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# Skywords

The Newsletter of the Burlington Radio Control Modelers Club

www.brcm.org

April 1999

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## BELIEVE IT OR NOT!

A transmitter pin was placed on top of a pin already on the frequency board! It

was thought that this would not matter since the second transmitter “would only be used for ground testing!” The legitimately flying aircraft missed being “shot down” by a combina-

tion of sheer luck and considerable skill on the part of the pilot who only had sporadic control but managed to get the model down intact.

Surely, it is commonly understood that two transmitters operating on the same frequency will cause catastrophic loss of control – isn’t it? That’s why we have the impound/quarantine area for transmitters isn’t it? (*I can’t believe I had to write this. Ed.*)

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## THE PRESIDENT WRITES

I would like to take a minute to note the passing of one of our long standing members, Clay Coons, and the wife, Melanie, of Gary Seamans. I am sure all feel the sorrow that this loss brings to the family members and express our sympathy to them during these difficult times. Donations have been forwarded to the Cancer Fund in their names.

As the season brightens and warms up, I would like to remind all members of the proper field etiquette while at the flying field. Since our Bronte field remains closed for the duration, this will put an extra load of flyers on the Bayview field. Please remember the common sense rules that have been established for the safety and enjoyment of our hobby. If in doubt, please read the rules that have been posted at the transmitter impound. We all tend to get a little lazy over the winter months, when there are only a few flyers enjoying the facilities. So with the coming of the warmer weather and the additional flyers, please remember

to move your aircraft into the pit area when not starting the engine. When you are starting the engine, move to the startup area at either end of the pits. Please observe the rule of only six pins on the frequency board at one time, and each pin should have a channel number and name on it for easy identification.

**Next Meeting: Thursday,  
April 22, 1999  
Swap Meet & Video.**

This month, we have the “Garage Sale” where one man’s junk is another man’s treasure and, hope-

fully, everyone will bring out their useful items and some of the not-so-useful.

Next month will be the Mall Show at Mapleview. See details in “Coming Events”. This is usually an excellent exhibit of our aircraft for the public to see and appreciate.

I look forward to seeing everyone at the April meeting with all their worldly goods that they wish to trade for other worldly goods.

Have fun, fly straight, and fly safely.

Bill Swindells

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## EDITORIAL: BOY KILLED BY RC MODEL.

A tragic accident where a Radio Controlled Model Aircraft killed an 11 year old boy may serve to remind us of the potential dangers of our hobby. We must learn from this tragedy. We have rules in place designed to protect Club members and the general public as best we can but a prolonged period of uneventful flying can lull us into a false sense of security. Clearly, we must do everything we can to ensure that we operate in as safe a manner as possible. We must not endanger human life through careless disregard of rules. If we are perceived to be careless, we will quickly loose our flying fields.

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I have seen no suggestion of negligence on the part of the Phoenix Club that was running the event where the accident occurred. Indeed, there seems to have been a concerted effort to keep spectators away from areas considered dangerous. Nevertheless, predictably, one press item about the accident included a list of all similar accidents including a fatality in which an RC aircraft collided with a hang glider!

Although the loss of a child is the focal point of this tragedy, the associated liability issues inevitably arise. The March issue of Skywords highlighted the need for 100% of our membership to have MAAC registration in order to provide liability insurance for the Club. I thought the item expressed this requirement in clear and unambiguous terms. I was therefore somewhat dismayed by questions at the March meeting which suggested that non-flying members should be exempt. I can but reiterate that MAAC membership is mandatory for all BRCM members.

This tragic accident occurred in the UK which does not have a plethora of voracious litigation lawyers with which we are blessed here in N. America. I leave you to think about the probable course of events following a similar tragedy here. I further leave you to contemplate the consequences to the Club and it's members should we neglect to ensure that we have liability insurance through 100% compliance with MAAC rules.

## FINANCES

The executive committee has agreed that we will not publish the financial statements in Skywords. Sufficient to note that the Club is in good financial shape. Full details are available to members attending the monthly meetings.

## WINGS PROGRAM

*Bud Childerhose is running this program. Bud Writes:*

The two dates for ground school this year are Saturday May 1, and Saturday May 8. Another one will probably be held in July or August depending on requirements. The sessions are held at the Club House at Bayview Park on King Road 10:00am to 12:00 noon. Bring your plane and equipment for check out.

Ground school is MANDATORY for all new students. ONLY ONE IS REQUIRED whether it be taken this year or taken in a previous year.

