

HOWICK GLIDING CLUB

Updated April 2011

This handbook is a guide to the functioning of the club and is provided to all members. It is not all-encompassing as rules cannot be provided for all eventualities and particular circumstances may require decisions by the club committee, the chief flying instructor or the duty flying instructor.

This handbook is not intended as a flying or training manual, but rather as a guide to local rules or operating procedures. It should be considered a supplement to the Manual of Operations published by the SSSA. Please study its contents.

General

Historically, the Howick Gliding Club was an offshoot of the Howick Flying Club. Now we are the Howick Flying Club – Gliding. Our activities seldom clash with power flying, or even overlap to any great extent, as power flying usually takes place before we start gliding operations.

Airspace

Our airfield is within an ATZ (Aerodrome Traffic Zone) below the PMB TMA (Terminal Control Area) in turn below DBN CTA (Control Area). This means that we are within controlled airspace. We are therefore only allowed to operate as a result of an agreement between ourselves and Durban Air Traffic Control Centre.

This agreement defines a “window” of uncontrolled airspace in which we may fly. The window is opened on weekends and public holidays, or on a weekday provided 24 hours notice is given to ATC, which also requires the presence of an instructor on the field. The boundaries of the window are shown on a chart in the clubhouse, and members must memorise the landmarks which define them. Maximum permissible altitude within the window is 10 000’ amsl (FL 100).

It is essential therefore at the start of each flying day for the duty instructor to phone King Shaka ATC on 032 436 5001 to ask them to open the Howick Gliding Club window, and to phone again at the end of the day to close our window.

Learning To Fly

Training is carried out by an instructor in a two-seater glider, of which the club currently has three. A Logbook and Record Card (issued on joining the club) are used to record all the aspects of your flight training as set out in the *Glider Training Syllabus* of the *SSSA Manual of Procedures*. The Log and Card should always be available for scrutiny by an instructor.

The number of launches you'll require to go solo cannot be predicted, as they are a function of several factors, including natural ability, frequency of flying and age. Generally older people take longer to solo than the young. Bear in mind too that although going solo is a very significant landmark in the process of learning to fly: there is much more beyond that and further training will be given which will enable you to progress through the gradings listed below.

At an early stage in your training, it will be helpful to begin reading about learning to fly gliders. Recommended are *Beginning Gliding*, *Gliding and Understanding Gliding*, all by Derek Piggott. They should be available from booksellers or libraries, including the library at the club. Consider building up your home library of gliding and other aviation related books. Your training, and enjoyment of flying, will be enhanced by putting into practice the theory you have read.

Pilot Gradings

Student Pilot

Flying experience	None
Membership	HFC, SSSA , Aeroclub.
Health	Class 4 Medical clearance certificate as required by the SSSA
Documents	Record Card, Logbook

Solo Pilot

Flying experience	Depends on individual.
Documents	Completed relevant section of the Record Card + Logbook.
Approval	By CFI or consensus of two Grade 2 or 3 Instructors with CFI approval.
Licence	Valid Air Radio Licence

Crosscountry clearance

A minimum of 10 hours Solo on type.

Has completed at least two local soaring flights in thermals each of at least one hour on type.

Has received cross-country briefing from the CFI.

Has had logbook endorsed by the CFI.

Destinations must be designated in advance and the glider must have functional VHF radio, compass and altimeter.

The pilot should have a map of the terrain to be covered and is familiar with radio procedure for exiting the Howick "window".

Retrieve crew and trailer roadworthiness to be organised in advance. Keys to retrieve vehicle and trailer must be available to the crew at the airfield.

Flying experience 30 Hrs Total (10Hrs solo) and minimum 100 Launches.

Approval Grade 3 Instructor (after at least one dual crosscountry or a lead-and-follow).

GPL (Glider pilot's licence):

Minimum age of 16 years.

Minimum of Class 4 Medical Examination

Restricted (or higher) Aeronautical Radiotelephone Operator's License

Successful completion of all the practical and theoretical exercises, both pre-solo and advanced training, listed on the relevant SSSA Student Training Log.

Successful completion of theoretical test papers selected by the CFI from the Standard SSSA test papers.

Test in flight with an instructor with a Full Category brevet, including oral and practical examination, recorded on SSSA glider pilot test form.

