40
Flyer Patches	\$ 32.00
TOTAL Disbursements	\$ 337.57

**BANK BALANCE** 3/15/03 \$ 1962.69

### MEMBERSHIP REPORT

**John Hatfield**

Membership as of 3/23/03 76

### CALENDAR OF CLUB EVENTS

**2003 Membership Meeting Date:**

**June 10 Sept 9 Nov 11**

### Club Officers

President:	Juhan Sonin
Vice Pres.	Rob Catalano
Secretary:	Al Prudhomme
Treasurer:	Gil Levey

### FLIGHT INSTRUCTION

**Any new member desiring to fly MUST demonstrate the ability to fly, or else take Flight instruction until such proficiency is demonstrated.**

#### Flight Instructors

Sandy Holmes	(781) 646-2354	
Jack Stanley	(781) 272-5597	
Bob Johnson	(781) 272-5442	
Alex Lob (Helicopter)	(617) 325-7870	
Juhan Sonin	(617) 504-3390	
Paul Chiasson	(978) 657-0135	
Teddy Wang	(781) 258-7318 cell	(781) 275-4510 home
Victor Samsanov	(781) 279-0231	

### The President's Letter

The Frozen Finger Fly-In was held on a windy March 9th Sunday morning. Ten people attended; 8 braved the blustery winds and flew. Bill O'Connell flew his Ultra Stick 40 (minus the landing gear), Rob Catalano flew beautifully off the snow with a ski-equipped high-wing, and Ricardo Meira flew his cub (also equipped with skis). There were no major crashes - just a few hard landings and lost gear. Jack Stanley and I ate most of the donuts.

The club will be holding its first field day on Sunday April 13th beginning at 10am. Flying will be suspended until the clean-up is finished and can resume at 12:30pm. Please join us for the field day and an impromptu fly-in afterwards. (Rain date: April 20)

Our first fun fly will be held on Sunday May 11th beginning at 10am. The events will be open to all, beginners and advanced alike. Buddy boxes for beginners are welcome! Although only club members can fly (and win prizes), family and friends should join us for great food and fun (Rain date: May 18).

See you on the field,  
Juhan

## **Aspect Ratio and Roll Rates**

This article has been taken from "Model Aircraft Aerodynamics" by Martin Simons, published by Nexus Special Interests.

High aspect ratio models are inherently slow in roll. This is partly because of the mass of the long wing, which opposes any force tending to initiate the roll, and, once the roll has begun, resists any force tending to stop it. More important, however, is the effect of aerodynamic damping. In a roll, the down-going wing experiences an increase in angle of attack, and the up-going wing a decrease. This applies only during the roll movement. When the roll has settled to a steady rate, inertial resistance disappears, but the down-going wing has a higher angle of attack and the up-going surface has a lower angle of attack. This generates lift forces opposed to the roll. To keep the roll going, a powerful force against the aerodynamic damping must be provided, using the ailerons. The long span of a high aspect ratio wing compels the outer panels of the wing to move through larger arcs for a given rate of roll. This creates larger damping forces. Accordingly the force to keep the roll going must be greater. Either large ailerons are required, or they must be moved to larger angles, or other controls such as tip spoilers, etc., may be used to reinforce aileron effects. Many model sailplanes are controlled in roll entirely by the secondary effect of the rudder. As the aspect ratio rises this method becomes less satisfactory because the rudder is relatively ineffective in overcoming the rolling inertia and less efficient in countering wing aerodynamic damping. On the other hand, once a high aspect ratio wing has achieved a desired angle of bank it resists all forces tending to roll it out of the resulting turn, so such models may be steady in circling flight.

A further difficulty results from the increase of speed of the outer wing tip during a turn, with a corresponding decrease of speed on the inner wing. This causes the lift forces of the tips to change in a manner tending to steepen the angle of bank. Control of man-powered aircraft with spans over a 100 ft has proved very difficult partly because of this effect. In full-sized sailplanes, it is normally necessary to hold off bank in turns, by applying aileron against the turn direction. Model sailplanes require the same type of control. To maintain a steady rate of turn in a thermal a little aileron trim against the turn may be needed.

### **Improvement of Aileron effectiveness**

by the prevention of air leakage through the hinge gap as determined in flight.

(This applies to our models as well.)

by Soule, H A Gracey, WNACA TN-632-1938

A flight investigation was made of the increase in effectiveness of ailerons that can be obtained by preventing flow of air through the wing at the hinges and of the possibility of reducing the aileron operating force by replacing ailerons having normal open hinge gaps with narrower but equally effective ailerons having sealed hinge gaps.

Tests were made with a Fairchild 22 airplane with two sizes of plain unbalanced ailerons, one set having a chord equal to  $0.18c$ , and the other chord equal to  $0.09c$ .

The results of the investigation show that improvement of lateral control effectiveness is obtained by completely preventing the flow of air through the wing at the hinge axis of conventional ailerons. The magnitude of the improvement depends on the aileron chord. For the  $0.18c$  ailerons the gain in aileron effectiveness due to sealing the gap at the hinge axis was of the order of one-fifth and for the  $0.09c$  ailerons the gain was about one-third. The importance of sealing the gap was demonstrated by the fact that the  $0.09c$  ailerons with a slight increase in deflection range were made as effective as the  $0.18c$  ailerons with an unsealed gap but required only about one-third as large an operating force.

For the complete story, check out:

<http://naca.larc.nasa.gov/reports/1938/naca-tn-632/naca-tn-632.pdf>

# The Flyer's Newsletter

## Burlington R/C Flyers Board of Directors

**President** - Juhan Sonin      **Vice-President** - Rob Catalano  
**Treasurer** - Gil Levey      **Secretary** - Al Prudhomme  
**Directors** - Jack Stanley, Larry Oliver, Teddy Wang

This newsletter is published by the Burlington R/C Flyers, a non-profit club organized for the promotion of radio-controlled model aircraft building and flying. The club operates a flying field in Burlington MA and offers free instruction in safe model flying to any member.

"Academy of Model Aeronautics" (AMA) membership is a requirement.

Contact any club officer for information.

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