

Competition Finishes.

Competition finishes can be one of the most exhilarating experiences in gliding, BUT they can have hidden traps.

So what is a competition finish and where can it go wrong?

The principle of racing is to get home as quick as possible so any excess height that you have passing the finishing line could have previously been turned into speed earlier in the final glide.

Recent rule changes have made the fly through the finishing line at two feet above the ground illegal, I think it is a shame, but we can still finish at a very low altitude. We must then be able to manage a safe landing. So let's look at how we should approach a competition finish.

The finish starts way back when you are planning your final glide. You should come down your final glide path at a speed that your Mcready gives you based on your last climb. However even at this point you should be considering the conditions ahead. If it is reliable or strong then you can leave at the allotted speed, if the conditions are poor then assume that you will not get the lift you expect on the way home, so start your final glide more conservatively. As a rule of thumb if the thermals are 3-4 knots then work on the Mcready if stronger you can generally push harder, you will find lift on the way home. If the conditions are weaker then top up more and fly more conservatively.

You could have been flying on final glider for a considerable time, on a good day you could have started 100k away, so make a call early to the launch point van to find out the conditions on the ground. (the launch point van should on hearing a 10k call return with a message of the wind speed, direction and duty runway so if you are at the van please make this return call as a matter of habit.)

Monitor your final glide not only with your instruments, but also visually. I have had an occasion where my GPS lost contact with the computer. I knew my distance from the airfield by the map and know the basic rule 10 k per 1000 ft. The figures did not match. So I worked manually and got home and won the day. Don't just fly by instruments fly as part of the glider, know what you are doing.

So now you are approaching the field and you should be getting some idea as to how you are going to achieve your safe landing, but be aware that things can go pear shaped very quickly. Monitor your speed, height and angle to the air field regularly. ALWAYS be looking for lift because if you don't you will find sink. This does not mean that you are going to stop and turn, but if you pass through more lift than sink you will get back. If you find sink then you could end up landing short and finding a paddock on final glide needs a lot of quick thinking. Like all things in life "If you fail to plan you plan to fail."

When we are flying competitions we never turn back on the finish line. So that means if you cross the finish line from the south and land on 23 you will do a right hand circuit not a left hand. One of my flying rules is to fly and prepare as you would do on *THE DAY*. So if you are flying a competition finish fly as if you were flying a competition, otherwise when you fly a competition you will go back to old bad habits.

When you get to 10k from the airfield make a call on CTAF you r situation and intentions. You will have switched onto CTAF some time ago haven't you!

"Stations Cunderdin Glider Xray India Foxtrot approaching from the South West 10k two thousand foot. Cunderdin."

Hopefully you will get a response from the ground.

The call you get is "Wind 30 knots from the west Duty runway 23."

So now we know the conditions on the ground and can manage our final landing with that knowledge.

Start dropping your water at 5 k and make another call.

Continually keep working out your final landing. You are not going to make a straight in approach on 05 because you have a strong wind behind you. The glide will be very flat for the same reason, so keep aware if you get low as you will soon not have enough height to make a circuit into a paddock. If you hit sink you will make a turn into 27. But things are going fine. You are doing 100 kts and you cross the finish line by the launch point van and begin your pull up to do a circuit.

All of a sudden things start to go wrong. You had plenty of speed to gain height but now you are flying at 60 kts with a glider that has still not got rid of all its water and you are nothing like the height required to do a circuit. You do a low turn and start finals with a horrible wind gradient and you struggle to maintain speed and reach the threshold.

So what went wrong? One of the first things we learn as a glider pilot when landing, particularly in strong winds is the problem of wind gradient, we found this problem on finals. When decreasing height on the final leg of the landing the wind gradient reduces the effective speed and energy, of the glider. So we lose energy and only gain it by lowering the nose to gain speed. To save ourselves we ensure that when we expect wind gradient we have plenty of speed in advance. So when reducing height into wind we lose energy. Just the same with the glider discussed its competition finish, loses energy when gaining height downwind. The pilot was warned at 10 k that there was a strong tail wind. When gaining height with a pull-up down wind we lose energy.

On the reverse there have been occasions a pull up into a strong head wind gliders have been known to pass through VNE! As they gain energy.

Therefor remember when doing your completion finish that you need to be aware of the wind conditions and your potential loss or gain of energy. You could do a small pull-up and a 90°turn completing the pull-up. But be aware of those glider following you. At the end of the day is if there are issues with the weather finish higher!