

FlightLines

November 2022

Newsletter of the North Vancouver Radio Control Flying Club

News

November already! Cool crisp days at the field, “hero air”, frozen fingers and thermoses of hot tea. Long dark evenings to build...

Since our last report, summer has come and gone, the club has grown and we have had but few obstructions to our pursuit of happiness – the flying of our models!

Here's the news:

DNV Meeting

Paul Cox and I met with the new District of North Vancouver Parks Management Team last June. We signed a new lease agreement with the District, on behalf of the club, as the old agreement was years out of date. The new agreement was e-mailed to everyone on July 28th. If you have not received let me know. It is important everyone is familiar with the terms. Going forward these terms will be incorporated into the membership form. The continuing health of our club is dependant on us complying with them.

Our relationship with the new District Parks Management Team is good and your executive is focused on keeping it that way. At present there are no ongoing noise or usage complaints. The District has been very responsive to our requests for signage updates, pit area upgrades, etc.

Regarding the new playing field being built to the west (toward Lynn Creek), there is still no ETA for its completion. Guessing 2-4 yrs. It may be a game changer - positive or negative - once it opens. We did plant the seed with DNV that we would like to include that field under our permit. TBD.

New Members

The club is growing and we are now at eighty-one members, up from low sixties last year. Since the last newsletter in March, we have issued memberships to the following new pilots. Welcome to the club gentlemen!

Alan Cheng
David Sze
Heung Sang Yu
Paul Conway
Vince Lam
Vincent Geoffrion

For the benefit of our new members: the club has an affinity program with Magic Box Hobbies (Arbutus & 37th Ave, Vancouver. Our contact is John (owner) Tel: 604-264-1746). Club members receive a 5% discount and the club gets 5% affinity fee on your purchases as well. A win-win that saves you money and helps to fund the club!

Club Windsock - Saving Lives

Jack S was on the field recently when the yellow N.S. Rescue heli landed to meet an ambulance. Jack had the opportunity to chat with the crew. The pilot advised that our windsock has been a real bonus to the N.S. Rescue Heli team. We are the only field around with a windsock and that makes unloading injured people suspended on the long line and landing much easier. When transporting critically injured persons seconds saved count!

In the News....



The club received a bit of help recently in our drive to increase membership. The long-awaited piece in the North Shore News was finally published on Oct 12. Read it [here](#). Hopefully it will bring in some new members.

InterRiver Radio Signal “Twilight Zone”

The NW corner of our field continues to be a problem for occasional radio signal loss. Our theory is that it may be a naturally weak signal zone. It has been a problem for years.

Barring the supernatural, one possible explanation might be that if your radio link is less than optimum it may be insufficient to deal with the signal challenges in that NW region. It is strongly recommended that you do not fly low over the three tall poles supporting the soccer high ball mesh on the NW fence line. This is where the problem seems to be the worst.

The only trend we have seen from the crash reports is that most of the affected models were using a “knock-off” type receiver (Orange, Lemon, etc) instead of a receiver of the same brand as the Tx. If you fly Spektrum, as many of us do without any issues, best to keep your receivers Spektrum also. Same goes for other brands.

The interference may also be cellular radio related. There are towers very close to the field which may occasionally swamp our radios. More likely, interference could be caused by the cell phone in your pocket. We sent out the attached article earlier this year. Please do read! If you love your plane, best practice is to leave your cell in your field kit, not in your pocket.

Field Gates

The gates on the perimeter of the field have been unlocked by request of the soccer groups (who are far more numerous than we are). They will remain unlocked until April, when baseball takes over. At that point the City will re-lock the perimeter gates. The main (pit area) gate and dugout gates always remain open - but we have a chain system for handling these already. Please be extra vigilant for people on the field over these winter months as they can enter the field easily. Dive bombing them, in lieu of asking them to leave, is NOT the recommended solution :)

Field Rules – Top 5 List

Rules, Rules, Rules! Nobody likes them. But if we don't follow them, we could lose our precious field.

