



OUTLANDING GUIDE

OUTLANDING

In soaring the thrill of competition comes from making decisions both good and bad in rapid succession. Whatever may happen the final result will be either be the joy of a successful final glide or the adventure of an out-landing. Given the high performance of modern sailplanes, good pilot discipline and supportive coaching techniques, the likelihood of out-landing can be reduced. All pilots will get low on occasions, and should have several suitable paddocks selected in case of an imminent out-landing.

BE PREPARED

Any cross-country flight might be terminated with an outlanding.

It is worthwhile making an outlanding kit containing the following:

- Telstra mobile sim card and charged phone
- Torch (A wind up dynamo version is preferred)
- Notepad
- Retractable pencils (pens dry up)
- Compass
- Portable strobe
- Map of flying area
- Signalling mirror
- Emergency food (non-perishable such as muesli bars)
- Money
- List of telephone numbers and radio frequencies
- Space blanket
- Lightweight waterproof coat
- Aspirins and Insect repellent
- A paperback book
- Outlanding checklist (see end of article).

This may seem a long list but I can assure you that all the above items take up little space, weigh little, and are very useful. The kit could be kept in a sandwich container or small backpack. Above all you must have **PLENTY OF WATER**.

Other Optional Items

Hand held VHF radio. Batteries are best kept out of the radio to prolong battery life and installed when needed.

PLB (Personal Locator Beacon). Rather expensive and only useful in an emergency but will give immediate help from the emergency services.

SPOT. Very useful device for giving outlanding/OPS normal messages (including Lat. and Long. position) via satellite to sms and email and indirect contact to the emergency services if required.

CAR AND TRAILER



Your car must be left in a position easily accessible for your support crew. It should be full of fuel, mechanically sound and the keys in the ignition. Leaving some money in the ashtray is also a good idea just in case extra fuel is needed. Leave a note as to any of the cars peculiarities and other directions as needed

Astir trailer rego PL 1245

My Phone 0421234678

Louise's Mob 042134567

Club phone is 07 4162 2191

\$50.00 in ashtray for fuel and minties

To select reverse lift up ring under gear knob

GPS between seats

Country road map in glove box

Naturally the trailer should be in good working order; if it's a club trailer make sure you check it out before leaving. Inform the duty pilot the course you intend to take, it is also advisable to call in each turning point you round and where you are going next.

FLIGHT MANAGEMENT

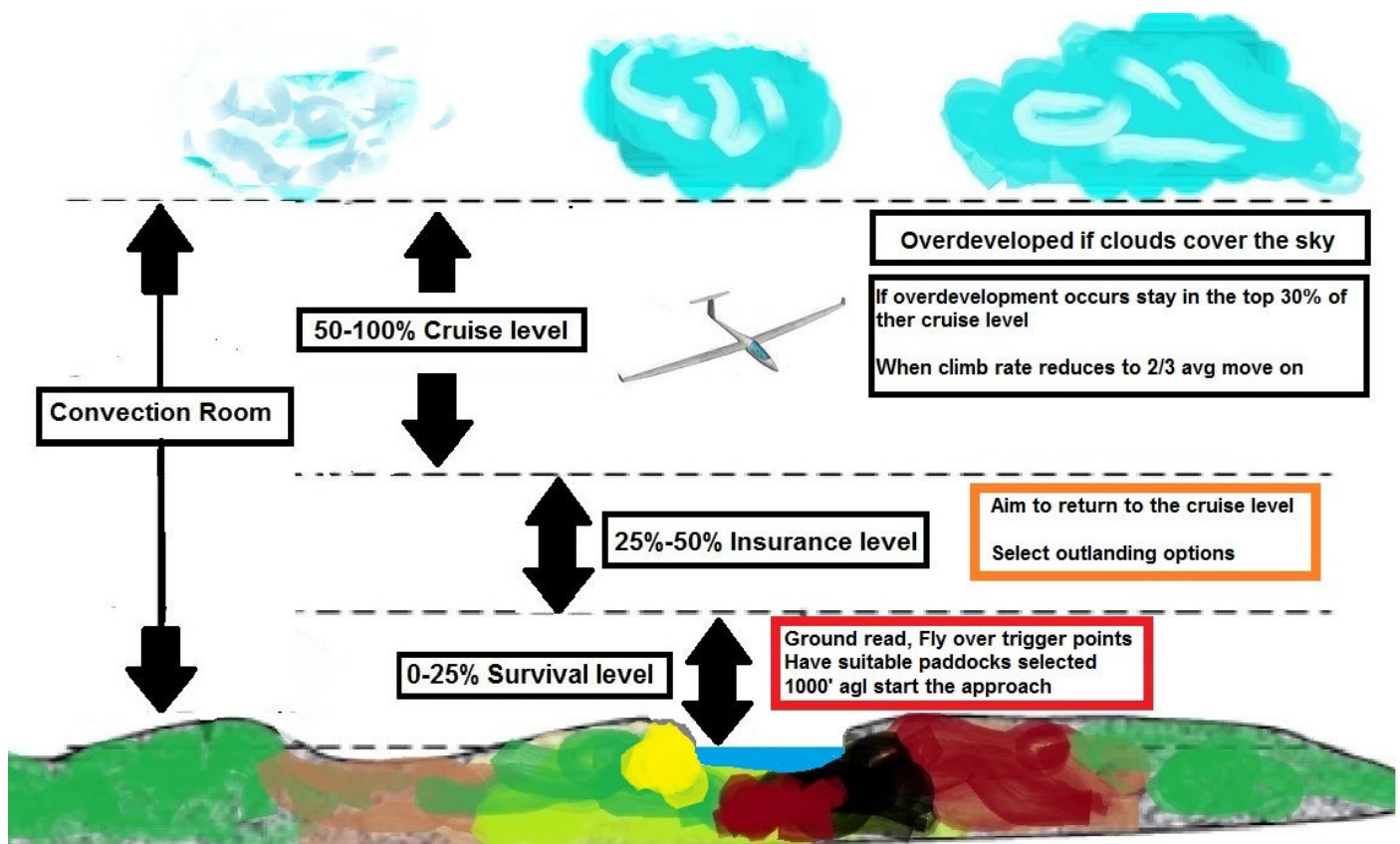
Good flight management demands sound judgement, combined with the need to prioritise tasks and at the same time keep sufficient energy within the sailplane in order to maintain a safe, efficient, and accurate flight profile.

