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Skywords

March
2002

The News Letter of the Burlington Radio Control Modelers Club

Box 85174 Brant Plaza, Burlington, Ontario, L7R 4K4

Editorial

Spring approaches and I, for one, am beginning to limber up with my simulator. Specifically, I have been doing endless cross wind landings with at least a 50% success rate!

In lieu of contributions from you, I am left with little alternative other than to write about my accomplishments over the winter building season. Apart from **Laddie Mikulasko** who seems to build a model each week, it appears that I am the only one who has built anything this season! No, I don't really believe that but with nary a word to the contrary, what else can I believe?

By the way, **Laddie** made the front cover of the April edition of RCM with a picture of two of his "bugs" charmingly presented by his twin daughters Marilyn and Beatrice.

And so, I'll conclude with my usual: I want more stuff from ***you***, the members. What are you building? What happened to you last season? Talk to me at 416-622-3705 or FAX 416-622-4134 or by E-mail: Lawrence.Cragg@Sympatico.ca or S-mail to suite 2010, 820 Burnhamthorpe Road, Toronto, M9C 4W2

Winter Project

This is from me, your editor:

To begin this building season, I built an Extra, 60 size, from a Great Planes kit. The airframe went together is an incredibly short time but then the process ground to a crawl as I pondered what to do next. I wanted at least two colours on the fuselage but that wasn't going to be easy given the open nature of the structure. So I covered the fuselage in white UltraCote and shrunk it to fit. Now what? I had no plans so I thought I would experiment with UltraCote on UltraCote to see how that might work. The first piece was on the port side from behind the cockpit to the stabilizer. I applied this with an iron set to 220ºF - well below the shrinkage temperature. Hmmm, not bad so I stuck another piece on top of the turtle deck. A theme seemed to be developing and I wondered what I could do to the tail feathers that might contribute to the theme. A couple of pieces of red seemed to work but left too much white so I broke that up with some blue and added some yellow to the elevators to complete the "theme" for whatever that might be worth.

Now, how about a long blue stripe along the line of incidence and a red piece on top of the fuselage ahead of the cockpit in the shape of an arrow

Thursday, March 28th.
Technical Sessions
Covering
Air Brushing
ARF Assembly

that was just begging to be continued up to the spinner. But how was I going to continue this over the cowling?

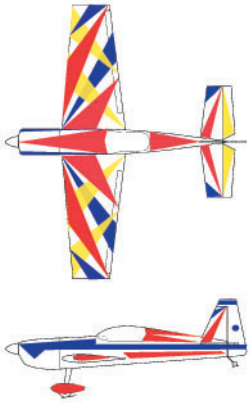
The cowling is fibre glass painted white and I had little or no faith in my ability to mask it and paint it. Any time I try that, I always get paint bleeding under the mask. So why not try UltraCote on that too? That's what I did but it gets a bit tricky since the melting point of the glue is about the same as the melting point of the paint! However, I got away with it with only a minor wrinkle or two on the curved bits.

And with one or two other bits added to the fuselage, the scheme was complete. I can't really call it a "scheme" - it was more like a "happening" since I hadn't planned it and I was quite prepared to treat the whole exercise as an experiment and rip it all off if it didn't work. But the fuselage didn't look half bad and I thought I would try to continue the ideas on the wing. This called for some serious thought. Worse, I would have to plan it!

I am pretty useless with a box of crayons so I thought I would try to make my Illustrator software useful for a change. I scanned the outline supplied with the plans and set to work

The Editor's GP Extra (60 size)

trying to devise a scheme that might complement the fuselage. This is relatively easy to do since (with the requisite skills!) one can fiddle about until it looks right - or reasonably appealing. This is what it looked like.



As luck would have it, the printed version of this was as near as damn it 1/10 scale so it was easy to pick off points in mm and mark the corresponding point on the model in cm. Ah! The joys of the metric system.

With a Saito 91 up front the model weighs 8lbs. All I have to do now is balance the beast, set up the throws, photograph it for prosperity, and fly the bejeezus out of it. Roll on summer!

By the way, the "pilot's" name is Fred.

Needles

From: "Tom Johnson" <taj45@attbi.com> via Bill Montgomery.

Summer Advice (Some Aren't)

You can never have enough spare needle valve settings in your flight box for use this summer flying season. I always carry a full range of standard settings, along with a few on the lean and rich side. I find that the changeable weather in the spring warrants a few extra pacs to loan out to those modelers who are not quite as prepared as I am. There is nothing more disappointing than discovering that you left your needle valve settings at home on the work bench. It can ruin your whole day.

You can order settings from Tower in a Tri-Pac (one each of: lean, standard rich, and extra rich) for $2.99, or in the more economical 12-Pac for $9.60. Make sure you specify inch or metric threads.

