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Airfield Procedures

Site Rules and Procedures

It is our intention to create a flying environment where flying is fun and safe flying is conducted within a controlled but relaxed atmosphere.

The flowing is a guide as to how we may achieve this!

General

It is an active and busy airfield with multiple landing areas / directions; a mix of glider and powered flying, all generating many possible hazards.

- Be vigilant at all times and maintain a thorough lookout; supervising any friends and visitors whilst following the site rules and procedures.
- Dogs are to be kept on a lead at all times.
- Cars are to be parked in the car park when not in use.
- All rubbish, including wing tape, to be collected and disposed of in a suitable bin.
- Cars are not to be driven on the runways except for towing and retrieving purposes. Certain restrictions may be placed at various times during the year due to ground conditions.
- When towing to or from South Field area, it is essential that pilots follow the routes shown on map (see p. 7). The airfield speed limit is 10 mph. Second gear and foot off the accelerator works in most cars!

Flying authorisation

Section 3, *Currency and Privileges,* details our current guidelines.

Flying may only take place when an SGC instructor has been designated as Duty Instructor to supervise. Normally, during midweek operations, this will be the Staff Instructor.

All pilots must have current medicals and appropriate aircraft insurance. *A copy of your current medical must be passed to the Safety Officer.*

Self-authorising pilots operate within the above supervision framework.

Self-launching pilots must *book out and in* ensuring that the Duty Instructor is aware that they are airborne and that they have created a provision to alert the SGC should they become overdue from a flight.

PLBs are strongly recommended for such flight activity.

Flying list

Members wishing to fly club aircraft or receive instruction should add their name to the flying list which will be in the launch caravan or clubroom. Introduce yourself to the Duty Instructor (and Duty Pilot) so that he/she is aware of your requirements for the day.

All members are expected to learn how to assist in unpacking the hangar, helping at the launch point and understanding the principles of safe airmanship, which begins on the ground.

All members are encouraged to wear name badges as this is a large club and it is hard to know everyone and newer members should make a point of introducing themselves widely and asking about how they can learn to perform all the tasks of a busy glider launch point.

Duty Instructors (and Duty Pilots) have a duty of care and supervision to ensure that all activity is carried out safely and efficiently, ensuring that newer members are given suitable coaching and mentoring whilst on the airfield.

Feedback on the operation of the airfield should be given to any member of the Flying Committee whose names are published on the CFI's board in the clubhouse.

Visiting instructors will be cleared, subject to site check and/or briefing, to conduct operations in their own club aircraft. Visiting instructors, authorised by the CFI, or by the Staff Instructor, may supervise flying.

Launch point

Safety is paramount at the launch point and any member may call a stop to a launch if they believe they see an unsafe situation.

To ensure an efficient launch rate pilots must be ready when winch cables arrive with all pre-flight checks completed including cable release checks!

NOTAMs must have been read by cross-country pilots and Duty Instructors are briefed to ask specific questions prior to flight.

It should be expected that an efficient launch point will not use the winch driver as the cable retrieve driver. Towing cables requires some practice and clearance.

Club aircraft should be retrieved quickly from the airfield to keep landing areas clear.

Detailed operating procedures and guidelines are contained within the *Duty Pilot Briefing Notes* at the end of this section.

Trial lessons

These may only be conducted within current BGA guidelines with appointed current instructors and appropriate supervision.

Members of the public turning up for a trial lesson must be fully briefed on what the lesson involves. Students undertaking a trial lesson *must wear a parachute* and *must be briefed on how to escape from the aircraft and how to use the parachute in an emergency.*

If it is found that the use of a parachute results in the crew exceeding the maximum load for a particular aircraft then, use another aircraft which will cater for that weight. If it turns out impossible to meet the weight requirements in any aircraft and/or by getting a lighter instructor then the individual concerned should be politely told that we cannot fly them.

Friends and family

Authorised pilots must ensure that the care and supervision standards set down by the BGA for trial lessons are applied to this flight activity and that they adhere strictly to these guidelines.

Bronze plus pilots approved by the CFI or deputy may only fly passengers who are members of the club.

Pilots must be in current practice on type and launch method.

All flying must be approved by the Duty Instructor.

Aircraft seating and parachutes

We recommend the wearing of parachutes at all times. BGA RP 38 refers.

Most SGU gliders are fitted with shock absorbing cushions. Additional soft cushions must not be used.