For the benefit of our newer members - and the rest of us who need reminders - here are the top 5 for this issue. Please be familiar with all of them. Complete rules are posted on the website (nvrffc.com)

1. **Put out the cones when flying.** Even if flying alone – it is a MAAC regulation. First row of cones should be on first base line. Flight line is 10 paces out (west) from there. The reason for this is to protect pilots from being hit by aircraft taking off/landing. It has happened, with serious consequences. Also, always take off upwind from other pilots on the line – never downwind from them.
2. **Field must be clear of ALL public** before you can fly.
3. **Mark your models** with the required MAAC info. Check MAAC website [here](#) if you are unfamiliar with this Transport Canada regulation. Labels for your models are available on the linked pdf.
4. **No Guests are allowed** to fly at the field, per DNV requirement. If you know someone who would like to try out the field refer them to Paul or myself. We can arrange for them to buddy box with an instructor.
5. **Keep your plane inside the fence lines.** Recently we had a complaint from a member of public about being overflowed. We can't avoid going outside the fence occasionally, but we can aim to minimize. Always avoid flying over pedestrians walking outside the fence.

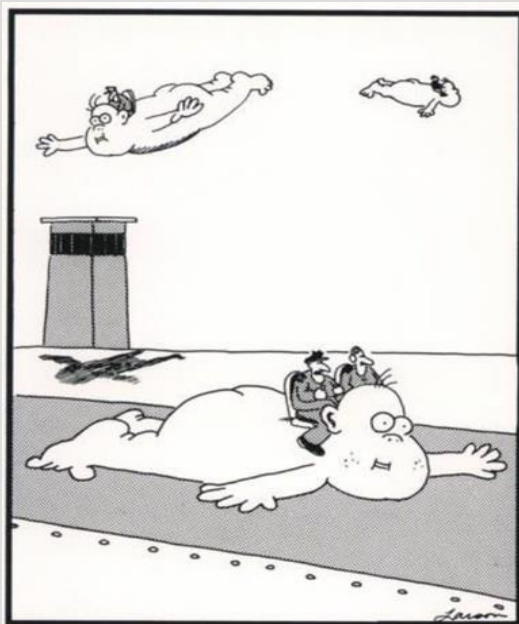
Hand warmers



It is that time of the year. I have one of [these](#). I highly recommended them to thaw fingers after a flight! They are available from Amazon.

Fly Babies

Congrats to all those who maiden a new "baby" this summer. First flight on a new model is always much anticipated and rarely disappointing!



"Fuel ... check. Lights ... check. Oil pressure ... check. We've got clearance. OK, Jack — let's get this baby off the ground."

Porpoising

This is when your plane bounces hard enough on landing to become airborne again. We have all experienced it. It happens to models and to full scale aircraft. Sometimes you recover, other times you don't. What should you do?



Turbulence on final, combined with pilot error, led to a particularly bad runway bounce for FedEx Flight 80. The link below is to a very well written and video documented article on what happened next. There are at least two conclusions from the ensuing investigation that apply to modelers too. No doubt this will generate some interesting discussions with our full scale pilot members. It is a short, worthwhile read!

<https://admiralcloudberg.medium.com/over-and-down-the-crash-of-fedex-flight-80-627e05b74fe9>

In this Issue

Do we need motor offset in our models? It is one of those often debated but rarely understood topics. Thanks to new member Paul Conway for addressing this perennial question with his article on side-thrust on page 9. Paul is a great club resource for all topics aeronautical - he has advanced skills in model design/construction and is a full-scale pilot too.

Do you have a winter build project? Tips or expertise to share? All contributions welcome. Next issue we will be compiling a Tips & Tricks column. Send me your faves!

See you at the field!

Mike

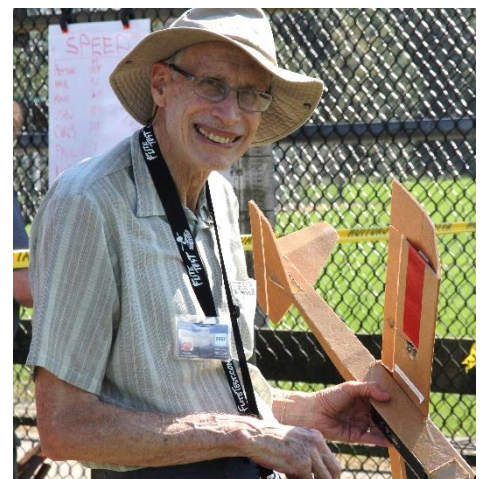
BBQ & FunFly – Aug 21, 2022

Our 2022 Club BBQ & FunFly was a big success. We had over 40 club members and guests come out for our first gathering since Covid. Paul and Judy Cox put on gourmet fare without breaking the food budget. Afterwards, the brave and foolhardy showed off their flying prowess in limbo, speed (fastest and slowest) and balloon popping contests. Thanks to Magic Box Hobbies for providing prizes!



