



# The Flypaper

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

April 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: Increasingly decent. Good flying weather ahead, although chance of rain during April.



The Helios, a NASA experimental aircraft, uses solar panels on the upper wing surface and can reach an altitude of 100,000 feet. Its wingspan exceeds that of a 747. Like most of our model planes, it is remotely piloted, and covered with plastic film. A discussion of plastic film covering appears on page 5.

## The President's Message

Richard Staron

Wow.....Spring is finally here and the buzz of model aircraft is filling the air at our field. I have seen more and more people coming out and getting the kinks out of their fingers and bugs out of their planes. It's still a bit muddy when one has to drag their plane and flight box, but what the heck, anything for a flight!

Being the President has some benefits, but there are times where I guess I have to do things that the prez has to do but doesn't like to do and I guess nobody really does, but here it goes anyway.

This brings me to a point about flying and having your membership and MAAC paid up. Just because the field is closed to automobile access does not mean one can fly without paying their dues of MAAC insurance. So please get your MAAC and membership in order before you take off. Remember all members must have their 2003 stick in full view on their flight box....no exceptions please. Remember that anyone can ask anybody to show their membership and MAAC card.

Another item that we have all been guilty of including myself is not having a peg with YOUR name on it to put on the board. Too many times I have seen

people yelling across the field for the guy who is on channel X or Y. So guys, go to the store, spend a buck or

two for 50 or so pegs, write your name on them and keep them in your flight box. At the end of the day, take your peg home with you....its that easy!!! I have already gone out and bought a bunch of pegs for myself.

Thirdly, if you are aware of a person creating an infraction on safety or breaking the clubs rules as an honest mistake or not, privately and politely approach the person(s) and explain the infraction. Don't yell across the field for all to hear!!! The exec will facilitate any disputes if they are not resolved only after YOU have attempted to explain the infraction and the infraction continues.

Some good news.....we have the field for this year and a 50-50 chance that we might still have it next year. A lot depends upon what some studies still have to be done by the City of Toronto. Come on out this Friday's club meeting and find out more about what is going on with our field, what the construction that you see at the east end of Passmore is all about and some latest and greatest info on the search for a new flying field and some of the locations that were found. Should be an interesting meeting.

Remember that there is only 1 month left till Beauty show. There have been some changes to the rules which will open up the competition for all levels and engine size so come to the meeting and find out what we are planning to do. I think you will like the concept. That reminds me...I still have to finish my plane!

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@rogers.com</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>
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Refreshments	Romeo Ramos	416-441-0134	<i>romepamela@AOL.com</i>
Program Director	<i>Vacant</i>		

**Meetings and other Events**

**April 4 / 2003**  
Club meeting. There will be an update about our future flying field.

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

**June 7 / 2003**  
Fun fly – stay tuned for details.

## **From the Wings Officer:**

*Curt Jones*

Hope that the new students have been practicing over the last month or so. This month I will talk about getting the plane set up. Most kits or ARFs give good instructions on how to put the plane together when followed closely. The most important thing to get right is the center of gravity - if it's behind where it should be, the plane will be hard to fly. If it is too far forward, the plane will not be very responsive. If you lift the plane up by your fingertips at the CG point under the wings, the nose should be pointing down just a little bit. Next is the radio system installation. Are the servos mounted properly with all four screws? Is the receiver wrapped up in foam, how about the battery pack - is it in foam also? One thing that is important is making sure that the battery is secure in the plane, so it won't move around while the plane is in the air. The switch should be on the side of the plane that doesn't have the exhaust on it, so that the oil doesn't run into it. The antenna should run

along the outside of the plane, as straight as possible, with out any knots tied in it. Next are the surfaces that move. Are they hinged right, are the hinges tight in the wing? Can the control surfaces move freely, up and down? Is there a gap between the surface and the wing or stab? A little bit of gap is OK, but not a quarter of an inch. Some people like to have the hinges pinned though the wing and the tail surfaces. If you grab the control surface with one hand and the wing with other hand and try and pull the two apart, the wing should stand up to flying if nothing happens. If you can pull the two parts apart, there's a problem. With all of these items checked out, the plane should be air worthy. The plane will still have to be physically checked over before it can be flown, by one of the instructors. As for planes that get checked out before 12 noon on the next full moon - you will be required to fly inverted, from take-off to landing without touching the ground. Students continuing from last year will have to do a test flight - which will be to complete as many flying circles as possible for as long as the fuel lasts.

## **From the Field Officer:**

*Dave Parton*

Well, the field still seems to be there, and we expect it to remain there all summer long.

*Observant readers will be excited to know that Dave's correct email address now appears in the contact information section....*

## **Editor's Note:**

*John Riley*

At the last meeting, a couple of guys asked who was the lucky guy who went to Arizona, who wrote the article in the last *Flypaper*, or did the story come from the web. Well folks, it was me actually. Just for the record, I write all the stuff that appears here, except of course where the author's name appears (most typically, the executive messages). Items lifted directly from the web will be identified as such. Members are reminded that they can always submit articles and other material, and naturally credit will be given. Our first guest article, in fact, appears below....