The available combination of parachute/backplate should meet most needs but if anyone has a special need please see the safety officer.

Pilots should familiarise themselves with the BGA recommendations on the use of seat cushions.

The club reminds all pilots of BGA recommendations on the use of ballast, particularly for pilots of low hours or experience. Generally, the minimum placard weight plus 30 lb.

Circuits

At Portmoak, we insist that all pilots fly a circuit. It is good, orderly and safe airmanship which gives you an opportunity to sort out potential difficulties at a strange site and lets everybody else see what your intentions are.

When returning from soaring you will be expected to complete at least the base leg and final approach of a circuit. This is essential because of potential traffic density and the configuration of the airfield which has limited under-shoot possibilities.

Pilots may change the circuits designated for the day if airmanship considerations make it seem advisable.

The exceptions to the complete circuit rule are when landing in a northerly or southerly direction when it is safer to complete only a long base leg to avoid over-flying the winch release point which may still be at the west end of the airfield.

Circuit patterns expected to be flown at Portmoak are shown on maps opposite.

Approaches over the trailer park in a north wind should be high and close in because of the high trees and the effect they produce.

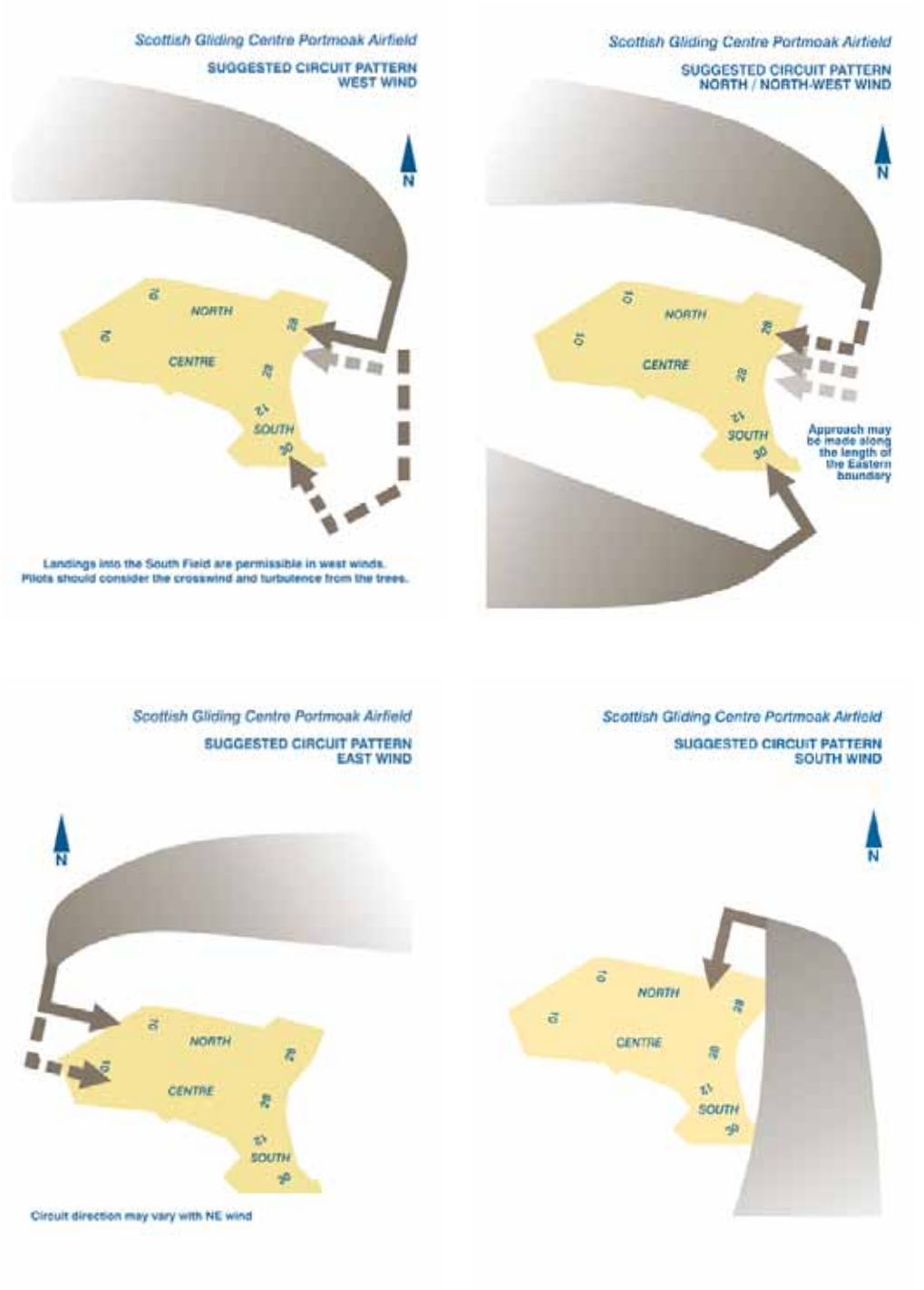
Please note that in north/north-west winds when Benarty is being used for hill soaring all circuits into the South Field must be left handed.