Smiles all around! We are already looking forward to next year's event.





Clockwise from Top: John H. helps visiting Jonah learn to fly the club's Aero Scout Trainer. Hopefully Jonah will be a future member. Phil H. brought out his huge A10 EDF and kept us all enthralled.

Norm S. and Paul C. competed in the slow-fly competition. But they were too fast to win:)

Amir N. won the speed event with his bullet-fast Rifle (225 Km/h). Peyman you now have competition!



Top Row: Kevin K. makes his grand entrance to the limbo event. John H. cuts the limbo ribbon, oops!

Middle Row: Peyman wins the limbo contest! (Peyman's winning formula: small, light & slow). Chris S. looks on.

Bottom: The speed Winners Circle: Ken S. (Slowest Speed), Contest Director Robert C., Amir N. (Fastest Speed)



Most of us RC flat-field pilots are wary of the wind. We cherish the still air of calm summer days and pack up when it gets too gusty. In slope soaring however, the opposite is true. Pilots seek out the windiest locations to bring their flight dreams to life.

A slope glider flown in a 100 Kph gale set the RC model world speed record – an amazing 908 Kph*. At the other end of the speed spectrum, slope gliders can even fly backwards if the wind and slope is right. Slope soaring is as exciting, or relaxing, as you want it to be. It all depends on your choice of slope and equipment - and the wind.

Recently, flying in light lift off a coastal site in Washington state, a flock of sea gulls caught up with my glider. Curious gulls followed my plane copycatting my every turn, in an aerial version of “Simon Says”. Cruising along the ridge line, gently rising with the air, a pair of mature bald eagles observed from a distance.

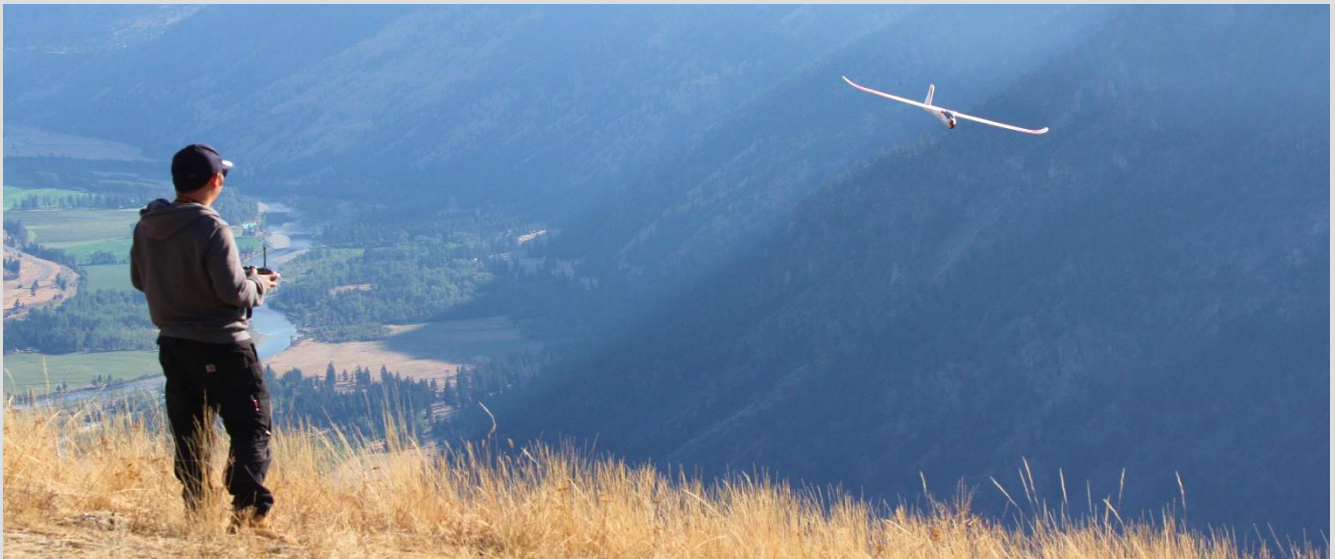
Other days, when the wind is strong and the lift is unlimited, I enjoy big sky aerobatics and silent speed runs along the ridge. The glider becomes a hotliner powered by the wind. No motor needed. Flights are long, limited only by the receiver battery.