Anyone can attend for the rules discussion or the "prop to tail" general information presented.

This year will see the introduction of the dreaded TEST of Club and MAAC rules. Some say the old farts should take the test

before they can sign up for the next season, but that's only a rumour, now.

*We are short of instructors and Bud is trying to sort this out. I have one volunteer to teach mode 1 flying. He says it's good for south paws and that all the competition pilots use mode 1 anyway. I don't know if I believe this but it could be true. No, this isn't John Cook. He can fly either mode and doesn't seem to notice the difference! Ed.*

## COMING EVENTS:

April 30 – May 2, 10:00 – 18:00 Toronto Aviation & Aircraft Show in the Hangar at Downsview. Organizer is Fred Massacar of the Bramalea club. Contact **Richard Fahey** for further details.

May 21-23 – Maple View Mall show. **Dave Parry** coordinating this. Set up on Thursday, May 20 after 9pm, breakdown on Sunday, May 23 after 5pm

June 12 & 13 – Float Fly at Christie Park. Also in September sometime. (Date corrected 26April99. Ed.)

June 26-27 Otterville Air Show and Fun Fly at Rene Goossens Trout Farm, RR2 Otterville: 24KM South of Woodstock on hwy 59. There will be a free meal for each flying pilot. Presumably, Trout figures prominently on the menu! On Sunday, 27th there will be a Barn Storming contest with a \$300 prize for the first pilot to fly through a "Barn" with two windows 21" high by 47" wide. Info: David Neale at 519-688-6824 or cbam@kwic.com.

July 1st – Canada day festivities - Fun Fly, at the Bronte field.

August 7th – Tri Club meeting hosted by BRCM at Bronte. The organizer for this event is our new President: **Bill Swindells** who will doubtless be looking for volunteers.

Corn roast 4th weekend in August

September 11-12 – Kitchener/Waterloo Scale Rally.

## EVENING MEETING PLANS

*Plans are afoot to entertain, amuse and inform you about some of the good stuff. Thanks to Norm Harris for this.*

**April:** Swap meeting and video presentation(s). If you have stuff you want to buy, sell, scrounge or otherwise mess with, why not let members know about your heart's desire (with respect to RC stuff!) through an item in Skywords. Email, write or phone the editor.

**May:** Show and tell in which you bring your model(s) in pristine condition before you've had a chance to crash it (them.)

### ABOUT SOME OF OUR MEMBERS

*I would very much like to learn of member's building and other plans – whatever they may be.*

**Bud Childerhose** writes:

So what am I building? The kit I won at our club draw, a Staudacker (looks like a 300) by ACE. The fuse and wings are framed out. Tail feathers will be next and hardware mounting next week.

It hasn't been without surprises. While trying to bend the side of the fuse to match the plan contours I encountered a particularly strong and straight left side. You might know how this goes but it was bend and snap back, bend bend, snap back, bend bend and bend some more with a loud SNAP. Then great 20/20 hind sight strikes with: "Dam, I should have soaked it longer."

God bless epoxy!

Happy Landings, Bud

*Bud is the only one to write about what he's doing so I'm going to change my technique to 1) select a victim at random, 2) put him on the rack, 3) stretch until I get a story out of him! Why does Sheherazade come to mind in this context? Ed.*

### WANTED / TRADE

This note from <jemmco@interlynx.net> (Patrick)

I have a plane I am looking to trade for a trainer, I am looking to get a trainer for my kids to learn with this year. I would like a complete ready to fly unit including engine and radio. So long as it is a basic type, any airplane will do. Used but not realllllly abused would be best. The radio needs to be decent.

I have to offer 1/7 scale Topflight GOLD edition P51 D 100% built and covered, and 95% painted in reno red white and blue. Robart Pneumatic retracts Scale Spinner. Near new (1/2 gallon through) ASP .90 2 cycle with hide a way muffler installed. Servos built in for flaps (1) ailerons (2) retracts (1 mini to actuate valve) and all decals and plans etc that came with the kit.

Give me a call if you want to trade up, cash and trade O.K.