Minimum total of 40 flights, including 20 solo flights and 10 launches per launch method.

Minimum of 6 hours of solo flight of which 1 flight must be of two hours minimum duration (engine off for touring motorglider rating).

All applicants must be current SSSA members

Air Experience

All flights for non-members within a Club Operation are instructional flights introducing potential new members to the sport of gliding. The potential member must sign a SSSA Indemnity Form thus making him a member of the club and the SSSA for that day. Ensure fee is paid and recorded for AE flights.

Pilots will be trained by the CFI or Grade 2 Instructor to perform the duties of a "limited category assistant instructor".

AE rated pilots' requirements are as follows:

Flying experience 100Hrs, 300 Launches

Approval Grade 2 Instructor

Must be over 18 years of age.

Aerobatics clearance

Received instruction in aerobatics from a qualified Grade 2 or higher instructor.

Tested satisfactorily in aerobatics.

Has had logbook endorsed by the CFI.

Flying experience 70HrsTotal (20Hrs solo), 300 Launches (150 solo)

Approval Grade 2 Instructor cleared to teach aerobatics

Visiting pilots

Visiting pilots must acquaint themselves with the runway system and surroundings of Howick Airfield.

A Grade 2 or higher instructor will take one or more flights with the visitor before he is allowed to fly off the airfield in his own aircraft.

Visiting pilots may not fly club aircraft without a club pilot in possession of a GPL.

Minimum requirements per Instructor Grade

Assistant instructor (Grade 3)

Flying experience	100hrs as P1 or 300 launches
Theory	GPL theory passed
Task experience	50km leg or 5 hours towards Silver C completed

Full Brevet (Grade 2)

Flying experience	200hrs P1 or 600 launches (Half of each obtained as an Assistant instructor)
Type conversion	Soloed on GRP and wood-and-fabric/metal gliders and soloed on two types of launches (currency on any <i>one</i> required)
Outlandings	3 outlandings or landings at 3 different airfields
Licence	GPL (including 2 lectures/briefings on 2 different topics (selected by CFI)

National Instructor (Grade 1)

Appointed by the CAA to the National Instructor's Panel

Current Status

Pilots will not be regarded as current unless they have flown during the previous four weeks. Current status is established by checking with an instructor, who may require a dual flight.

Mostly for New Members:

1. The functioning of the club depends solely on voluntary assistance from members with all tasks. This includes flying days as well as non-flying tasks such as glider or winch repairs and maintenance. Please offer to assist with these tasks where you can. It is through voluntary work that we are able to keep flying costs as low as they are. If you are given an instruction by anyone that you do not understand, do not hesitate to ask for clarification of the task before taking action.
2. On flying days it is expected that students (and everyone else) arrive at the airfield early to assist with setting up the equipment for the day's flying. If you can't arrive early then you must make sure that you do your bit by putting gliders, winch and vehicles away at the end of the day. The number of flights you have, and their timing, depend on your arrival time.
3. Handle gliders using the handles provided, tubular steel members, harness belts or leading edges of wings. Do not push on trailing edges of the wing as they are generally not strong enough. Never push or pull on a control surface, airbrake, cable, antenna, or pitot tube. Gliders may be pushed in reverse by pushing on the

- leading edge near the wing root. Ensure that the tail skid is lifted. No glider is to be pulled or pushed by the wingtips. Only one tip is held for the purposes of manoeuvring. Never step across or pass heavy objects across any part of the aircraft.
4. Students should ask to be taught to do daily inspections (DI's) of the gliders and winch. If the gliders look dusty or dirty, clean them carefully with a damp cloth (no running water on wings of wooden gliders!) before taking them to launch point.
 5. Retrieval of cables after the launch of gliders is a critical step in maximising the number of launches per day. Ask to be shown how to do this. Once you know how, **don't wait to be asked** to retrieve cables. If the retrieve vehicle is waiting at the winch as the second cable is dropped, delays due to cable retrieves will be minimised. Note that the maximum speed during cable retrieve is 20km/h. Keep speed constant and do not brake or pull off suddenly. Slow down when nearing launch point and stop a few metres beyond the second glider on line to avoid having to further pull out the cable (by hand) to the glider
 6. Anticipate glider retrieves by keeping an eye on the approach. This is another bottleneck which slows the launch rate – prompt retrieves mean more flights for all. You are expected to purchase and keep a retrieve rope (min length 18m) in your car.
 7. Wing-walking is a responsible job. Keep a sharp lookout for other aircraft in the circuit or obstructions on the ground. When wing walking to the 16 end make sure that you are handling the glider's left wing i.e. are on the uphill side of the runway. (Right wing if going to 34). Don't hesitate to shout instructions to the driver of the towing vehicle if an aircraft enters the circuit. If the glider starts becoming uncontrollable (e.g. starts running downhill) shout STOP and lower the wing onto the ground so that the glider can rotate "uphill" to a stop.
 8. Vehicles must not be driven on the runway except for
 - i. cable retrieves
 - ii. towing or retrieving gliders.

