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Official Newsletter of the Southern Ontario Glider Group

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Affiliated to the Model Aeronautics Association of Canada

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OFFICIAL NEWSLETTER - OCTOBER, 1990

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EDITORIAL:

FALL FARE - 1990

As we draw near to Winter, with another flying season behind us, we should perhaps take a little time to reflect on our successes and failures of this past few months.

The club is in a very healthy condition at this time, with many new and welcome members, some of whom are experienced and others who have only just begun to feel the magnetic influence of those elusive thermals. The membership stands at 50 as I write this - quite a change from the 18-20 of only a couple of years ago; some, of course, will drop out, and hopefully we shall be able in time to replace or reactivate them in the very near future.

Of the flying season itself much can be said, but this is not the occasion for any detailed report; rather let it suffice to say that our organisation can take a certain pride in having arranged a schedule and - with allowances for the vagaries of a very spotty weather pattern - successfully carried it out, and have learned much in the process. To all who participated in the programme this year the Executive wish to express thanks for the help and support given by the membership.

Our first meeting of the 1991 season will be held on SUNDAY, OCTOBER 14th.1990 at the BEVERLY HALL. Time 1:00 p.m.

I hope to see you all there. Till that time remember to

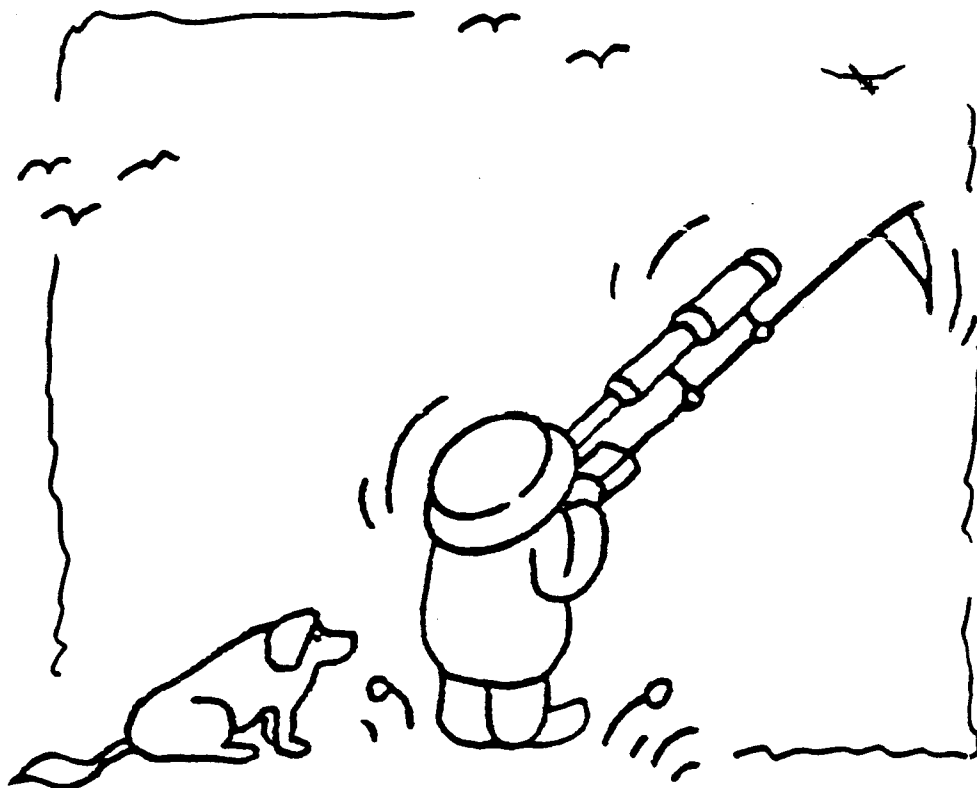
Drift with the Lift.