The model offered below is not rigid. In this case the pilot aims to cruise at a suitable speed in the upper 50% of the convection room (Convection Room is the height from ground level to the top of the thermals)

If the thermals are going to 6000 feet above the ground then the lower level would be 3000 feet above the ground. The lower 50% is then split into two, an “Insurance Level” which in the above example would be between 3000 feet and 1500 feet levels and a “Survival Level” between ground and 1500 feet.

In the insurance level speed and direction may be adjusted to maximise the search area for lift and at the same time look for suitable out-landing areas. In the lower quartile, the survival level, the priority is to remain airborne and reduce risk. Risk is controlled by having a suitable paddock .

Eventually, clouds may fill most of the sky leaving little blue between them. This is termed “over convection” or “over development”





Before flying ensure that you plan the flight and question other pilots who are familiar with the terrain on the task. Always depart on task with the expectation of a possible out-landing. On release from the tug aircraft or winch, the flight has then to be managed with the primary aim of a safe landing.

On descending into the lower levels of the convection room, the priority will change from searching for lift to finding a suitable area in which to land. Be aware that the workload will increase as the search for lift intensifies. The emphasis should now be on ground reading, searching for lift and at the same time looking for 'out-landing' options.

Remember that the wind will change the search distance. For example search distance will be less when flying into wind and more when flying downwind. If flying downwind gliding range will be increased, allowing flight over more lift sources, trigger points, and suitable landing fields. This may improve the chance of finding a saving thermal.

Remember a diversion from track may also be necessary when the opportunities to land are few or non-existent. From 2000 feet there will be on average 10 minutes of flight time remaining. In most sailplanes flying at 60 knots this gives an air distance of approximately 10nm/ 19km., or. It will be better than this if there is rising air or reduced sink and worse off in sinking air. Below 2000 feet above the ground, options are reduced, and a specific paddock should be selected.

The first priority in selecting a paddock should be the safest landing option rather than the simplest retrieve. Try to visualise the flight path to get down safely onto the landing area. Ignore the altimeter; it's **angular distance** that counts from now on. now the wind and check for obstructions.

Whether or not the search for lift is continued will be depend on:

- The meteorological conditions; i.e. broken lift and wind gradient.
- The experience level of the pilot, how the flight has been managed, and the remaining options available.
- Familiarity with the sailplane type. If you feel uncomfortable, then do not persist, but land. If lift is found and the thermal has form, but not necessarily strength, and it feels **comfortable**, accept the climb but always remain in a position to return to the planned approach; never lose sight of the landing area when low. If there is any possibility of out-landing get the checklist out of the way early, stabilise the sailplane, check the wind for **direction, strength, and drift** and land safely. Then if lift is contact with a successful escape retract the gear and remember to drink.