A cheaper source can be found at:

www.needleme.ugh\settings\ugh~newbie\gullable

"Needle Me" is a company based in Australia, so make sure you order the NH (Northern Hemisphere) needle settings or you will end up with reverse, left hand threads. This company also uses the international numeric designation for settings which are easily converted to U.S. terms in the chart below:

Standard Rich	1.5/2.0
Extra Rich	2.0/2.5
Lean	1.5/1.0

I made a handy carry rack for mine out of a 1/2" X 1" X 6" piece of pine. Just drill holes to fit the settings and fuel proof with your favorite paint or fuel proofer. If you use bright colored paint you won't lose your settings in the grass at the field.

By the way, don't leave the lean settings in for too long (both Tower and Needle-Me brands). They do produce more RPM, but they can be hard on engines in the long run.

Tom.

The February Meeting

We had a full evening with first, a presentation by **Reg Phillips** in which he regaled us with stories from his experience flying the Grumman Goose - a twin engined amphibian. His story included an incident in which the starter for one engine had failed when they were stuck in Frobisher Bay - in winter. There was no way they were going to get that fixed so Reg somehow contrived to swing the prop from the cabin window. If you saw a picture of the Goose, the very idea is enough to give one nightmares.

Next came a presentation by **Alan Howard** and **Lorne Moore** from the Canadian Warplanes Heritage foundation. This was a comprehensive history of CWH backed by projected photographs which included the sad recording of the major fire which destroyed the one and only Hurricane among others. Enough to make a grown man cry!

The annual Hamilton Air Show has been canceled and the CWH wants to replace the show with something of their own and they would like to have scale models included. The show will be on Father's day as usual (actually June 14, 15, & 16). If you have a scale warbird that you would like to contribute, please contact a member of the your executive.

Laddie Mikulasko brought in his huge model of a Dornier X flying boat. Unfortunately, I didn't take my camera to the meeting so no pictures yet.

From the U.K.

My friend Harry Curzon who has contributed many fine articles for this journal has found his way into several RC magazines for which he writes kit reviews. Harry is an accomplished builder, RC pilot and full scale pilot. Recently, he celebrated a birthday by taking an L39 jet trainer for a run over the Florida keys. He handled all of the flight from engine start to engine shut down.

Harry's most recent kit build is an Airsail Tomahawk (a Piper PA 38). The kit is from a New Zealand company and their products can be seen on their web site at http://www.airsailproducts.co.nz/rcscale.htm Here is Harry's completed Tomahawk. When I first saw this photo, I really couldn't make up my mind whether or not this was a model or the full sized, real aircraft.

Harry, if you read this, I hope you don't mind my spreading your fame through this influential journal. Cheers, Lawrence.

Aileron-Rudder Mixing

I published an article about using the rudder in the January edition of Skywords. I now present Harry Curzon's view of the related issue of using the transmitter to mix in some rudder with aileron.

The elevator is used to hold the nose up in a turn, the tighter the turn the more elevator is needed to hold it up. Yes, odd as it may seem especially when in a very steep bank where you might think that rudder holds the nose up, it is still held up by applying more and more elevator. This is necessary in order to make the required increase of lift now that the lift angle is so far off the vertical. If you are gaining or losing height in a turn, no matter how steep, then you are using too much or too little elevator, the rudder does not come into it. The rudder is used purely to fine-tune the balance of the turn if the fin is not keeping the turn in balance. In other words the rudder is still just used to keep the plane straight on into its airflow regardless of how much bank is used.

Do not confuse this with knife-edge. Knife edge and all side-slip manoeuvres are out of balance flight and the rudder is being used to put the plane out of balance. Its job in a turn is to keep it in balance and not to hold the nose up.

The rule is always the same. In a turn, elevator to hold the nose up and rudder to keep it in balance, whether a shallow bank in a glider or 80 degrees of bank pulling against the buffet in a jet fighter. Please note that no aircraft can make a true turn at 90 degrees of bank since the lift required is infinite. To maintain height the plane would need to knife edge which by definition is an out of balance turn!

I think there is some confusing of two different things in many of the preceding [newsgroup] posts, which is misleading. During a turn there are two different events which would require the use of rudder, but only one of these would benefit from aileron - rudder mixing.

During the act of rolling into a turn and out of a turn, there may be yaw caused by the ailerons, there may not be, it depends on the design of the plane. Gliders are particularly prone to yaw by aileron because the long span gives a big leverage. Often the yaw is opposite to the roll, e.g. left roll right yaw, this is called adverse yaw. During this time while aileron is applied, rudder is required to counter the yaw and keep the plane straight on into the airflow. For this, aileron - rudder mixing is useful.

As soon as the plane has been rolled to the required bank and aileron is back to neutral, any Tx mixing is negated but there may still be a need for rudder. Banking a plane makes it start to move sideways, the fin's job is to act like the feathers on an arrow or dart and cause the plane to rotate around its yaw axis. Note that the wing changes the direction of travel, the fin/rudder change the direction of pointing. If the fin is doing a perfect job there is no need for rudder during the turn. Life isn't always perfect so depending upon conditions such as spiral airflow from the prop, power setting, airspeed etc., you may need a bit of rudder with the turn or a bit of rudder out of the turn to keep the plane pointing straight into its airflow. In full-size we just look at the slip ball, or the yaw string on the glider canopy. If the ailerons are at neutral because the plane is sitting steady in its bank but needs a touch of rudder to balance the turn, Tx mixing will be of no use. Of course some stable planes need a dab of aileron to hold the bank but here any rudder mixed in is countering the adverse yaw of the aileron and is not necessarily keeping the model in a balanced turn - after all it may need more, or possibly even opposite rudder to stay in balance.