### **Changing Propeller Pitch**

**By Drahcir Norats, Model Flying Club of Upper Slobovia**

*(Editor's note: please excuse his grammar, but I wanted to leave it as is)*

I fly lots of 3D aeroplane and selection of proper propeller is very important to gets best performance out of engine and plain. In my countries, flying radio control planes is very expensive hobby and likes anything else modeler must make do with whatever one has to make ends meet. Upper Slobovia has not any hobby stores so everyting must be mail order or home making.

With dis in mind, I want figure out way of changing peetch of propeller without spends money on a lotsa bunch of sizes and peach of proppeller.

While I balancing my props I noteese APC props were all moulded. This means that the APC material had to be melted and forced under pressure into a mold of the shape of the prop.

This got me thinking! Could I soften a prop with heet?

What I deesined was device that I could taking to the flying field, insert prop into heated device and with a little twist I could changing the peech of the prop. Let me explain, how I did this.

First I got piece of pipe about 50 mm in diam and about 150 mm long. (I gots mine from old tractor behind shed next to sheep). I then welded and end cap to create a long toobe. I then cut out a slot in the end of the toobe to just fit the end of a proppeler. A propellar was then inserted into the toobe and then it was filled with some very fine sand to cover prop. I then took a torch and applied heat too the side walls of the toobe. This heated

sand in the tube which then heated the propeller. Grasping the prop by the hub, I was able to twist the prop while it was soft, thus changing the pitch. Remove the prop and insert the other end and repeat the process. You have now changed the pitch of the propeller. This concept was very crude, but it works. My friend in Toronto makes professional looking devices using aluminum tube wrapped with Teflon and nichrome wire which was hooked up to car or tractor battery. He can now change propeller pitch at the flying field as needed and as many times as you want.

For more information on my new idea, please contact my friend Richard Staron in Toronto. He is making units and is taking orders. He belongs to RCFCT. He will explain in detail how the device works. You can also email me or Richard at [igotcha@aprill.com](mailto:igotcha@aprill.com)

## From the Last meeting...

The March RCFCT club meeting was devoted completely to the swap meet, and a wide variety of loot was available for sale. Defying the laws of statistical science, Richard Staron yet again won the raffle – fourth time in the last few months. Here’s a proposal: the club should give Richard some “seed” money, and send him to Las Vegas, where he can use that magic touch to win a big pile of money. Then, we could buy Buttonville Airport, and convert it exclusively to RC use, solving our flying field issue. Guess we wouldn’t have to pay dues anymore either.



*John Dutkowski displayed a range of modeling supplies and tools for sale.*



*Partially completed planes, kits, plans, engines and parts were all available.*



*Pinnacle Hobbies also had a variety of products on display.*

## Upcoming....

At the April club meeting, the latest news on efforts to secure a new flying field will be presented. A number of possible sites, east of Markham and near Reesor road, have been identified. Although not confirmed at press time, it is hoped that a city planning official will speak to us concerning the upcoming construction activities scheduled to occur near our present field.

Also, find out about details of the Beauty Show in May – new categories and fabulous prizes.

# How plastic covering works

Sources: manufacturer's web sites, the encyclopedia, and Harry Higley's "There are no Secrets"

While there are excellent alternatives, iron on heat shrink plastic undoubtedly is the most common method for covering and finishing RC model airplanes. Probably this is because of the speed and relative ease of application – it takes real skill to produce a better finish using traditional methods. When I first tried it, I was impressed by the magic shrinking ability with heat, although my immediate second thought was the hope that it would keep on shrinking, given all the wrinkles I'd thoughtfully left in. Why does the stuff shrink when heated though?

All plastics are polymers, which simply means that the plastic is composed of extremely long molecules of repeating subunits (many thousands of times larger than a water molecule for example). The word polymer is from the Greek "poly" (many) and "meros" (units).

Heat shrink films belong to a class of plastics known as *thermoplastic*, meaning they soften and melt when heated. The other type, of which epoxy is an example, are thermosetting plastics, and they might burn, but won't melt with heat. The long polymer molecules in heat shrink films normally don't lie like flat straight pieces of string, but rather they prefer to assume a tangled up configuration. When the film is made though, it is stretched while hot, which lengthens the molecules; they stay "frozen" like that when the film is cooled. When enough heat is applied, they have the freedom to move, so they try to go back to the tangled state, and thus get shorter, shrinking the film.



DuPont invented Mylar in 1952 – looks like they felt it was useful for moving automobiles before they smartened up and used it for Monokote.