If you find yourself to the north of the airfield and need to land by doing a right hand circuit land on the centre strip, or the north strip, and accept the possible crosswind.

Circuits made right-handed and left-handed at the same time into any landing area present the possibility of collision and should be avoided.

Do not clutter up the circuit. If you need to lose height prior to landing, do this upwind, clear of launching and high key areas.

If you wish to fly over the airfield, do so well above winch launch height (at least 2,000 feet) and maintain a good lookout.



Suggested circuit patterns for:
west wind (top left); north-west and north wind (top right)
east wind (bottom left); south wind (bottom right)
Full size maps on pp. 62–63.

Radio

It is recommended that aircraft have a serviceable radio, fixed or hand-held.

A downwind call indicating circuit pattern and designated landing area is recommended.

Calls on the radio do not give priority and pilots must maintain the highest levels of lookout and airmanship in the circuit patterns.

Aircraft may approach from a variety of directions and may have radio failure, no radio or have not made a downwind call.

A typical call is as follows: 'Portmoak traffic. Hotel Papa Whisky downwind, right hand. Centre strip (28).'

Competition finishes

Low passes and 'beat ups' are prohibited at Portmoak.

Competition finishes are not prohibited but should be flown with due regard to circuit traffic, and a radio call to Portmoak Traffic on 129.975 MHz is required.

The following is taken from the BGA website and *is to be read carefully.*

> *BGA Guidance: Task Finishes and Approaching to Land*
> 2012 BGA Competition Rules – Section 22.2 – Safety and airmanship at finish.
> All pilots must be aware of and fly within the requirements of CAP 393 ANO Rules of the Air Section Article 5 (low flying rule) and section 1 Article 74 (reckless or negligent endangerment of any person or property).
>
> To meet this requirement ... all approaches towards the airfield should prescribe a descending profile (other than to go around where necessary), the landing area should be in the pilot's sight, and the airfield boundary must crossed at a height which cannot endanger persons (seen or unseen), vessels or property.

All pilots should bear in mind the above guidance. Approaches which could cause or give cause for alarm or complaint (or give the perception of causing a threat to safety), will be dealt with by the CFI / Flying Committee and could be the subject of a sanction against the pilot or pilots involved.

Fly Safe

This is the SGU Safety Programme. Full details in the clubhouse and from the Safety Officer.

Flarm

Fitting of Flarm to SGU-based aircraft is recommended.

Discipline

In the absence of the CFI, any instructor may when necessary, may ground a club member who is guilty of a breach of flying discipline until the circumstances of the case can be reported to the CFI.

Members will not be grounded for errors of judgement where the appropriate action is further instruction and/or supervision.

The emphasis is upon developing individual airmanship and helping pilots to achieve their personal flying goals.

Suspension from solo flying will only be taken when it is considered that pilot safety demands this course of action and must be reviewed and confirmed by the CFI.

Taxiing a landed glider back towards a crowded launch point is actively discouraged.

Turbulence

Because much worthwhile soaring is carried out in high wind conditions, it follows that turbulence can be moderate to very severe. The degree of turbulence is a product of many factors such as wind strength and direction, obstructions upwind, trees etc., the gradient wind and lapse rate.

Wind strength and direction are rather obvious and a scan upwind can sometimes give a fair idea of what to expect at low level (at launch and circuit height). Critical conditions to watch for at Portmoak are 010 to 070 deg (N to ENE) and 180 to 240 deg (S to SW).

In south-westerly winds, winch launching is rough in the mid band between clearing the top of the trees bordering the ash runway and approximately 500 feet.