Patrick (905) 383 4399

*Our Web Master has replied and suggested Patrick attend our Swap meeting in April. Ed.*

### ABOUT FLAPS AND FLAPERONS

*Here's some more writings from my favourite oracle: Harry Curzon. Harry occasionally writes in the rec.models.rc.air news group. I am pleased to report that I have Harry's permission to publish. This note starts with a query from:*

jim.mcintyre@hrdc-drhc.gc.ca who wrote in message:

When I fly a full size Cessna 152, The stall speed with flaps is 10 KIAS less than with 15 degrees flaps? This would seem to indicate that lowering flaps lowers the stall speed. So, if flaps reduce stall speed, wouldn't the stall speed of the wing section with the ailerons (dipped as flaps) have a lower stall speed then the inboard section of the wing (sans aileron effect)? Therefore the inboard section of the wing should stall at a higher speed, thus preventing tip stall? Or does the resultant higher AOA cancel this reduced stall speed (and then some)?

*To which Harry replied:*

Yes Jim, flaps lower the stall speed, but the wing will still stall at much the same Angle of Attack as before. There is a common misconception that flaps increase lift by increasing the AoA - they do, but that does not reduce the stalling speed! Imagine a plane in level flight, lift = weight.

Putting the flaps down increases the AoA which increases the lift so the plane starts climbing, in order to re-establish level flight you have to push the nose down to reduce the AoA of the wing back down again until lift = weight, in which case it would be pointless as far as reducing stall speed is concerned. Lowering the flaps changes the camber of the wing, and that increase in camber means an increase in the lift co-efficient of the wing section, so at the same AoA and same speed the wing will develop more lift.

Now, since lift > weight you can reduce the AoA until lift = weight, and now the wing is at a lower AoA than it was before using flap. Thus if 2 identical aircraft are flying at the same speed, the one with flaps down will actually be at a lower AoA because its wing has a higher co-efficient of lift. Both aircraft can reduce speed and maintain straight line flight by raising the nose until the stalling AoA is reached. Since the plane with flaps down is at a lower AoA than the one with flaps up, the plane with flaps down will still have a few degrees of AoA left when the un-flapped plane reaches the stall angle. Thus the flapped plane can slow down further yet and keep lifting the nose until it too reaches the stall angle at much the same angle but at a lower speed than the unflapped plane.

Remember that AoA and nothing else determines the stall. Each type of wing section and planform has a critical AoA at which it will stall, irrespective of speed. In 1G flight the plane will stall at its quoted speed, in a turn with 90 degrees of the bank the stall speed is at infinity, in a zeroG pushover the stall speed is zero knots.

Putting both the ailerons down increases the camber and therefore the lift co-efficient of the wing in that area. It also increases lift due to the increased AoA. To maintain straight line flight the whole wing must reduce its AoA until lift=weight again. But all the time the part with ailerons down will be at a higher AoA than the rest of the wing. The increased camber due to ailerons down will increase the mean lift co-efficient of the wing thereby lowering the stall speed of the wing, but the first bit to stall will be the highest AoA which is the drooped ailerons. If the ailerons are turned up, the camber is reduced, the mean lift co-efficient is reduced and the stall speed will rise very slightly, but the part where the ailerons are will be the last part to stall. The change in stall speed will be very slight and any pilot will be more than glad to give up a few knots of stall speed in return for a straight forward stall instead of a tip stall. In a model it is doubtful that you could tell the difference in stall speed but you will certainly tell the difference in stalling behaviour!

Harry

**OOOPS!**

*This one's about me. Ed. All other confessions will be published!*

I had just carefully gone over my nice new Ultra Sport 60 with finishing resin to make sure that it was fuel proof in all the right places. I included the dowel pins in this exercise. Now, for the very last job before it's ready to fly: seal the wing saddle. To do this, I thought I would try the Silicone Sealer technique; you know: cover the wing in waxed paper, spread the goo on the saddle, fix wing in place and wait for it to dry. Simple eh?

Well, unfortunately, the dowels would no longer fit in the holes 'cos of the varnish and by the time I had finished struggling with it I had Silicone Sealer all over the place. Helluva mess. Bah!

**WHY DID THE CHICKEN CROSS THE ROAD?**

**TEACHER:** To get to the other side.

**ARISTOTLE:** It is in the nature of chickens to cross roads.

**KARL MARX:** It was a historical inevitability.

**CAPTAIN JAMES T. KIRK:** To boldly go where no chicken has gone before.

**SADDAM HUSSEIN:** This was an unprovoked act of rebellion and we were quite justified in dropping 50 tons of nerve gas on it.