Fred J. Freeman

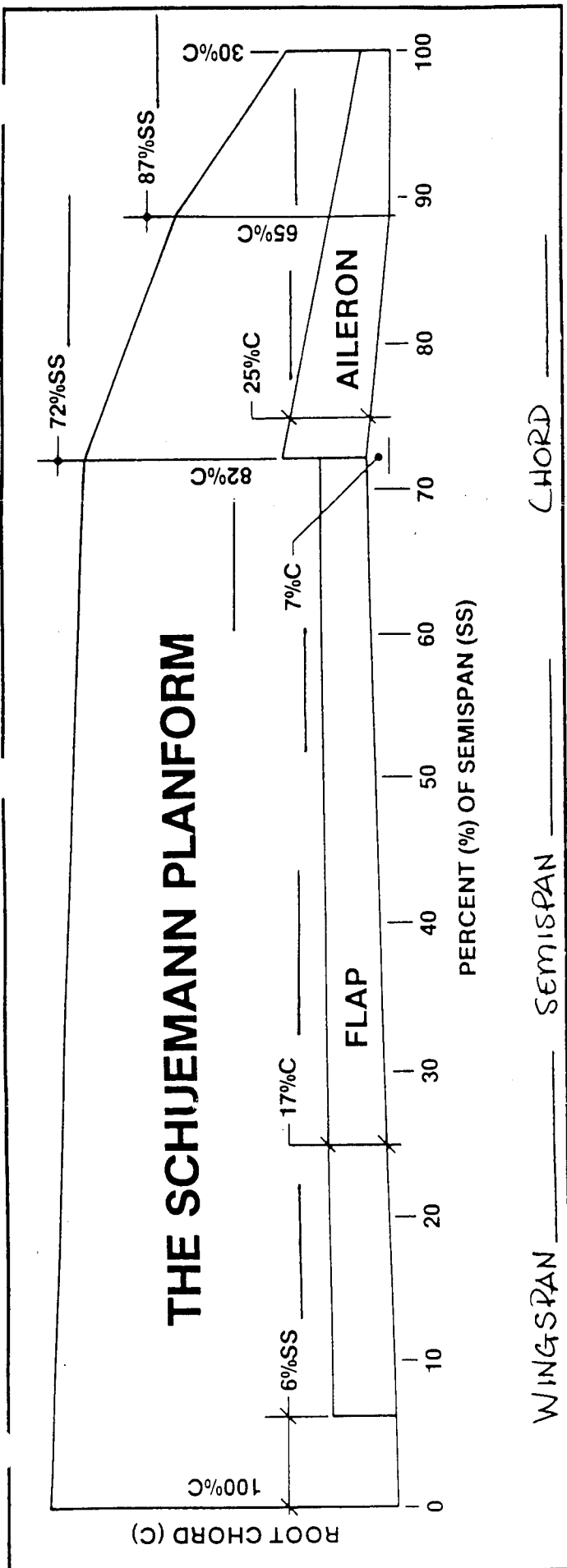
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Thanks to PAUL RIEDLINGER for this ALGEBRA spotting device.

(pinched, I believe, from Model Aviation MICROHENRY Series).



(I "BORROWED" THIS INTERESTING  
PIECE FROM THE CLARENCE SOARING  
SOCIETY NEWS LETTER - ED.)



### How to Use a Winch

(Stolen from the Pikes Peak Soaring Society newsletter, "The Spoiler", edited by Ron Watts.)

Learning to winch launch isn't an activity that is immediately appealing for sure. One has to acquire a taste for it. Kind of like Hot Stuff fumes and paper cuts...you learn to love it! The launch has all of the promise of your first date or the test ride in a new car, or a promotion. Something good can happen. A good launch is exhilarating. It can make an otherwise poor flight bearable... "Did you see the launch I got?!" What follows hopefully will help the good occur and not mild disappointment or worse.

Many of us are giving away altitude on the launch and altitude translates into time aloft. Observe how many gliders seem to come off too early or lock at the poor altitudes gained on variable wind conditions. The variety of ways one can lose altitude on a launch can rival the number of theories on the best airfoil to use. Try some of the methods described below...you'll start finding yourself yearning to go practice winch launching.

### Three Keys to Good Launches

- 1) Prepare a mental pre-launch routine to assure that frequency pins are on antennas, timers briefed, radios are on and flight plans are filed. Our club, the

fly uphill in that direction after first having compensated with the wind to gain a better angle of attack. Example; if the wind is coming from the right, you can allow the ship to bear off to the left briefly at the start of the launch. Now as you come about, the wings will be in a better angle to take advantage of good lift distribution as you continue up the line.

\* The second 40% of your time on the launch will be used to adjust speed depending on the quality of air encountered. If you are in reasonable air your ship should continue a good climb with little urging. Your rate of climb, while beginning to lessen as the turnaround influences the parabola, is still better than normal. Maybe the wings are showing signs of bowing more than usual or the winch seems to be working harder than normal. These are signs of probable lift in the launching zone. We'll try pulsing more slowly to allow the climb to continue, we're adjusting speed. Incidentally, my preference when flying through an apparent thermal while on launch is to try a zoom launch at the top for maximum altitude and then roll back into the thermal. I have never had the courage to abort the launch prematurely! If we encounter poor air, we will need to speed up the airplane to exit the area and to provide climb continuation; again we're adjusting speed. My previous objection to up or down trims was that we want to be responsible for those intuitive inputs from the stick and trims represent

another factor to remember.

\* The final phase for the launch is for acceleration. If the line is stretchy then a lowering of the nose will begin the airspeed increase with little need of line speed from the winch itself. What we are trying for here is not an aggressive zoom, but rather a sling shot effect coupled with a mild forward dip in altitude. After your ship gains altitude after a "Sling" launch be careful not to let your speed drop. Speed is valuable energy meant for covering ground. It is probably more useful than that same energy converted to altitude. The important thing to keep in mind is that you can fly forward on the winch line for some distance after reaching maximum altitude before the ship starts to descend. Use this time for directional speed adjustment. Remember, more altitude is lost by releasing too early than too late.