In north and south winds turbulence is generally experienced during the initial part of the climb out on aerotows, a result of curl-over from either Bishop Hill or Benarty.

Wind gradients are a common phenomenon at Portmoak and should be anticipated in launch failures and approaching to land.

In strong or gusty wind conditions pilots are advised to remain fully strapped after landing in until help arrives.

Hill soaring

Hill soaring uses one of the most basic forms of lift but we appreciate that many pilots may have little opportunity to become proficient in its use and a few hints therefore will not come amiss.

Basically air rises when it blows at approximately right angles to a hill but bear in mind that high ground is not necessarily uniform in shape and that the wind can escape round corners and gullies. This causes the strength of the lift to vary and can give inexplicable ‘downs’.

The lift strength is a product of wind strength, direction, ground contours and lapse rate. It must be remembered that a wave formation or thermals can cancel out hill lift altogether if the phasing is right and the fact that you experienced lift during one beat along the hill is no guarantee that it will be there on the next.

Basic rules

- Do not go hill soaring without authorisation.
- Bishop Hill and Benarty require separate authorisation; permission for one is not automatic permission for the other.
- Rifle shooting takes place at the wet end of Benarty. This area must not be overflown if a red flag is flying at the top of the west end of the hill.
- Ask the duty supervisor for advice on the best approach for the launch in question, winch or aerotow.
- Having contacted lift, it is not necessary to fly excessively close to the hillside.
- Maintain an extra safe airspeed below hilltop height, recommended 5–10 knots above normal.

Aircraft density at the site can be very high and the need for a good lookout cannot be over-emphasised, particularly if it is remembered that hill soaring confines you to a relatively small area of sky.

Hill approach heights are critical at this site. If lift is not contacted by 700 feet on Bishop Hill, turn away from the hill and return to the airfield. Benarty will require more height for a safe return, 800–900 feet.

These heights will vary according to aircraft performance but should be used as a safe guideline for pilots inexperienced in hill soaring.

- Pilots should not go around the corner of Bishop into the 'bowl' below hilltop height because of the blind corner at this spot.
- Hang gliders and paragliders also launch from this bowl at hilltop height or less.
- The safe way is to soar the SW face to hilltop height before proceeding; if this is not possible an aerotow is recommended.

Hill flying discipline

Hill discipline must be strict at all times.

Aggressive flying styles are discouraged and high energy low passes over the hills must not contravene CAP 393 ANO Rules of the Air Section Article 5 (low flying rule) and section 1 Article 74 (reckless or negligent endangerment of any person or property).

Local residents and hill walkers may perceive low flying as dangerous or obtrusive. Avoid creating this impression.

Right of way

It is essential that pilots understand that the pilot who has the hill on his left must give way *and be seen to be doing so* in plenty of time. Remember that aircraft will have pilots of varying experience in command.

Ridge soaring rules are:

- All turns must be away from the hill.
- If approaching head on, both gliders should turn right, but since the glider with the hill on his right probably can't do this, the onus is with the pilot with the hill on his left to give way (Figure 1).

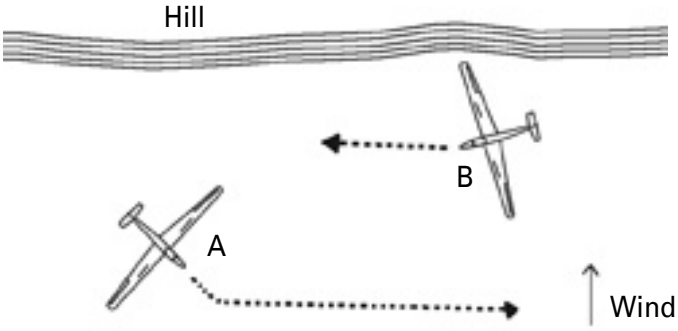


Figure 1. Glider A should alter course to the right so that B is in no doubt that he has been seen and to ensure comfortable separation.

- It is acceptable to use thermals on the hill provided you do not interfere with the normal hill soaring pattern and you are well above the hilltop.
- Don't drift back behind the crest unless you have an adequate height reserve:

there is usually turbulence and sink behind the crest, and probably a stronger wind due to Venturi effect.