So in summary, aileron - rudder mixing compensates for adverse yaw while the ailerons are being used to roll into and out of the turn, but does nothing to keep a balanced turn. That requires you to use your rudder thumb. Judging if you need rudder, and most models can get by without it, is a matter of sensing if the model appears to be crabbing sideways into the turn in which case a small amount of rudder into the turn will help.

Harry.

The Great Rubber Race, March 6, 2002

This from Dick Fahey - a day or so after the deadline! Ed.

A number of BRCM members journeyed to 447 Wing (Mount Hope) to be the guests of the "Flying Tigers" and attempt to recapture the challenge trophy. The trouble was, there weren't enough of us, and our machines didn't fly well enough, on average, to keep us from being overwhelmed by the Tigers. The trophy is now back on the shelf at Skycraft with the Flying Tigers plate on it. We'll have a chance to redeem ourselves at the "home base" in November. Having said that, all was not lost, medals were awarded as follows:

Gold - our own Charlie Chomos (Aka Wilbur Wright) scored 8 pts.

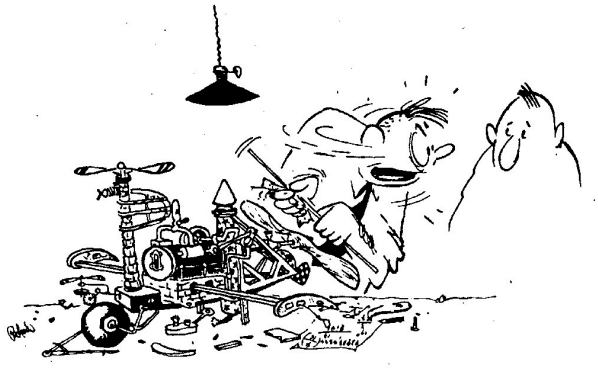
Silver- Brian Graham (Tigers) scored 7 pts.

Bronze -David Pengelli (Tigers) - scored 6 pts.

Participation Medal - Dick Fahey (Aka Grover Loenirig) scored 0 pts., but also picked up $55.00 on the 50/50 draw

The BRCM team consisted of the above, plus Art Titmarsh (Aka Charles Lindberg) who placed tied for Bronze, Doug McQueen (Aka Billy Mitchell), Andrew McQueen (Aka Jimmy Doolittle) Karl Gross (Aka Orville Wright), and Mike Taziar (Aka Middle Zone Director) who joined our courageous gang of pilots to help meet the challenge.

We're definitely in need of more recruits for the November Challenge Anyone who has built a model airplane from kit or scratch can help at the "Front" just ask the consultants - Charlie Chomos or Art Titmarsh, and they'll be happy to help.



Allrightallrightallright, but suppose it DOES!

Burlington Radio Control Modelers
Executive
2002

Officers:

President	Harold Jones	905-643-4573	HaroldJones57@Hotmail.com
Vice President	Lawrence Cragg	416-622-3705	Lawrence.Cragg@Sympatico.ca
Secretary	Tony Moore	905-333-4902	aud@attcanada.ca
Treasurer	Brian Taillieu	905-681-7480	Taillieu@Worldchat.com
Past-President & Meetings Entertainment.	Richard Fahey	905-637-5469	rjFaheyflies@Yahoo.com

Directors:

Wings program	Bud Childerhose	905-634-6559	budc@cgocable.net
Bayview co-manager	Peter Hagens	905-319-2339	simpeter@Sympatico.ca
Bayview co-manager	Bill Montgomery	905-681-0509	William.Montgomery@cciw.ca
Bronte Field Manager	Art Titmarsh	905-319-2354	Tmarsh@lara.on.ca
Unassigned	Bill Hemphill	905-632-6516	Hemphill829@Aol.com
Liaison with C of B.	Howard McNamara	905-637-3798	
Unassigned	Peter Krautter	905-336-3967	pKrautt@Cogeco.ca
External Events	Bill Swindells	609-387-7706	cdnflyer@Mountaincable.net

Special assignments:

BRCM Auditor	Lawrence Cragg	416-622-3705	Lawrence.Cragg@Sympatico.ca
MAAC representative	Dave Parry	905-855-5430	Dave@Neatautomation.com
MAAC representative	Bernie Sudol	905-634-3245	bSudol@Sprint.ca
Web Master (brcm.org)	Dave Parry	905-855-5430	Dave@Neatautomation.com
Skywords Editor	Lawrence Cragg	416-622-3705	Lawrence.Cragg@Sympatico.ca

www.brcm.org

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Note: E-Mail addresses are not case sensitive. They may be typed in any mixture of upper and lower case.