### Specialty launching

The downwind launch is certain to bring out the pessimist in anyone... "I know if I launch now, I might as well go home!" The downwind launch is a fact of contest life. You might as well count on having to do one at least once in every contest. Therefore, don't hesitate to practice them when you're out sport flying. I'm not saying you should deliberately set up the winch downwind, although some local achievers have been known to go to these extremes! The downwind launch requires additional pretensioning and

Pikes Peak Soaring Society or PPSS has adapted the initials to mean Pin, Plane (checks out ok?), Switch on, Settings OK? You might use "PPSS?" to help you remember these important things or devise a memory jogger of your own. (How about Check pin and plane, Switch on, Settings OK? - rp) Observe wind direction closely....that's the direction we're going to fly uphill in. Are trims set in neutral? No, not up-trim or down-trim.... neutral! Practice the pre-launch religiously. If you get interrupted, start over with "PPSS?" that will help launching with the switch off....that's when you need it the most! Don't get pushed out of good mental preparation.

2) Assume the position at the winch. My definition of a proper position is that you are standing sideways or parallel to the line with the pedal at the back foot. Visualize a pitcher pitching from the stretch position and you will have it. In this manner you will have the proper body weight transfer. If you stand perpendicular to the line, you are forcing your arm to do all the work. Keep in mind that finding the right method is largely a matter of which expert you wish to believe. The arm holding the airplane should be stretched straight back and the airplane should be in launch attitude with tail low....about 45 degrees plus. If you are launching into a quartering wind, the wing should be held slightly low in that direction.

Begin to pre-load the line. I admit

to overexuberance in this area, but I think an airplane should be launched at what would be a fairly high normal flight speed (probably 20- 25 mph for a Sagitta type) As you begin your throw (not release....throw!), your body should be taking a medium stride forward while your back foot stays on the pedal. It is important for the pedal to be turned sideways also, as we don't want your foot losing contact. The pedal is held full on for the first part of the launch, but not so the ship begins to exceed the speeds we discussed earlier. The direction of the throw should be at a high angle from 45 to 60 degrees. Work up to the safest angle and down to the proper speed....we don't want any broken gliders right?

The proper angle and speed will look to an observer as though the airplane has been thrown straight up by hand and continues on it's way at a constant rate of climb. It will not look jerky or suddenly accelerate with tremendous noise accompaniment. Excepted from this are ships intended for full power zoom launches from cradle to grave so to speak.

3) The actual climbing "arc" can be described in three stages:

\* The first 40% of the time on launch should gain about 60% of your altitude. Go up smoothly and at a steep angle or you'll pay the price of mediocre height gain. Remember that we wanted to predetermine wind direction during our mental pre-flight? Now we are going to

far higher line speed than most flyers realize. An average contest ship can easily take a full power launch, no pulse launch under down wind conditions with little fear of damage. The best glider I have ever had for down wind launches was the Viking MK II...the worst was the Sagitta until I understood about line speed being all important. By the way, if the down wind launch is something we have to contend with at most contests, why don't we consider it when selecting contest designs?

High wind launches can be terrifying, right? That's because most flyers don't adjust their normal launch techniques thus causing stress on those ever fragile joiner boxes. My approach is to build up a slight amount of tension similar to launching a light two meter with an open hook (...now if your flying a light two meter with an open hook, you had best have an equally light toe!) Let the sailplane climb with as little pulsing as possible once having gained safe altitude, remembering that Mother Nature is supplying energy rather than the winch so you should save as much line as possible during the launch. If you have a capture towhook and you have gained most of your altitude, you can try turning the sailplane to fly directly back toward you, thus stripping the line back off the winch. Assuming that you don't run out of line, you can then turn back into the wind and gain additional altitude. Remember that you will have to pulse much more aggressively since you are carrying allot of additional line drag. It is helpful to have a timer be

aware of this technique so that he can advise you of line remaining on the winch drum. It is possible to gain unbelievable amounts of altitude using this method.

### Summary

Winch launching is allot of fun when your airplane is set up properly and you are familiar and comfortable with its characteristics. If you are going to be competitive, the launch is one of the most important conditions for setting up your flight strategy. For all these reasons, you should spend as much effort in refining equipment and technique as possible. Good luck!



"FRED THE ED." ON THE WINCH PEDAL!!

p.0  
"TAKE AN ALGEBRA TO  
LAUNCH!"

-A STUDY IN  
STYLES:

BILL MOAR GIVES  
IT THE "OLD"  
HEAVE-HO!-

WHILST STAN SHAW  
APPEARS TO  
COAX-

(JUST A  
LITTLE)

See separate .pdf file  
for full colour version  
of this page  
-BUT WERNER K.  
DEMONSTRATES A  
MORE CONSERVATIVE  
TECHNIQUE!

PHOTOS TAKEN AT "BIG BIRD  
BASH BY DAVE?" - A  
VISITOR FROM THE CAMBRIDGE  
CLUB - THANKS A LOT, DAVE  
-E)