- Never rely on the hill lift being there. The hills often don't work below a certain height, and in wave or strong thermal conditions the hill lift has been known to be cancelled out in a matter of minutes.
- Do not fly close to hang gliders or paragliders as they can be distressed by the turbulent wake of a glider. They can also turn very rapidly, much faster than a glider can take evasive action. They have blind spots upwards and backwards. Their low airspeed makes their manoeuvres rather peculiar in comparison with conventional gliders. Best practice is to pass well in front of them, contrary to normal overtaking procedure.

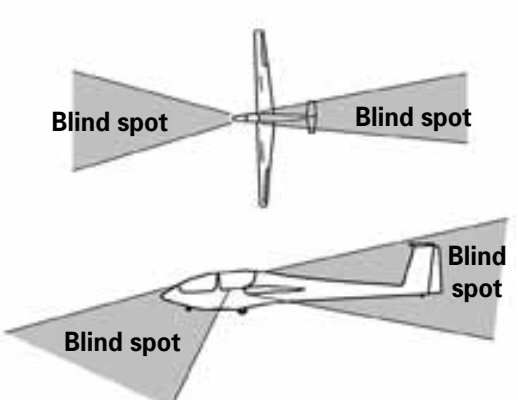


Figure 2. Typical blind spots.

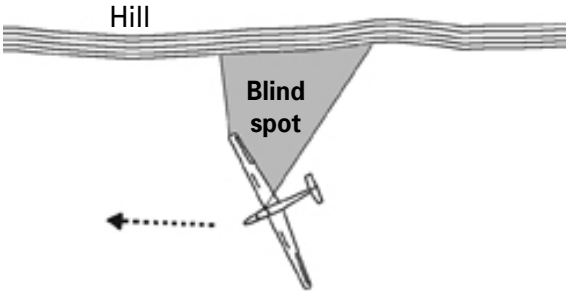


Figure 3. What if you want to track closer to the hill?

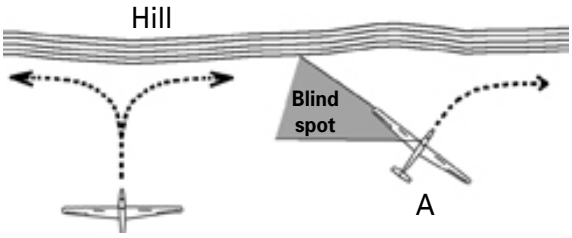


Figure 4. At a 'head-on' approach to the hill line it is possible to check for traffic on both sides. At position A some areas on the left are likely to be obscured.

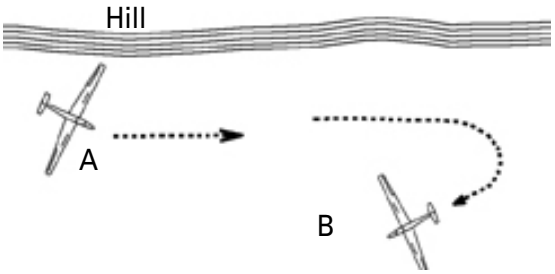


Figure 5. Glider B must stay out from the hill until A has passed.

- Low sun, especially in winter time, can make hill soaring, particularly on Benarty extremely dangerous. When approaching the hill, glare can be excessive. So if you are blinded by the sun abandon any attempt to hill soar.

Please report any inconsiderate or poor hill discipline to the instructor in charge, with details of the occurrence, the aircraft and the time.

Orographic cloud

Keep clear of orographic cloud at all times as it can spread forward from the hill in a matter of seconds and envelope any aircraft flying too close in.

Watch out for tell tale signs such as wisps of cloud forward of the main cloud. These indicate that the cloud may be about to spread out rapidly.

The number of gliders allowed to soar with orographic cloud present is decided by the Duty Instructor.

When flying with this cloud present do not fly through any wisps which may conceal another glider

Do not fly in the haze near cloudbase

If flying above or in front orographic cloud, be very careful not to drift back into it

Lookout

When hill soaring, a very good and continuously vigilant lookout is required_ Look well ahead when cruising the hill, and make appropriate manoeuvres well before you get close to other gliders.

Never fly in another glider's blind spot.

Keep looking out all the time. Your life and someone else's depends on it.

If you feel the hill is uncomfortably crowded then move to a less busy height band or area, or land and fly again later.

Aerotow Rules and Procedures

1. All aerotowing launches will be required to be authorised by the Duty Instructor in consultation – as necessary – with the tug pilot.
2. Pilots will be required to be in current practice within the last 6 months of the intended flight and pilots with low flight currency or number may be declined and asked to carry out a dual flight.