Talk to any RC pilot who has tried slope soaring and their eyes light up. You never forget a great sloping session. Whether you are in it for the speed or for the surroundings, be warned, slope soaring is addictive!

What do you need to get started? Really, just sense of adventure and a durable, inexpensive foam glider. Some examples are linked below. Great slope sites are rarely roadside – some hiking with your glider can be expected (worthwhile because you will also be rewarded with a spectacular view). You will need a willingness to travel. Vancouver, for all its majestic coastline, has few quality slope soaring spots. The nearest good ones are a few hours drive away.

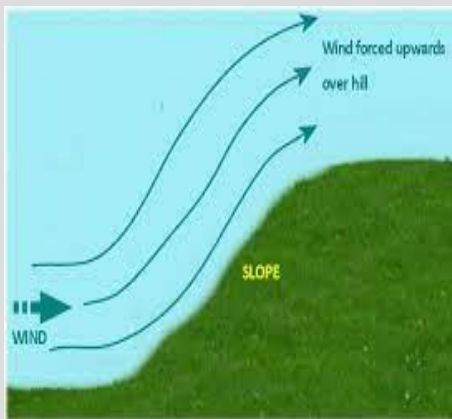
If you are looking to spice up your RC flying experience, consider joining our informal group of soaring enthusiasts. We are glider guiders of all skill levels. We explore and enjoy the prime slope sites of the Pacific Northwest. If you are intrigued to learn more, drop me a note to secretary@nvrffc.com





Michael C. hunts for alpine lift high over the Similkameen Valley

How Slope Soaring Works



Lift is generated by wind rising up a steep slope. The wind needs to hit the slope straight on to generate the most lift. The airstream can take you up several times the height of the hill. Diving converts the energy into forward speed.

Windspeed Guidelines:

10-15 kph: Lift is light. Relax doing lazy circles in the sky. Great for learning.

15-35 kph: The sweet spot for many slopes. Lift is moderate to strong. Enough for aerobatics and high speed passes. Woohoo!

35+ kph: Bring out the lead! Ballast up to penetrate the wind and hit crazy speeds. Unlimited lift, huge aerobatics. Serious piloting skills required.

Getting Started

A foamie e-glider with ailerons (flaps optional) is a great choice of plane to start. These can be had starting at \$150. A motor will get you out of trouble if the lift dies. Ailerons enhance aerobatic fun and help manage slope turbulence. Delicate balsa and film gliders are not advised, except for lightest of conditions. Molded composite gliders (moldies) provide exciting top level performance. They are fast and precise but also expensive and fragile – not recommended for beginners.



Phoenix V2: 2m model. This is a great full house starter model with flaps and ailerons. Tough plastic fuselage & foam wings. Very durable. Slopes and thermals well.

https://hobbyking.com/en_us/volantex-759-2-phoenix-v2-epo-composite-rc-glider-2000mm-78-7-pnf.html

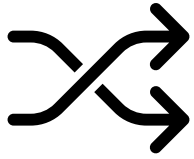
Conscendo: 1.5m model. Sportier and more aerobatic (shorter wingspan) than Phoenix. Durable foam construction. <https://www.horizonhobby.com/product/conscendo-evolution-1.5m-pnp/EFL01675.html>

Some “Wow” Slope Links

*Dynamic Soaring World Speed Record, Parker Mtn, CA, 19/1/2021: https://www.youtube.com/watch?v=4eFD_Wj6dhk

Big model slope soaring in Italian alps:

<https://www.youtube.com/watch?v=nGUlklUrhyS&list=PLsBwxjeq7cUEz5oSgdcxmgKVNEYn1tg0K&index=2>