HUMAN PERFORMANCE

Never hope that luck will get you out of trouble. Low-level soaring is a demanding task but with training, briefing, practice, and disciplined flying it is safe. The best insurance is to fly regularly, but if out of recent flying practice it is recommended to seek training, or at least review out-landing techniques, and visualise procedures before flight. This is particularly important at the start of the soaring season when the combination of weak spasmodic lift and maturing crops and grasslands demand that there is an adequate margin to allow time to assess the conditions. This margin is carried to ensure that a pilot is not rushed, and that there is sufficient time to complete all checks and make adjustments to the final flight profile.

STRESS LEVELS

The amount of stress, which a pilot experiences, influences the ability to perform tasks. The stimulation from cross-country flying increases arousal, which is favourable. However, if very high levels of stress are placed upon any pilot, the mental and physical demands may put him or her in a position beyond the ability to cope. This can be further exacerbated by the onset of dehydration which can be rapid, but which can be countered by fluid intake. Failure to drink may result in confusion and fatigue. It is recommended a minimum of 4-5 litres be carried to counter dehydration during flight and after out-landing. A pee system is thus also essential. Do not plan to limit drinking because you do not have a pee system. Dehydration is dangerous in that it leads to impaired mental function. One of the features of stress is that an event, which causes high stress in one individual, may not have the same effect on another. And what may be stressful for one individual may not be stressful on another occasion. It is important that pilots are aware of their limitations. If you feel uncomfortable or frightened make changes to the flight in order to remain relaxed or perhaps don't fly at all.



THE GENERAL PLAN

The aim is to be in an area of suitable fields whenever you're low, i.e. 2000 ft. or below. The decision that puts the glider in such an area at this height might have been made at any height and miles away. e.g. a pilot may be 20 miles away from an area of suitable fields at 6000 ft., and over unlandable country, unable to find lift. He should in that situation, decide to head for the area of good paddocks he has kept in range. With 2000 ft. in hand, the pilot has plenty of height to select several fields, check their suitability until the choice is reduced to two- the field and the alternate field. (The alternative is close to the first choice field, and is in case some hazard was missed in the first choice field, and only becomes apparent at low height (e.g. on downwind). Then, if height continues to be lost, the pilot plans and carries out a normal circuit and landing in the same way as if he were landing at the home airstrip.

FIELD SELECTION

As a guide to selecting a suitable field the letters (the 4 S's) SSSS and a W are good.

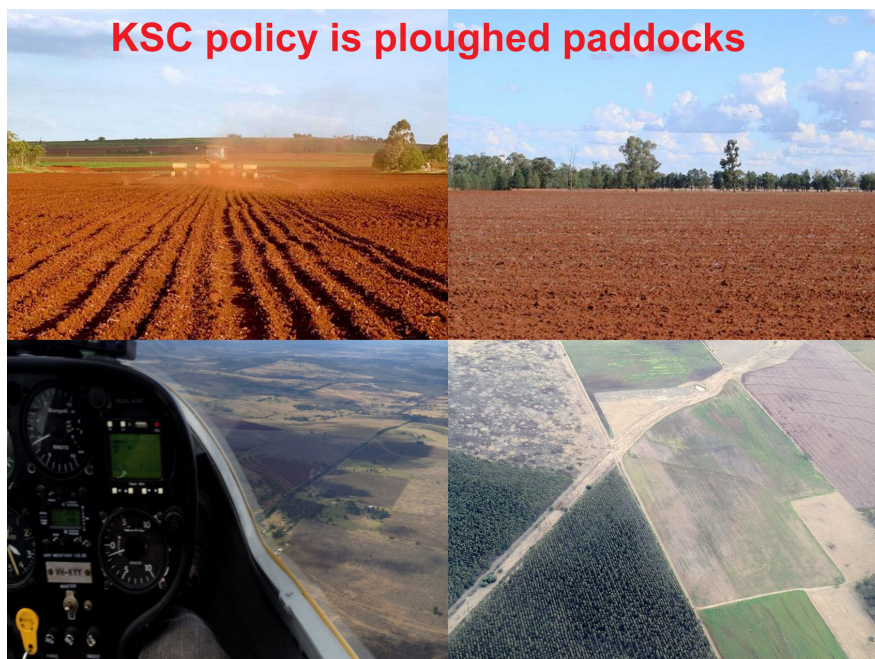
SURFACE-SIZE-SLOPE-SURROUNDS-WIND

SURFACE

Sufficiently smooth, generally a cultivated field is better than a stubble field as the later may have deep hoof marks from feeding cattle or had time for erosion of ruts to take place.