   As a guide, pilots with less than 20 P1 aerotows, will be considered as 'low' in number. *You could be asked to show your logbook to confirm currency and/ or proficiency.*
3..Pilots wishing to qualify for aerotow, will need a minimum of 5 dual flights and 5 launches under supervision before their logbook may be signed.
4. Renewal of your aerotowing launch method will be by maintaining 5 P1 launches in the last 24 months but subject to Condition 2 above.

Wave soaring

Technique

Working wave is much the same technique as working hill lift. It can be present at low, medium and high levels or all three at the same time. Cloud may or may not be present. This section is not meant to be a treatise on wave soaring but a few general hints which may assist people who have not much experience of this type of lift.

Location of lift

The lift itself is generally silky smooth, varying from zero sink to 15–20 knots (up and down!) and it may be that no control movements are necessary for minutes at a time. Before the lift is contacted however very turbulent air can be encountered in passing through areas of rotor. The lift is usually found up wind of this rough air and the technique thereafter is to use the band of lift in a very similar way to working hill lift.

It is essential to make sure that you are not drifted downwind into any cloud there may be, remembering that although the wind may be in excess of 40 knots the associated cloud is stationary relative to the ground.

When to use oxygen

The use of oxygen is recommended above 10,000 feet. Bear in mind that there are considerable variations in tolerance to lack of oxygen, if you have any doubts, go on oxygen sooner. Due to the rapid rate at which you may climb in wave have your oxygen mask within easy reach so that it can be donned quickly.

Oxygen systems

The oxygen system is your life support system. It not only must function correctly throughout the flight, but you as the pilot must know its operation and its limitations.

Instrument error

When flying above 10,000 feet the pressure instruments begin to display large errors, typically *17% per 10,000 feet.* If you are flying fast in wave, e.g. 'jumping bars' make adequate allowance for this error. Your ASI will *under-read* by the margins indicated above thus your true airspeed will be higher than that indicated and you may be a lot closer to the VNE than you think.

Actions in event of being caught above total cloud cover

Watch for signs of the wave gaps filling in and creating a solid layer of cloud beneath you which you may have to make a long descent on instruments. This itself causes no real problems provided you know what height cloud base is and what your position is. We have some fairly high mountains just to the north of us and they can easily become cloud covered! When the wave system collapses the general environmental change could lead to a significant lowering of the cloudbase. If you have radio call other gliders, or base, and ask what the cloudbase is. Navigation above cloud has been greatly simplified with the introduction of GPS and pilots wishing to make regular wave flights are recommended to buy one.

Remember though, GPS is an aid, and should never be fully relied on to get you home. You should back it up with basic navigation skills at all times. If you have lost contact with the ground, are unsure of your position and are forced to descend through cloud you have two options:

The one is to descend on a compass heading into the last known wind and once below 3,000 feet reduce speed to the minimum consistent with adequate control. Should you arrive over high ground you should have a fair chance of it being a survivable arrival. It cannot be put any higher than that.

The other is to adopt the Benign Spiral Mode of descent. This is considered the safest method of escape when caught above cloud. The Benign Spiral Mode is a technique where, once properly trimmed, the glider is allowed to enter a spiral of its own volition and left there without the pilot touching the controls until clear of clouds (if he clears clouds!), and recovery can be initiated. To enter the Benign Spiral Mode, do the following:

- Establish a heading into the last known wind.
- While in level flight, trim the glider to as close to 1.5 times the stall speed as possible.

- Open the airbrakes to the full position. If necessary, hold them there. If the glider is equipped with flaps, lower them to the normal position for thermalling.
- Take your hands and feet off the controls and allow the glider to enter a spiral on its own. Once established in the spiral the airspeed and attitude will become constant.
- Once you have cleared clouds, recover as you would from a normal spiral.

It is recommended that this method of descent is practised a few times in clear air before needing to use it in cloud!

Portmoak is not very far from the North Sea and the Forth Estuary. Pilots should remain aware of their position as long as there is visibility.

While at height watch out for the onset of night. The evening is frequently a time of good wave conditions when it is easy to gain considerable height in a short space of time. It can however take a long time to get down from 20,000 feet and it could be dark on the ground by the time you get down. We try to keep a last landing time chart current on the notice board and you are advised to check this before you fly.