For all other trips, including return trip to winch, use the perimeter road. When driving on the runway keep a constant lookout for approaching aircraft and signals from the launch point or winch driver. If an aircraft is on finals, slow down and drive off to the edge of the runway and stop there. If you are retrieving a glider make sure that the wing walkers also move the glider off the runway. Make sure that towing vehicle's windows are open so that instructions from wing walker can be heard. Club vehicles should always carry a handheld radio.
 9. Once you have had about twenty instructional launches, ask to be shown how to operate the winch. You are expected to be able to inspect and drive the winch and understand winch emergency procedures by the time you fly solo.
 10. Be aware that the launch point is a busy and potentially hazardous place, so keep your eyes open and stay alert; be more oriented to assisting the flying operations than engaging in social chat. Be pro-active.

For Established Members:

The Manual of Procedures of the SSSA calls for the presence of a designated Duty Officer on each flying day. The relatively small active membership of the Howick Club makes this a rather difficult requirement to meet. We generally rely on the Duty Instructor (without whom no flying may take place) to delegate responsibilities to senior members to undertake the critical tasks and responsibilities listed below so that launches can proceed efficiently and safely.

1. Unlock, open and unpack the hangar. Vehicles and winch out first, for Daily Inspection (DI), followed by gliders, to be DI'd by qualified persons.
2. DI's to be "signed-off" on the flying sheet by the responsible person.
3. Winch and club vehicles to be equipped with handheld radios (part of the DI).
4. Make sure that all students are involved in the process.
5. Storeroom opened, base radio and antenna, attache case with flight sheets packed into a vehicle.
6. Contact ATC (tel 032 436 5001) with request to open Window. Record time of request on flight sheet.
7. Designate winch driver.
8. At launch point, set up base radio, do radio checks with winch, club vehicles and gliders, despatch vehicle to winch to pull out cables.
9. Do positive control checks on gliders.
10. Schedule order of flying: generally in order of arrival, but with students offered first flights. Solo pilots later, and then students again toward end of the day.
11. Deal with Air Experience flights. Welcome guests, schedule their flights to fit in with member's flights (**member's needs have definite precedence**). Ideal to fit AE flights in at the beginning or toward end of day – definitely not in prime time. Make sure they have signed indemnity and have paid.
12. Make sure that when cables arrive at launch point, both gliders and pilots are ready on line in order to launch successively.
13. Monitor time winch drivers spend on duty (ideally no longer than an hour each) and arrange relief.
14. Make sure vehicles (including visitors' vehicles) and gliders are safely parked and well away from each other.
15. Ensure that the base radio is manned and record keeping is full and accurate.
16. Take pro-active control of safety at launch point.
17. At the end of the day make sure that all equipment is safely returned to hangar or store room, that batteries are disconnected and removed for recharging. Ensure availability for Sunday flying as required.
18. Contact ATC to close window. Record time of call on flight sheet.

Radio procedures at launch point.

1. Students should learn correct radio procedures as soon as possible to build up confidence in broadcasting.
2. Launch point radio must be manned at all times.

3. Our radio frequency is 123.4 when the gliding window is open. A second (hand-held) radio should be set to 124.8 to receive calls from power aircraft in the vicinity of the airfield.
4. Air space around the airfield is Class G (uncontrolled) and incoming calls from powered aircraft are to be considered as requests for information such as wind speed and direction, active runway, etc. We are not authorized to give instructions regarding joining circuit, landing, back tracking, etc. but “advise” only.
5. During a launch no one should broadcast unless there is an emergency or are involved in the launch itself. Should an emergency arise during a launch one should call “stop stop stop”.