In the Kingaroy and Darling Downs area, fields cultivated for grain crops will be smooth enough and unlikely to be deeply ploughed with deep furrows. If the field surface is deeply furrowed, the aircraft must be landed parallel to the furrows, even if out of wind. Contour banks are prevalent in the Kingaroy area. Qld agricultural recommendations are such that 30 meters should be the minimum distance between banks on a high sloping paddock. As a rough guide the wider the banks the smaller the slope.





Whist soaring in the Kingaroy basin it is a necessity to land in ploughed paddocks. Although the surface might look aggressive and unsuitable on closer inspection you will find the surface soft and forgiving. As the sod has just been turned over you know that there should not be any large obstructions that may damage a glider. This is not the case with long grass and green fields. As you fly further south from Kingaroy the policy can be relaxed to include fallow land however for the initial cross country pilot In the Kingaroy basin outlandings must be conducted into ploughed fields.

Next time you come to the club go for a walk around the airfield area, there is usually at least one paddock freshly ploughed so as to familiarise yourself with the surface.





On no account must a field cultivated for cotton be chosen as the furrows formed to flood irrigate the crop are far too deep for a safe landing.

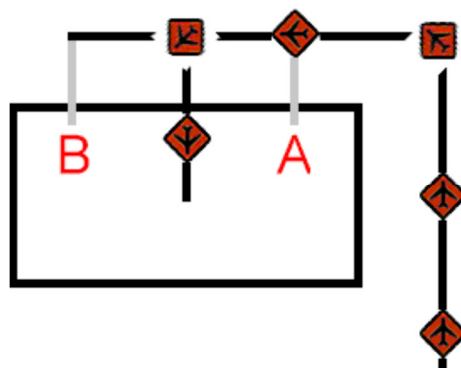


Heavy standing crops can cause damage to the aircraft, especially if a high crop-corn must be avoided. It is only fair to consider the cost to the farmer, and avoid electing to land in young crop. Express your concern and perhaps tactfully offer to compensate him for crop damage, if you are forced to do so. Grazing fields must be carefully examined for stumps, logs, gullies.

Melon holes in a field under grass or crop, or if not freshly cultivated, tend to show up in an artic-glass pattern of various grading of colour and shading strengths, constructions inside a field, like telephone wires, electric wires, poles and rocky outcrops, are easier to spot in a cultivated field, as an uncultivated part will have been left around the hazard, and the different colour may be observed. A stony field is almost impossible to spot, if grassed or in stubble. Be cautious that a bright green field is not a swamp. Select a field without animals or land in the opposite side. It will be seen that the selection of a cultivated field automatically takes care of most problems.

SIZE

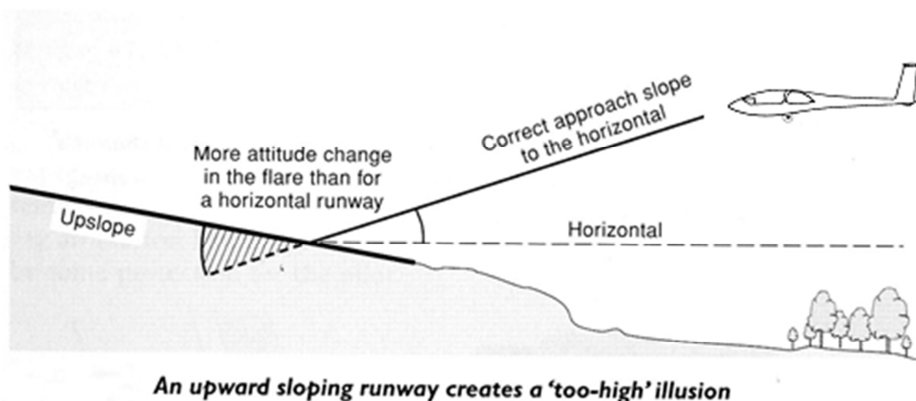
In general, the larger the better. A long narrow field would be fine if into wind, but a square shape has the advantages worthy of note; - it would be possible to land either parallel to the side fence, or diagonally across, whichever is into wind; secondly, if a height miscalculation has been made, base leg can be shortened (see A) or lengthened (see B). Thirdly, if an unobserved obstruction becomes evident and a pilot is committed to the field, a large and square shaped field provides better possibilities for taking evasive action.



SLOPE

Difficult to detect from the air, especially if directly above the field, and if easily detected, is too steep. If flying in a generally hilly area, remember fields near the bottom of the valley are most likely to be the more level; so a fields near a stream would be chosen and the slope assumed to be down to the stream. If at all steep, the aircraft should be landed up the slope, regardless of wind direction, and a higher approach speed is necessary when rounding out up a hill. While it is possible to land across a gentle slope, avoid attempting to land down a slope. Contoured fields require great care and experience, and present special problems. In general, the wider the spaces between the contour banks the flatter the slope between them; and then it's best, if there is enough space, to plan an approach at right angles and touch down across a lower bank and end the ground run before the next bank up hill.

