WELCOME to the Eastern Province Gliding Club

Gliding, also referred to as soaring, is often regarded as the most enjoyable form of flying - one has the advantage of a full scale aircraft, with the handling characteristics, flight envelope and safety of a normal powered aircraft, but without the noise, smell and expense of an engine. Gliding is a pastime that can be enjoyed in an infinite variety of ways: For those with a competitive nature gliding offers a fiercely competitive competition environment, but for those who enjoy a quiet afternoon flitting from cloud to cloud or even maybe some gentle aerobatics, gliding is equally accommodating.

Glider pilots are generally extremely competent pilots - they understand and read the weather well because this is their engine, they navigate well because in order to find the best areas of lift (and avoid the worst) they often make frequent and large excursions from the straight-line course. In addition to this they fly very accurately in order to minimize drag and maximize speed. For those of a scientific nature gliding is an interesting study of the forces of the atmosphere and the mathematics of aerodynamics, but for those who only wish to enjoy the flying, it is not necessary to go further than learning a number of easily understood rules and principles.

Please enjoy your day at our club and feel free to ask any of our members anything more you may wish to know about this wonderful sport.

Where does EPGC operate from?

The Eastern Province Gliding Club (EPGC) is situated on the south western side of the town of Uitenhage (South Africa) and operates from the local municipal airfield (FAUH - Latitude: 33°47'10" South, Longitude: 25°23'00" East). The Eastern Province Gliding Club is a non-profit organisation dedicated to the promotion and enjoyment of soaring in the Eastern Cape, one of the nine provinces of South Africa. While our gliding club is in no way a commercial venture, we do offer introductory “air experience” flights to interested visitors.

We fly an assortment of club owned and privately owned gliders and touring motor gliders. A touring motor glider takes off under its own power while gliders either need to be winch launched or towed by a power plane into the sky.

Do I need a license to fly a glider?

To be permitted to fly a glider in South Africa a formal license is required. There are two categories of glider licenses a GPL (Glider Pilots License) and a MGPL (Motorised Glider Pilots License). The GPL is also endorsed for the launch method, being either winch launches or aero-tows or both.

The licenses are issued by RAASA (Recreation Aviation Administration South Africa) and the training is provided under the ATO (Approved Training Organisation) license issued to the SSSA (Soaring Society of South Africa) by the SACAA (South African Civil Aviation Authority).

To obtain a glider license a candidate would need to undergo both practical flight training and study and pass various theory examinations. Additionally, prior to flying solo a student pilot would need to obtain a Class 4 Medical Certificate.

Uitenhage Airfield (FAUH) – General information

The club operates from the Uitenhage municipal airfield (FAUH) which is located close to the general flying area FAD193. The airfield in unmanned and operates on the same radio frequency as the general flying area, 124.2 MHz.

The airfield has four grass covered runways in a cross configuration with a left and right runway for each length of the cross. The runway designations are 26L/08R and 16L/34R for gliding and 26R/08L and 16R/34L for power planes.

The approximate runway lengths are: 26/08 (glider) 1000m (3280ft), 26/08 (power) 850m (2790ft), 16/34 (glider) 900m (2950ft) and 16/34 (power) 800m (2620ft). All the runways are more-or-less 30m wide. The elevation of the airfield is 278 feet (84.7m) and the windsock is located about halfway down the length of runway 16/34.

FAUH has a weather station that records the current weather and can be found on the following website: http://iweathar.co.za/.

IMPORTANT SAFETY INFORMATION – Driving around the airfield:

1. Always use the access roads and taxi ways.
2. Always STOP and carefully lookout for aircraft before crossing any runway.
3. Always LOOKOUT for aircraft in the landing circuit, if there are any aircraft landing or about to take-off, DO NOT enter the runway and stay well clear, also exit your vehicle so that the pilot can identify that you have seen him.
4. This procedure is the same if you walk across the runways and please walk fast and do not stop on the runway.
5. Keep an eye on your children and don't let them wander around unsupervised.
6. If in ANY DOUBT – STOP, and if possible ask.

Where can I park and what must I bring with?

When you arrive at the airfield you may park your car next to any of the hangars. It is also recommended that you bring along some sun-block, a hat for the sun, drinking water and cash.

How does a glider fly?

A powered aircraft uses an engine for forward movement and to get air flowing over its wings to generate lift and thus sustain flight. A glider trades height (potential energy) for forward motion (kinetic energy) to obtain airflow over its wings, i.e. the weight of the glider is being pulled towards the earth by gravity.

Modern gliders (like the ASW22 pictured above) have glide ratios of around 60 to 1 in still air; therefore if the glider is 1000m (3280 feet) above ground it can glide for 60Km before meeting the ground.

Controlling a glider

A glider, as with most aircraft, has three primary control surfaces: **RUDDER**, **AILERONS** and **ELEVATOR.** The pilot thus has the ability to control all 3 axes of the aircraft.

Pressing one of the pedals moves the RUDDER; this produces a yawing movement around the normal axis of the glider.
Moving the control stick sideways, which operates the AILERONS, produces a rolling movement around the longitudinal axis.
Moving the control stick forward or backward operates the ELEVATOR. This produces a pitching motion around the lateral axis of the aircraft.

Launching a glider

To begin a flight a glider must achieve its initial height (potential energy) and launching a glider is done with the use of some outside energy. There are two predominant means of launching a glider: Aero tow and Winch launch. At EPGC we mainly winch launch, but aero tows are available from time to time.