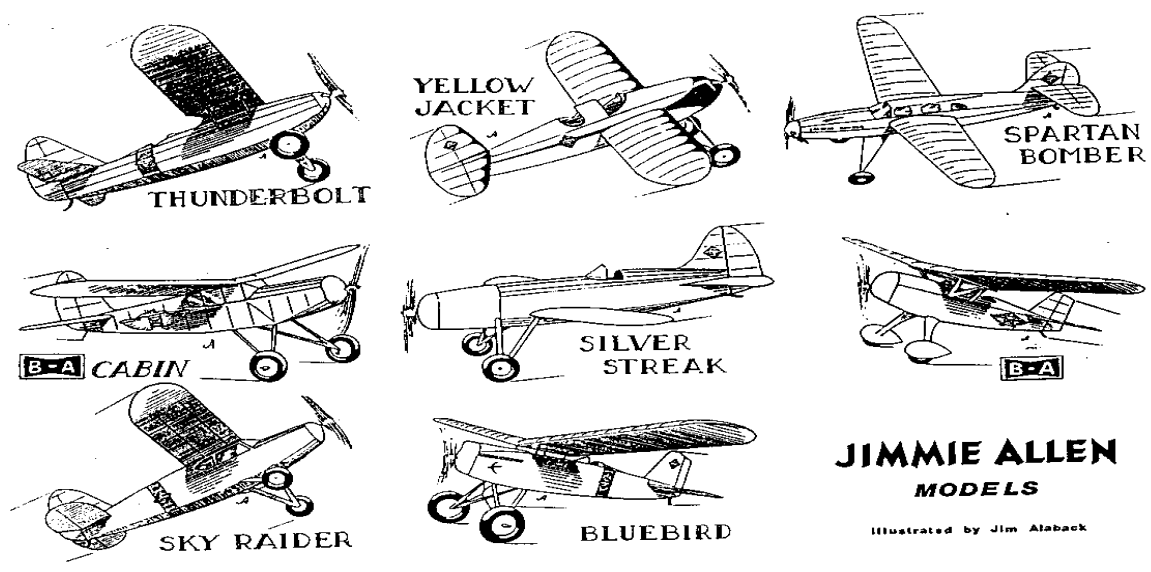
**ANDERSEN CONSULTING:** Deregulation of the chicken's side of the road was threatening it's dominant market position. The chicken was faced with significant challenges to create and develop the competencies required for the newly competitive market. Andersen Consulting, in a partnering relationship with the client, helped the chicken by rethinking it's physical distribution strategy and implementation process. Using the Poultry Integration Model (PIM), Anderson helped the chicken use it's skills, methodologies, knowledge, capital and experiences to align the chicken's people, processes and technology in support of it's overall strategy within a Program Management framework.

*So? Do you have a better story? Ed.*

**OTHER NEWS**

*This item from Dick Fahey is about indoor flying in the fall.*

While the Burlington RC Modelers Club is just as the name implies; radio controlled, engine powered aircraft are not the only types flown by members. Fred Madden and the control-line group have enjoyed a summer of increasing activity in the Cir-



cle. Its tidy condition is a credit to that group of flyers who do much of their own grass cutting.

Occasionally, reports have been made to the Club about Indoor flying by the writer. An offspring of the Club – the Tigertown Squadron #40 of the Flying Aces Club – took over operation of the annual Indoor flying sessions which began, under Club auspices, in the 1989/90 season and have continued each year since. We fly indoor models – including RC – in the gym at Aldershot High School for the flying season. Anyone who would like more information on this challenging type of flying should contact the writer at 905-637-5469 and we'll mail you a copy of the schedule for this fall. Several of our BRCM members turn out regularly for Indoor flying:

Howard Adams, Ted Toth and Ken Burtch along with folks like Doug Wilkins, Greg Gallo and Stew Watson from the Hamilton area; Sam Burke, Richard VanWyngaarden and Steve Grey from the Kitchener-Guelph area; and Jim Lee, Bob Krug, Al Baker and Frank Loates from Brantford-Cambridge. Bob Jennings and Chris' Brownhill attend regularly from Mississauga and we often see Toronto's John Marrett (our Indoor MAAC Chairman) and Richard Miller from Buffalo.

Another activity arranged by the Tigertown Squadron takes place every second Saturday morning at the Beverley Community Centre, Rocton. Many of the Indoor folks listed come out regularly during the May – September months to fly outdoor, rubber powered, electric, and 020 powered free flight models in accord with Flying Aces Club rules. This past summer we had a challenge from the San Diego Orbiteers Club to enter a team postal contest for authentic "Jimmie Allen" designed models. These models were all designed in the '30s and, while they fly well, they are tricky to adjust for maximum flight times.