Steep Approach illusion



SURROUNDINGS

Look for power lines, telephone lines and high trees in the approach path.



These may force the approach path to be so high that a smaller field may have more effective length. Power and telephone lines are more likely to be present if the field is adjacent to a road or house. Turbulence and wind gradient may occur near trees or large buildings. In some cases, wires may be supported by trees, and the normal line of regularly spaced poles may not help the pilot detect their presence. Beware of mobile electric fences, a dead giveaway is a clear delineation or surface. It will be clear on one side with stock grazing and lush on the other.





Although distance from help is not a priority in getting safely on the ground you should try and note the nearest farmhouse or main road whilst assessing your chosen field stubble and or crops.



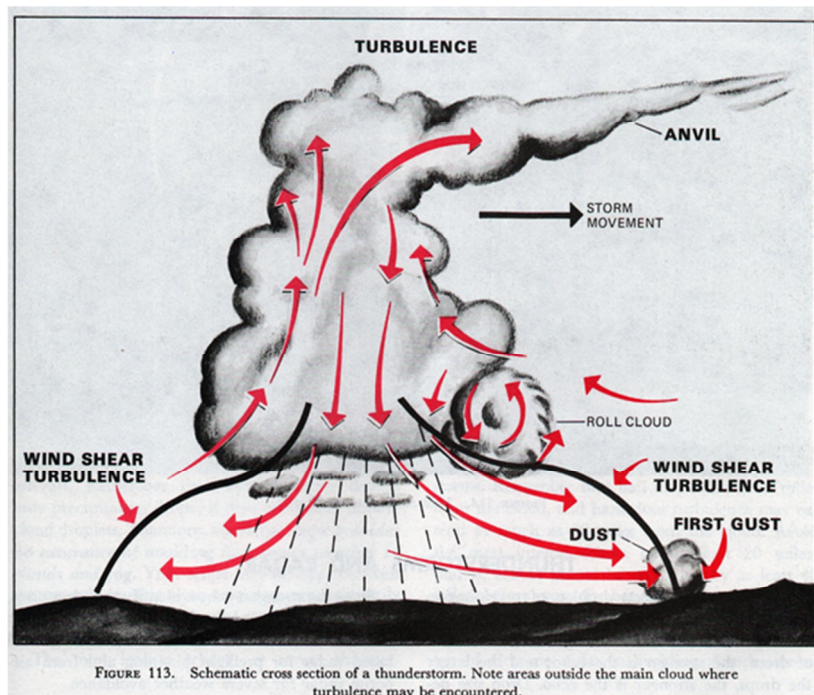
Whilst it might only be 2km to the nearest road it is a very long walk in 40°C heat if you head the wrong way whilst fighting bush and or long grass. If you can remember a compass heading in the heat of the moment, you're far more likely to find a nice cup of tea rather than salty trough water and a frustrating paddock circumnavigation in search of the gate to the farm house.

WIND

As usual, plan to land into wind. If there is no indication, use the longest run. As there's often no indication of wind direction conveniently at hand, just when an outlanding becomes likely, the pilot should be constantly checking this aspect throughout the cross country flight.



Perhaps a few miles back there was smoke or dust, or a windmill as a pointer. The drift of clouds of the sailplane itself is some help, but does not necessarily indicate ground wind direction. On strong wind days, there is wave motion across standing crops and grass; also the upwind end of water holes or dams has a smooth surface.



THE APPROACH AND LANDING

Flying Technique Involved During Paddock Selection, Circuit and Landing

Paddock Selection

The pilot has been selecting and discarding fields at all times below 2000'. This process continues until the choice is narrowed to two fields, a first and second choice.



At this point a definite decision has been made to accept the fact that the cross-country task has either permanently or temporarily ended. The prime consideration has been selecting a safe landing area, but the pilot has also been searching for lift while doing this. If the pilot has flown a wide circle around the selected fields he has both checked them from every direction, and also has searched a wide area of sky for thermals. The amount of time and height used to select the field will determine how much can be spent exploring likely thermal sources, and will vary in relation to the area and the pilot's experience. The situation at 2000ft is easily resolved if good lift is found soon and the glider climbs away.. The position is complicated if weak, scratchy lift is encountered, especially in strong wind situations. The pilot must be sure to be on the upwind side of the selected fields before thermalling.