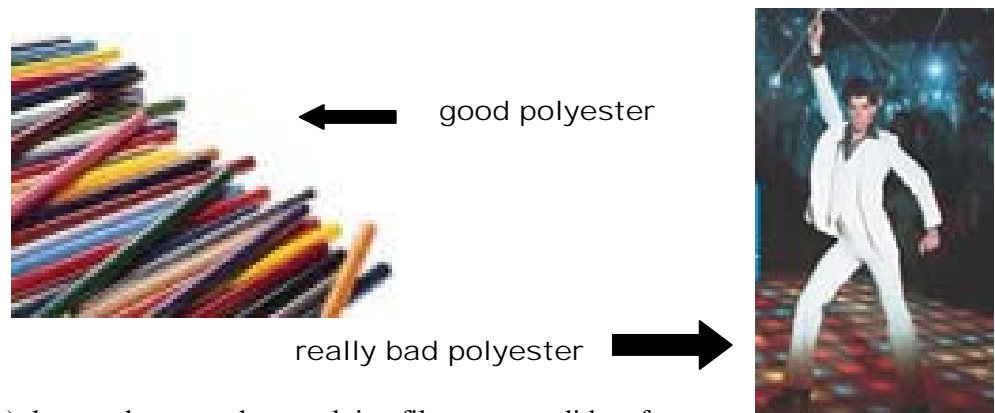


The covering film has stretched out polymer molecules (left), which, when heated, revert to the natural tangled form (right), causing the film to shrink.

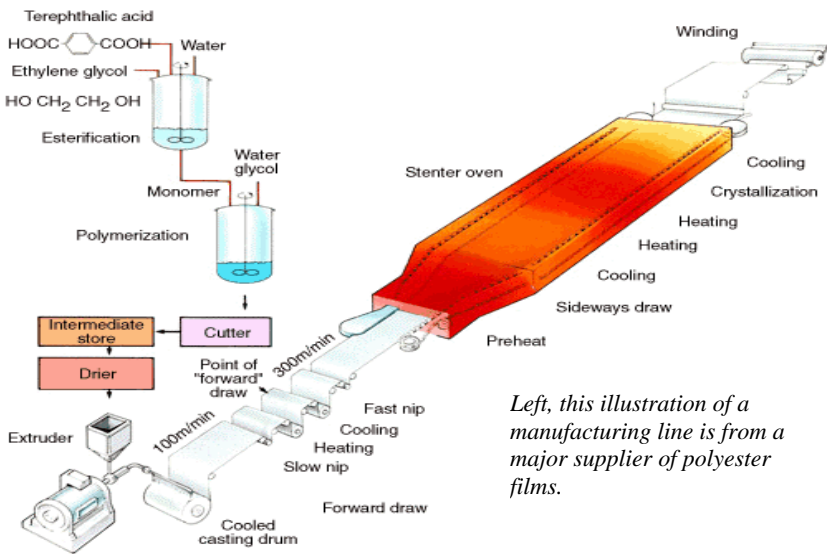
There are two main types of heat shrink covering – low temperature films (Solarcoat, Econokote) are made of polypropylene, and the other type (Monokote, Ultracoat) is made of polyester, which is stronger and requires higher heat to soften. Mylar, developed by DuPont

in 1952, was the first polyester film, meant to replace cellophane. Most plastic films are constructed as follows: the manufacturer takes the clear plastic sheet, and a coloured liquid, similar to paint, is rolled out on one surface.

The liquid is allowed to become tack free, but not dry out completely. Then, another plastic sheet (the one you peel away when using the stuff) is applied on top, so that the coating doesn't dry further, and is protected when the film is rolled up. The paint-like coating is both the adhesive and the pigment, and it makes the film adhere to the model with heat.



The "out-gassing" (formation of bubbles) that can happen when applying film over a solid surface is the remaining solvent in the coating vapourizing away. Sometimes, particularly with temperature and humidity changes, bubbles and wrinkles appear in the covering over time. This is caused by expansion of air in the wood or enclosed spaces, which stretches the film. The film remains bagged out, resulting in sags and wrinkles, even after the temperature/humidity returns to normal.



Left, this illustration of a manufacturing line is from a major supplier of polyester films.

Luckily, application of more heat corrects this. Perhaps you've seen ads where the covering manufacturer brags that the film has "a tensile strength of 25,000 psi". Sure, we all know the stuff is tough, but that sounds a little extreme. Like, if the film was that strong, how come you can't do a blood curdling screaming full power dive into the ground and leave the airframe intact? What the figure really refers to is the cross sectional area of the film – monokote, for example, is 0.0015 inches thick – so the end on area of a 1 inch ribbon is pretty small, and it could support something more like 25 odd pounds (not 25,000!). So it's still a good idea to practice those smooth landings....

**For Sale:** TME Simple Smoke System Deluxe for sale, never used. - \$100.00 firm.  
 Contact Scott Baily at [cr45hnburn@hotmail.com](mailto:cr45hnburn@hotmail.com)

### Aviation Humour

The following were found in various web newsgroups:

Answers to the most frequently asked STUPID r/c airplane questions:

1. Yes, the damn thing flies.
2. Yes, I can even steer it.
3. Yes, I suppose the cat would fit inside.
4. No, I've never crashed.
5. No, it's not hard for me.
6. Yes, I suppose it would be hard for you.
7. Of course it's not expensive.



Q: Why are airline pilots not allowed to have guns in the cockpit? A: Because guns and alcohol don't mix.

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