Radio procedures while flying.

1. Ensure that the radio is continuously “on” with sufficient volume.
2. Keep calls short, to the point and avoid derogatory comments or bad language.
3. Be alert to radio calls to form a mental “picture” of surrounding flying activity.
4. Periodically announce your call sign, position and altitude.
5. Confirm visual contact when near other gliders.
6. Radios are not meant for casual “chat”. Restrict calls to requesting or providing relevant information.
7. Maintain radio silence during winch launching operations.

Winch Operation

The winch is a crucially important piece of equipment with a replacement value of well over R50 000. It should be treated with care and any fault should be remedied as soon as possible. The high power of the main engine, presence of large moving parts (drums) and cables which fall from more than 1000’ above the runway represent real hazards which need rigorous management. Only qualified Winch Drivers may operate the winch. Once qualified make sure that you stay current by operating the winch regularly. This is as important as being current as a solo pilot.

Daily Inspection

- Check engine oil level
- Check radiator water level
- Check battery water
- Check fuel level
- Check alternator fan belt – tension and condition
- Check guillotine – pins in place.
- Check bolt-cutter on board
- Check condition of cable parachute snake and links
- Check tyre pressures
- Check radio available.

Warm-up procedure

- Gear selector to Neutral or Park

- Check that “Kill” button has been reset
- Prime or choke as follows -Winter: activate choke lever (under air cleaner); summer prime with one half-opening of throttle lever.
- Turn on ignition and activate starter. Be careful not to flood engine.
- Once started run at fast idle to warm up. Check oil pressure and alternator gauges.
- Once warm (engine temp greater than 60°) check automatic transmission fluid level.
- Sign DI book and drive winch to appropriate end of runway for setting up.

Set-up procedure

- Position winch at eastern edge of runway, angled slightly to point directly at launch point thus reducing side loads on fairleads. At the 16 end set up must be no further than about 20 metres past the start of the military fence so that the risk of dropping the cable over the fence is minimised.
- Once winch is on chocks, shut down donkey engine.
- Install jack legs
- Ensure bolt cutter within easy reach (usually on the ground next to winch door)
- Carry out radio check.

Winch operation

Safety should be the primary concern of the winch driver, who should be alert to runway and local airspace conditions at all times, and not launch any glider if there are any risks evident. All risks should be communicated to the launch point.

In particular the winch driver should monitor wind direction and strength and communicate any changes to launch point.

From the “take up slack” call the winch driver is effectively in charge and responsible for the safety of the launch.

- Launch point calls e.g. “K13, green (red) cable, two up, take up slack”
- Make sure that spectators are well clear, that tyres which may have been placed below the drum as “brakes” on cable pullout have been cleared and that the cable is below its guide
- Ensure that the dog-clutch is engaged appropriately, if necessary by turning the drum by hand with engine off.
- Reply to launch point: “K13, green (red) cable, two up, taking up slack”.
- Gear selection lever in neutral against the barrel bolt “stop”. This is to prevent lever from accidentally engaging reverse gear resulting in a massive unwind of cable.
- Apply brake
- Start engine
- Check runway clear
- With engine idling engage **second** gear
- Release brake to take up slack, engine on idle
- Wait for launch point to call “All out, all out”
- When call is **clearly** received, do not acknowledge, check runway clear, glance at windsock
- Smoothly open throttle – should be at about 2/3 throttle (depending on glider type and windspeed) by count of four. Heavier gliders may require full throttle after rotation.

- Once glider comes into view **DO NOT TAKE YOUR EYES OFF IT UNTIL RELEASE IS CONFIRMED.**

Glider signals:

Too fast: Pilot will yaw the glider from side to side with rudder. Reduce throttle setting marginally and observe effect, ready to reduce further if necessary.

Too slow: Pilot will lower nose of glider. If winch does not increase speed pilot may release and land.