Aero tow involves towing a glider to a suitable altitude behind a powered aircraft. At the tail of the tug plane a rope is attached and extends to a hook located in the nose area of the glider. As the tug plane climbs it pulls the glider along with it and both pilots fly in formation. At a suitable altitude the glider pilot releases the tow rope and flies away. The tow rope remains attached to the tug plane as it returns to land.

The **winch** has several thousand feet of cable attached to the glider's center of gravity hook, usually located under the cockpit. As the winch reels in this cable the glider starts rolling, air flows over its wings which generates lift and the glider flies. The glider climbs at a very steep angle to an altitude where the glider pilot will release the cable and fly away.

Many gliders today are **self-launchers** and thus have the capability to take to the air by them-selves. When the desired altitude is reached the pilot retracts the engine and propeller into the fuselage and it becomes once again a true glider. The weight of the engine does not compromise the performance of the glider.

(Top photo: Aero tow, Bottom photo: Winch launch)

How long will my flights last?

Gliding is a weather dependent activity. In the absence of any lift (e.g. thermals, ridge lift or wave) that gliders use to climb and gain altitude, an average flight from a winch launch height of 1000 feet will last approximately 5 minutes. If there is sufficient lift a glider can stay airborne from dawn until dusk.

How does a glider stay in the air without an engine?

A glider stays airborne through lift. Lift is basically rising air and comes in three main forms: thermals, ridge lift and wave. In Uitenhage we mostly fly in thermals and ridge lift.

Thermals are areas or columns of upward moving air and result from the sun warming an area of the ground. The ground in turn warms the air above it and as we all know, hot air rises. Thermals are normally found where clouds are formed and can also be seen on the ground if they form a dust devil, an upward spiralling column of dust. The glider pilot tries to find these thermals and circles in the rising air to gain altitude.

Ridge lift can be found where the wind blows more or less at right angles to a higher piece of ground, like a mountain or big hill. As the wind hits the higher ground it is forced up and over. The glider can thus find lift along the windward edge of the higher ground.

Wave is the most complex of the three, hardest to find and occurs normally at high altitudes. It occurs when the wind hits a mountain range at right angles, similar to ridge lift, but the air is forced into an oscillation (wave) that extends many kilometres passed the mountain and to great altitudes.

And what do you do when the wind stops blowing?

This is probably the most asked question at any glider field. The answer is that a glider flies happily in a sky with no wind at all, the only "wind" needed is the air rushing over the wings to generate the lift to sustain the glider and the "speed" of this air is controlled and maintained by the pilot, not by the wind in the sky.

After launch the glider sails through the air and descends to generate lift. The challenge of the sport is to remain aloft. To maintain or increase altitude the glider must be flown into air that is rising at a rate equal to or greater than the rate at which the glider is descending. The task of the glider pilot is to find and exploit these areas of rising air called "lift".

How do I start gliding?

Joining the club (EPGC):

If you want to fly gliders in SA you must be a member of a gliding club. The first step in joining our club is to complete a membership application form. You will then be sent an email detailing all the membership information that you'll need as well as the fees to be paid.

Once the club's committee has approved your application and your fees have been paid, you'll become a full member of the Eastern Province Gliding Club. It is important to know that as a member of the club you will also be required perform duties at the airfield (usually once a month) to help get the gliders ready and flying.

Training:

Once you are a member of the club and start with your training it should take you around 50 to 100 flights before you are ready to fly solo. The time this takes varies greatly amongst students and the more often you fly the quicker you'll progress. We recommend at least three visits to the airfield per month, though this is left to your own discretion.

The club operates every Sunday, and only on Sundays, and flying is subject to the weather and availability of the equipment and aircraft. Operations normally start at about 09:00.

The instructors will initially train you on our Motor Falke (motor glider) and on our Grob G103 Twin Astir (twin seat glider). You must record all your flights in your blue training book and in your logbook, both of which will be issued to you once you have joined the club. Once you are solo on the Twin Astir you will be allowed to fly the club's single seat Astir CS Jeans.

To complete your GPL (Glider Pilot's License) you will require at least 6 hours of solo flying, which must include one flight of at least two hours duration, and 20 solo launches.

With gliding you are evaluated on how well you fly, and not on how many hours you have flown. Some pupils go solo after as little as 25 flights, while others take much longer. It depends on the pupil and to some extent on the instructor. Additionally, a student pilot with previous flying experience should progress faster as they would already know the basics.

Once a student pilot has flown solo there are still various exercises and goals that need to be achieved before obtaining a license. These include writing theory examinations and obtaining a radio operators license. A short cross country flight is also required. Cross country is defined as not being within glide of the airfield. Subsequent to obtaining your license you may start with FAI soaring badges. These badges include a Silver C (5 hour flight, 50km cross-country, 1000m altitude gain) and a Gold (300km cross-country flight and 3000m altitude gain). You can also start training towards becoming an instructor.

Contact details

Website: http://www.epgliding.co.za/

Facebook group: http://www.facebook.com/groups/epgliding/

Members cell numbers: Danie (0829012021) or Sigmund (0829294857) or James (0839377035)

Enjoy your day at EPGC!!

Many thanks to York Soaring Society, Magalies Gliding Club and AKA Vlieg Potchefstroom for allowing us to use information from their websites: www.yoarksoaring.com, www.mgc.org.za, www.potchgliding.co.za.

2013 (Version 2.51) EPGC