It is KSC's policy that **NO THERMALLING** should occur below 1000' agl. For initial cross country pilots this is the point at which to abandon the task and commence the approach.

Don't forget that jettisoning water ballast will help you fly slower, and give you more time to think. As soon as you get to a level that you consider 'low', get rid of your ballast early. A slower overall speed is still much faster than outlanding. Early cross country pilots should avoid using water ballast, until they have practiced and grown comfortable with it during local soaring.

When selecting your field, try and plan for your usual circuit direction (Left or right). Ideally, approach between your two chosen fields, so if the second field has to be used, simply swap from



a left hand downwind into field A, to a right hand downwind into field B (or vice versa) and continue your approach.

Flying the Circuit

Once the decision to land has been made, and the circuit area has been entered; temptation to thermal below the 600ft checkpoint must be firmly resisted. This caution applies at the familiar home site, so of course must be even more important at a strange landing field. Similar warnings also apply to attempting unusual approaches like 'S' turns, or side slips – do not deviate from your normal approach pattern.

Do not change your mind at the last minute. Keep to your plan, monitor obstacle clearance and maintain a safe speed. A good rule is to never to turn your back on the landing area and use angular distance to the aiming point for landing rather than relying on instruments.

Make a radio call early. Don't leave it until you are on finals you may not be heard and your workload will be too high (Aviate, Navigate Communicate). A position on a GPS can be very useful if successful contact is made. Give your distance and bearing to your next turn-point. Or at the very least, the general area you're flying in at the time. If you manage to get away, make a call to let others know you're still in the air.

Fly at the recommended circuit speed of 1.5Vs. In most of the KRY aircraft this will be around 55-60 kts. Remember that as soon as the bank is increased, the 50% safety margin in speed that is being carried will be progressively lost and at an angle of 60 degrees of bank, this margin is reduced to zero.

A well-planned circuit will place the sailplane in the optimum envelope for approach, once 'stabilised'. It then becomes an easy task to control airspeed, glide-slope, and drift. Aim to touch down a quarter to one third into the field, by using sufficient air brake to maintain a steady descent, but be prepared to reduce or close the air brake to prevent excursions below glide-slope.

If the only option is to land cross-wind, it is preferable to make the circuit on the downwind side of the selected field. This allows a better view of the landing area, as the heading to compensate for drift will assist in keeping the landing area in view, making any change in angle with the touch down point more apparent.

Flying your circuit upwind of the landing area can be risky. If the wind component is strong there is a tendency to overshoot the centre line, which then makes any correction to offset for drift on final approach more difficult. A further trap is that the airspeed plus the wind component gives a visual allusion of high airspeed, and this may trap the unwary into reducing speed. To guard against this it is essential that the airspeed of [Vs 1.5] plus any additives is maintained throughout the final turn and on to the approach path to protect against the increase in stall speed due to manoeuvre.

If wind shear is expected, compensate for any by adding extra speed to your approach speed to compensate. In a flapped sailplane it may also be advantageous to consider adjusting a lesser flap setting to reduce drag in wind shear conditions. This should be done before commencing the approach so as not to destabilize the approach path, this helps to maintain energy within the sailplane.

Whilst it is imperative to maintain energy in flight, with an adequate safety margin, excess flying energy causes the touchdown and landing run to be longer. This can obviously increase the chance of hitting the far fence or causing more damage to the aircraft. By flying at the right height and speed for the conditions, the energy on landing can be kept at a minimum.

To sum up - On final approach **weight** should be at a minimum, which is nil ballast with a speed of [Vs 1.5], plus any additives required to offset wind gradient and gusts. This permits the lowest speed at the threshold [Vat], which reduces the landing run and helps protect the integrity of the landing gear.

Landing

Airspeed, altitude, brains - at least two are always needed to complete a successful flight

The pilot should make an effort to achieve the usual hold-off and stall-on landing (avoid wheeling on). The aircraft will then touch down with the least possible impact and slowest ground speed. If a hidden obstruction is encountered, or a ground loop occurs, less damage is likely. In soft soil the ground run will be short, use the controls in the normal way to keep the ground run straight.

Remember that the length of the selected field is likely to be shorter than the home strip. Do not fall into the bad habit of arriving at a certain height "half way along" the home strip. On small fields this will lead to an overshoot. The correct method (which applies to both the home strip and the outlanding field) is to isolate the landing area and position the aircraft so it is opposite the end of roll point at 800ft on the downwind leg. Your aiming point will be such that you clear the fence with a safe margin, exactly the same as you would at the home strip. If you selected a small field, you are forced to reduce this margin, and aim just inside the fence; or in extreme circumstances the aim point would be at the fence itself, the round out would begin over the fence, and the touch down just inside.