Winch signals:

If glider is straying substantially from runway because of crosswind, winch driver calls “right (left) wing down” (**right/left from pilot’s viewpoint**)

- When glider is about 45° above horizon start reducing power slowly, be aware of engine tone.
- Bear in mind that speed will be affected by wind gradient and must be allowed for.
- When glider is about 70° above horizon reduce power further and at about 80° suddenly cut the power. This must result in a perceptible loss of power to the pilot who will then release the cable (or back release will function).
- Reduce and cut power earlier if there is a tail-wind component.
- If pilot releases the cable under tension, maintain power setting briefly to absorb the inertia of the returning cable before reducing power.
- When cable and parachute are **SEEN** falling away from glider i.e. immediately after positive disconnect, switch focus to cable in front of winch.
- Increase power sufficiently to keep incoming cable clear of ground. Reduce power as parachute approaches ground. Just before parachute touches down, cut power and continue retrieve at idle, without braking. Monitor the retrieve (ignore distractions) and brake timeously to ensure that parachute does not get dragged into fairlead.
- Switch off engine.
- Should parachute fall over any fence **DO NOT ATTEMPT TO PULL IT THROUGH.** Switch off engine and call for assistance to clear it.
- Check that retrieved cable (1st launch) is not lying across cable for 2nd launch.
- Move gear selection lever to neutral, select appropriate drum via dog clutch, call launch point – “winch ready on red (green)”. Wait for response from launch point before starting.
- When both cables have been used, hook up to retrieve vehicle.
- Place tyres under drums for braking during retrieve, or operate brake continuously during retrieve.

Emergency Procedures

NB: this is not a comprehensive list of all emergencies. Your winch instructor will explain further.

- Glider does not release at top of launch after power has been cut and back-release has **obviously** not functioned, stop drum and operate guillotine. Switch off engine. Should guillotine malfunction, cut cable with bolt cutter. Radio glider and tell pilot that cable has not released and has been cut at winch.

- If glider does not come into view at the expected time after the “all out” signal, wait for the “stop, stop, stop” signal from launch point before cutting throttle.
- Cable break under tension during the launch: Immediately cut power and brake to avoid overwinding. Assess situation before continuing winding in, slowly, if safe to do so. If overwind occurs or loops form on the drum, brake and switch off engine. It is easier to resolve any problems or decide what action to take with “engine off”. Call for assistance.
- Cable break during crosswind operations: If parachute appears to be falling beyond a fence, accelerate and only cut power when it becomes obvious that it will in fact fall beyond the fence. If it does: brake, stop engine and call for assistance.
- If cable appears to be oversailing the winch due to a tail wind, you will lose sight of the parachute. Brake and stop engine for “sorting out” afterwards.
- Cable breaks on retrieve: Inform retrieve vehicle and launch point immediately. Do not attempt to work on cable or drum unless the retrieve vehicle driver is aware of the break and is stopped and awaiting instructions
- Retrieve vehicle drivers, on noticing unusual cable tension or break should disconnect cables and drive back to find break, inform winch driver/launch point. Retrieve should not be resumed until all work on cable or drum has been completed and everyone is standing clear.
- **SAFETY IS OF PARAMOUNT IMPORTANCE.**

Further reading on winching: “Ground Launching” by Dean Carswell included as an appendix.

Safety

The SSSA MOP requires that each club has a safety officer, and specifies his duties. In addition the CFI and the Duty Instructor are responsible for ensuring good and safe airmanship practice is followed at all times.

A special consideration at the Howick Airfield is that we have a military shooting range as a close neighbour, and when the range is active, overflying it and the danger area beyond the target mounds up to the top of the ridge is prohibited.

Weather

Flying gliders is completely dependent on good weather. Forecasts are available from many sources. For those with Internet access one of the best is Weather-Aerosport www.weathersa.co.za/glider/kzn or Weather-Aviation www.aviation.weather.co.za Alternatively there is a telephonic 3-day forecast for Pietermaritzburg and environs on 0822311604. It is frequently updated.

Useful Internet Links

SSSA www.sssa.org.za
 BGA www.gliding.co.uk
 Glider & Motorglider Magazine www.glidingmagazine.com
 CAA (SA) www.caa.co.za
 HGC www.hgc.org.za
 Books www.kalahari.net

Finance

The Howick Gliding Club offers rates which are arguably the lowest in the country.

Although our finances are reasonably sound we cannot afford to carry debtors.

So our policy is this:

No money in your account = No flying

Also be aware that Aeroclub membership, SSSA membership and Club membership are renewable at the end of each year. They are paid from your account by the treasurer, but **only** if your account has enough money in it to cover these amounts. So top your account up timeously.

Happy flying!