Aerobatics

The BGA Laws and Rules current recommendations regarding aerobatics and aerobatic instruction apply in this club.

The minimum height for aerobatics is 2,000 feet. All aerobatics must be completed by a minimum of 1,500 feet AGL.

Aerobatic boxes

Two aerobatic boxes are designated and are indicated in the map opposite.

All aerobatic flights should be advised to the Duty Instructor so that they may advise other traffic.

Particular attention should be given to manoeuvres which when completed are below prescribed heights and may conflict with high circuit traffic.

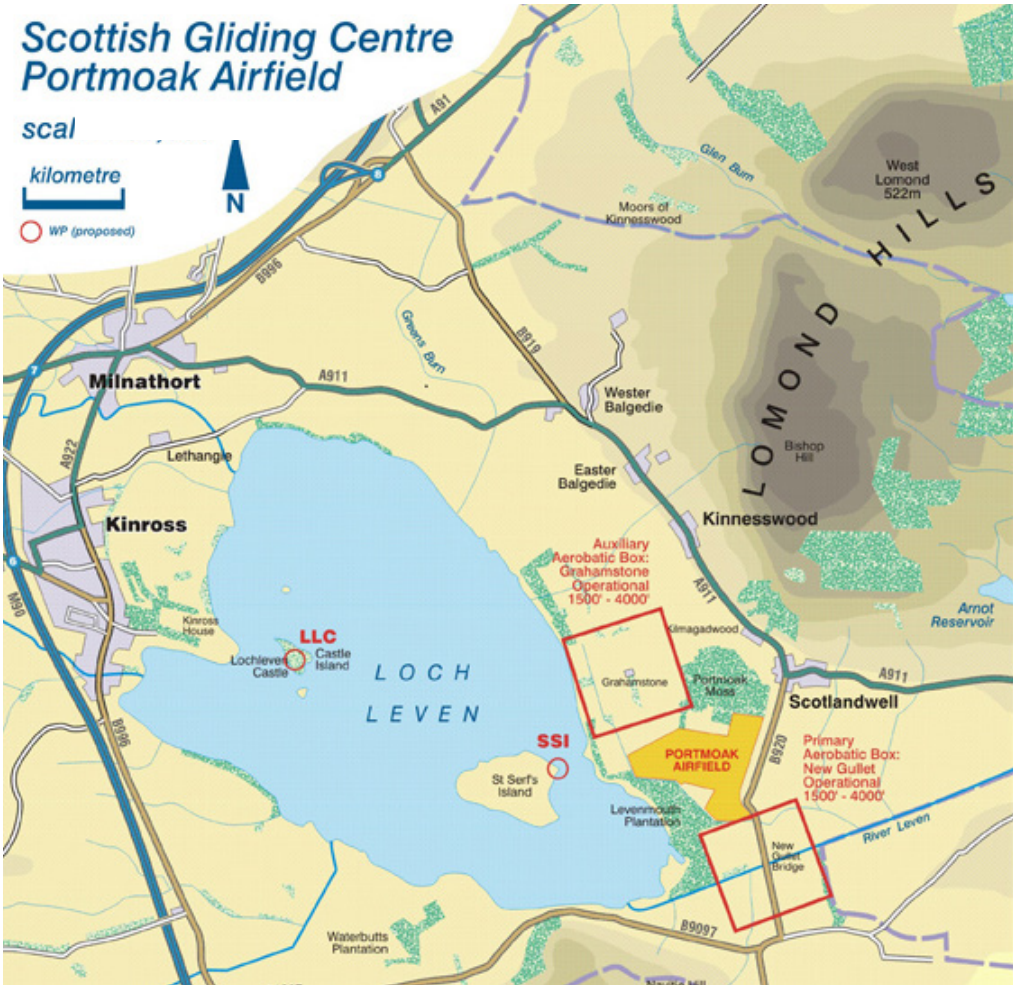
Accident reporting

All accidents should be reported to the CFI at the earliest opportunity.

The Safety Officer will be responsible for collating the accident report and sending it to the BGA once the CFI has added his comments.

The actions required in the event of an accident are fully detailed in the *Emergency Procedures manual.* The CFI's phone number is available in that manual. It is kept in the office and gives all phones numbers and guidance on what to do in the event of an accident.

See Fly Safe Programme in the clubhouse and from the Safety Officer.



Aerobatic boxes (full size map on p. 60).