In an emergency where the aircraft is going to over-shoot and run into the end fence or similar obstruction, you may be required to initiate a ground loop to avoid or reduce the chance of personal injury.

If you are undershooting because of heavy sink, you must avoid hitting the boundary fence. One way out is to land before the fence by applying full air brake. Make sure your hand is on the blue airbrake lever and not the flap. However attempting to land before the fence may place the sailplane on the ground in a high-energy flare with insufficient space to stop before the fence. If there is a risk of collision with a far boundary obstruction, there are several options.

- With a retractable gear this can be raised with a slight risk of damage. A set of under carriage doors is decidedly cheaper than the prospect of major damage.
- If the speed is low, say ten to fifteen knots, a ground loop is an option. The technique used is dependent on the aircraft design. In most cases the stick should be fully forward before the windward wing is dropped and the rudder applied. Keeping the stick back and thus the tail down will almost certainly result in breaking the fuselage. However, a number of

sailplanes have a nose wheel. In this case if the stick is pushed forward, the weight on the nose wheel will serve to resist any rotation.

- A more desperate move might be to aim the nose of the glider between the posts, with the intention of the wings hitting posts first. This will allow the wings to take the impact first, but will save the pilot. Similarly, it can be arranged to hit any trees with the wings rather than the fuselage, if a collision is unavoidable.

During any of the above manoeuvres, know your glider, because with any configuration change the control loads may also change and be careful not to over control as this may cause a pilot induced oscillation [PIO]. This is often the result of excess speed at the flare. If this should happen, avoid over controlling, hold the controls steady to allow the inherent stability to settle the sailplane.

After any ground loop the sailplane will need a full inspection by a qualified engineer before further flight. This precludes an aero-tow retrieve.

AFTER YOU HAVE LANDED

What to do once you've stopped rolling.

Your first concern should be the safety of your aircraft. It should be securely pegged down, both at the wing tip and the rear fuselage, with dive brakes open and canopy fastened, before leaving to phone your retrieve.

Avoid leaving your aircraft unattended if there is stock in the same field. The same applies for children, tourists and sight seers. If you must leave, delegate a responsible person should be left in charge of the aircraft until you return. If nobody is available, and there is stock nearby. Tie the wings level to prevent animals stepping on the wings.

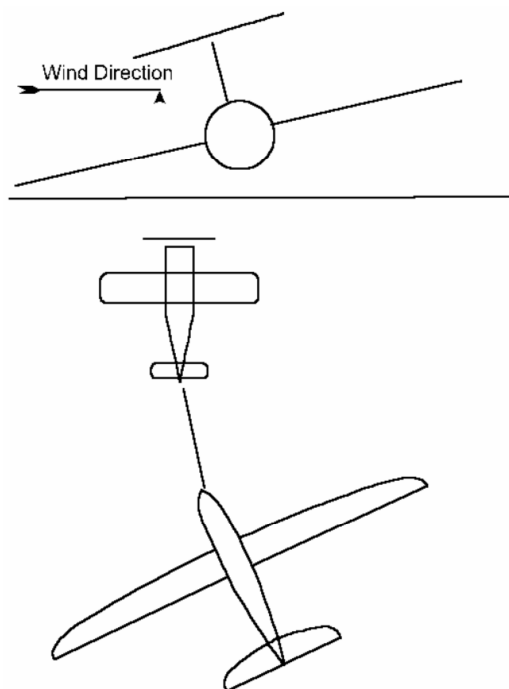
It's better if you (the pilot) can do the phoning, rather than delegate the task to someone else. Write down all the details on a bit of paper like your name, name of owner, aircraft type, distance to nearest town, what road it's on, name of property, phone number, special instruction for retrieve crew.

Aero Towing out of Paddocks

When we go through our cross country endorsement we conduct the outlanding check in a two seater and usually the instructor heads for a paddock or off field runway, it may well be the case that this field is well known to the instructor. Also it will, in principle, be suitable for an aerotow retrieve subject to final checking. When we are racing cross-country the situation is different. We will certainly be looking for a safe paddock to land in, however an aerotow retrieve is a secondary consideration. The safe landing is the priority not the retrieve. So when we have landed in our

paddock what are the factors we should consider **before** calling up the tug? They are not necessarily in order. •