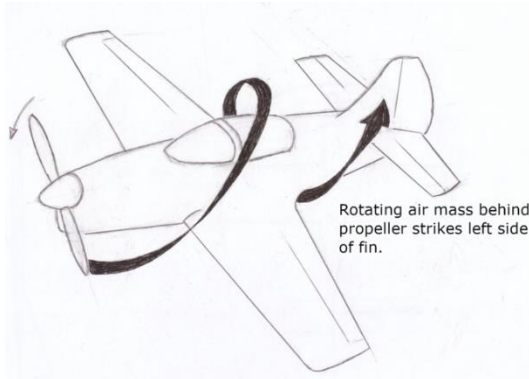
SIDE-THRUST

By Paul Conway

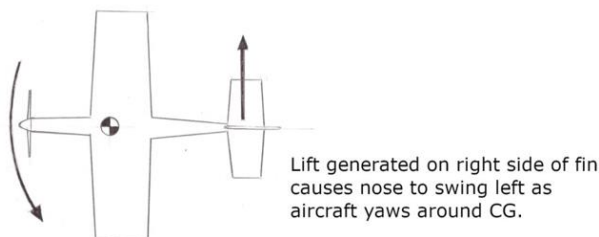
The topic of thrust line offsets came up at the field recently. Plans and kits often show the engine or motor thrust line offset, usually down and to the right. Do we really need it? In this short article we will consider.

A propeller develops thrust by accelerating air as it passes through the propeller disk, but it also imparts a rotational motion to the air and the result is that the slipstream behind the propeller rotates in the same direction. If we view an aircraft from directly in front we can visualize this spiral of air, swirling around the fuselage until it reaches the tail, where it impinges on the fin.

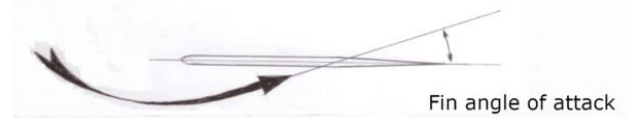
If the surface of the fin is mostly above the top of the fuselage and the propeller is rotating counterclockwise (viewed from in front), the spiraling airflow will hit the left side of the fin, effectively giving it some angle of attack.



This causes the fin to "lift" to the right and the aircraft to yaw to the left. This is the usual situation as most of our motors and engines do turn in that direction. Of course the amount of yaw depends on the design of the aircraft, how fast it's going and how much power is being applied - going faster reduces the effective angle of attack of the fin and adding power increases the strength of the prowash.



It would be nice to eliminate this yawing effect and there are two ways to do it. One is to offset the leading edge of the fin to the left, so that the fin surface lies parallel to the in-coming airflow.



This is common on full-size aircraft and an offset of one or two degrees is typical. The problem with it is that the amount of offset is really only correct for one condition of flight and is not adjustable. The other option is to offset the thrust-line to the right. This causes a right-yawing tendency which increases as the throttle is opened, providing a proportionate compensation for the left yaw created by the propeller slipstream. And that's why our models sometimes have right side-thrust.

So much for theory, but what about practical considerations? In fact, the yawing effect of propeller slipstream is quite small and so is the required side-thrust. Values of about 1.5 degrees are typical for sports/trainer types while faster aerobatic or pattern models usually have none at all. Having too little will probably be unnoticeable, especially on a faster model, but too much will have a detrimental effect - it will cause the model to climb in a turn to the left and descend in a turn to the right. This can make level turns difficult and it may also prevent the model from tracking straight through looping manoeuvres. I've experienced this a couple of times on models with three or more degrees of side-thrust. If you have a proven model with side-thrust or are building from a kit or plans that require it, I suggest you follow the original design. I no longer incorporate it in any of my models - any slight yawing tendency is easily handled with a bit of rudder trim.

You might be wondering if side-thrust would help tame that swing on takeoff that taildraggers often exhibit. Unfortunately, that's actually the result of three effects - propeller slipstream, gyroscopic precession and P-factor - the last two of which are impossible to "design out." Side-thrust isn't going to make much difference to that pair and the best way to deal with the swing is with well-practiced thumbs.