Ted Toth and I have been working with the Oakville Air Cadet Squadron while Fred Madden has been working with the Milton Air Cadets. Some Cadets from both Squadrons are building RC models at home now and are prospective members of their local RC clubs. We'd like to see similar work with the Burlington Air Cadet Squadron with liaison from the BRCM. If you'd care to get involved, call Dick Fahey at 905-637-5469.

## FACTS ABOUT FUEL

*This is the forth of five articles submitted by Ernie Fryer. I have edited this for the sake of brevity.*

No. 4 - 2-Stroke vs. 4-Stroke Fuels; Is There Really A Difference? First, let's explore the facts.

*Fact:* Most 4-stroke model fuels contain less oil than comparable 2-stroke fuels.

*Fact:* With rare exceptions, 4-stroke engines run at substantially slower rpms than a comparable 2-stroke engine...most in the under-10,000 rpm range vs. 12,000, 13,000 or more for a typical

2-stroke of the same size. They are engineered to deliver maximum power at slower rpms, with bigger props. What does this have to do with it? One of the main factors used in determining the proper oil content of fuel is heat. So, lower rpms = less heat = less need for oil.

*Fact:* 4-stroke engines only fire every other stroke, vs. every stroke by a 2-stroke engine. Firing, or combustion, burns fuel, which creates heat. Logically, it may be deduced that if there is fire in the chamber only every other stroke, the engine has time to cool off a bit between combustion cycles. A 4-stroke engine turning 10,000 rpm = 5,000 combustion cycles per minute, vs. a 2-stroker turning 13,000 rpm with the same number of combustion cycles per minute the gap widens. The 2-stroker has 160% more combustion cycles than the 4-stroker. Even though this is partially offset by the fact that at least some 4-strokers have a higher exhaust gas temperature, the message is clear: 4-strokers remain cooler, and need less oil. (*Personally, I think this argument is fallacious. Ed*)

*Fact:* Oil doesn't burn (or shouldn't) - methanol does. (*Didja hear that Hr. Diesel? Ed*) Thus, a properly made 4-stroke fuel will deliver better performance than a 2-stroke fuel in the same engine.

Why? Remember...the 4-stroker is only firing every other stroke. This results in the plug element wanting to cool down between strokes, resulting in a "colder" plug. Excess or unnecessary oil, constantly dousing the element, is going to make it more difficult to achieve a slow, smooth idle. In addition to causing undue friction in the engine, keeping the metal parts from properly mating, etc., too much oil in 4-stroke fuel is constantly trying to cool a plug element that is already having problems.

Again, since oil doesn't burn, it's doing nothing to help us develop power, it simply lubricates and goes right out the exhaust and all over everything. *However*, suppose we *don't* put unnecessary oil in the fuel, and replace it with methanol, which *does* burn. Well, that gets you greater top end power Remove unnecessary oil from 4-stroke fuel, and we get a slower, more reliable idle plus greater top end power!

*Conclusion:* For reasons that should be clear [from the] above, a properly blended 4-stroke fuel should deliver better all-around performance in a 4-stroke engine than a regular 2-stroke fuel in the same engine.

While it's not going to actually harm anything to run 2-stroke fuel in a 4-stroke engine, *never, ever* run 4-stroke fuel in a 2-stroke engine. It's not going to have enough oil. Now, for those of you will say that you have done it with no problems, I'll agree – if you have a real good ear and keep the needle valve "fat" (rich), it will probably work just fine; but the official word is DON'T! It reduces your margin of error unacceptably.

*Finally:* Because engine manufacturers have been burned in recent years by some fuel makers' attempt to lower the cost of their products by using either too little oil or a cheap grade, most manufacturers today are recommending that you run a 2-stroke fuel only in their 4-stroke engines, or will specify what would seem to be an abnormally high oil content (and it probably is). Who could blame them? Since they know they have no control over the oil used in someone else's fuel, they're just trying to cover their fannies. So would I.

*Note:* I believe it's commonly known that the manufacturers of YS engines...among the most powerful 4-stroke engines available – mandate that only fuels containing oil contents in the normal 2-stroke range be used. Their engines are unique, and the manufacturer's recommendations should be followed, although, as with anything, there are exceptions. (*Saito also recommend using a 2-stroke fuel. Ed*)

**Next Installment: Storing fuel for maximum shelf life.**

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