- Is there a **total fire ban**, this may preclude any type of retrieve from the paddock. •
- **600 meters is the legal minimum paddock length.** Walk the full 600 metres. There may be rocks, rabbit holes and small indentations that will break your undercarriage and are not immediately obvious. Remember there is no such thing as a short field take off, the paddock is long enough or not. • Look for a suitable point for the tug to touch down and convey any relevant factors to the tow pilot before he lands. Work out what you are going to say in advance. This will keep the radio conversation brief while he prepares to land. • Before the tug arrives have a good look at the surroundings. Each outlanding is unique, there are no fixed rules. Work out the best flight line out, is it better to take off into wind uphill or across wind downhill. The danger of uphill take offs are the slow and long ground roll. Beware also of downhill take offs with a tail dragger! The centre of gravity starts to move nearer the front wheels as the slope increases, this has proven very expensive in the past. If the paddock is harrowed, is it better to take off along the harrows? There is a risk of breaking the undercarriage if you take off across them. There are a lot of factors to consider, make sure you have assessed them all. You will have plenty of time to do so awaiting the tug. A few such factors are discussed below •
- **Look at where you will land if there is a rope break.** That is formulating an escape plan.
- **Discuss and plan the retrieve with the tow pilot once he has arrived.** Don't hook on and rush off as soon as the tug has landed. Consider the line you will take out of the paddock, where and at what point you should abort. Discovering the paddock slopes uphill halfway through the take-off is too late, you could be in trouble. If in doubt release. •
- **Is the paddock long enough?** Consider the paddocks slope, the wind direction and strength. Also the temperature, the hotter it is the less power the tug has. Discuss any radio talk required during the operation. State "I will call as soon as I am flying" so he knows your progress without looking in the mirror. But don't be preoccupied with radio communications, remember Aviate, navigate, communicate. Spend plenty of time planning the whole operation, it is yours or the club's glider and your life. •
- **Do not assume the tow pilot knows all.** It's a team effort and you don't have to proceed with the retrieve if you're uncomfortable with the situation. •
- **Push the glider back** to the limit of the paddock, in some cases this can be done alone, if not with the tuggies assistance. I am sure he will help. Remember one of the most useless things in aviation is "runway behind you". •
- **Drink plenty**, as dehydration will make you stupid.
- **Prop up the wings** dragging a wing on the ground must place horrible strains on the airframe. When possible, I prop the wing up with sticks or fallen branches. These lie around the edges of most paddocks. Place one under each wing so that the wings are level prior to the start of the ground roll. A much less stressful launch for the glider and pilot results. As an alternatively a pile of rocks could be used instead of branches. •



One also needs to consider which wing should rest on the ground if you can't prop the wings level. Naturally you want to lift the wing as soon as possible. The greatest assistance you will have is the prop draft from the tug. The prop draft will give increased lift to the wing that it passes over. So how do you take advantage of this? If you are launching straight into wind place the glider slightly off line to the tug. Of course you have told the tuggie that you are doing this and why. Place the left wing on the ground with the center of the wing directly behind the tug. If however you have a crosswind let us say for example from the right, it is better to have the into wind wing, the right one in this case, off the ground as the wind will bend the prop draft over the left wing that is on the ground. Don't rush the launch. Be sure when you start the ground roll all checks have been carried out and you are relaxed and confident. However, still be prepared to pull the bung if necessary. Finally, if you think the paddock is not suitable for an aero-retrieve call for a trailer it's cheaper!

After landing checklist

GLIDER TIED DOWN
CONTROLS LOCKED
BATTERY OFF
RADIO OFF / REMOVED / HIDDEN
OXYGEN OFF
GPS REMOVED
GPS FIX AND LOCATION NOTED
STROBE ON
CANOPY COVER ON
CARRYING MONEY, PENCIL, NOTEPAD, WATER, COMPASS, MIRROR, TORCH, HAT, SUNGLASSES, INSECT REPELLENT

An entirely new phase of the cross country begins, when the flying itself ends, and often delightful and amusing things tend to happen. The usual reaction to your dropping in is mostly of keen interest, and your hosts tend to entertain you until the crew arrives. It is important for the gliding community to do all in your power to keep things this way, and to be an acceptable (despite uninvited) guest.

This might seem intimidating but outlandings can be fun, often make good stories for the bar and will give you a confidence boost.



This outlanding guide has been compiled for the use of the Kingaroy Soaring Club.

It is intended to be used as a general information guide only and in no way attempts to take the place of any GFA approved syllabus or any requirements as laid out by aircraft manufacturers or any overriding authority involved with the operation of Sailplanes.

Much of the content of this guide has been compiled and plagiarised with the generous permission of Graham Garlick, James Cooper and various club resources. Some of the content has also been used from the Late Mr Alan Latemore and his excellent guide to outlandings as appears on the DDSC website. A great gentleman and a true loss to the gliding community.

Justin Sinclair and Rhys Porter
Kingaroy Soaring Club
July 2012

