

GLIDING

AUSTRALIA

www.glidingaustralia.org

GUIDE TO GLIDING





GLIDING THE SPORT OF SOARING



The sport of gliding is an exhilarating, spectacular yet serene flying experience. Gliders take to the air like birds with wings outstretched, soaring on rising air currents, immersed in three dimensional space and flying silently with an eagle's view of the world..

GLIDING IS FOR ALL AGES

Men and women of all ages fly gliders. In Australia you can fly solo from the age of 15 and some pilots continue gliding into their eighties. It is never too late to learn to glide and many pilots take up the sport in their 40s, 50s or even 70s.

But be warned. Whether you have your first flight when you are young or old, you may be so moved by the experience that you are quickly taken by the gliding bug and find yourself forever looking skyward in anticipation of your next soaring flight.

CLUB-BASED COMMUNITY

Gliding can be enjoyed at your own pace to suit your lifestyle, budget and the amount of time that you have available. As a glider pilot you will be part of an Australian and

worldwide club-based community which offers support, advice and training. There are gliding clubs around the country from coastal fringes to the Alps and the Great Dividing Range, as well as the magnificent inland plains of Australia.

Along the way you are sure to make new friends who share your new found passion for silent flight and the unique experience of flying in graceful and sophisticated aircraft.

Once you have learned the basics of soaring and have the skill to safely fly a glider, your instructor will send you solo. Then you can relax on a quiet local flight, on your own or in a two-seater glider with another glider pilot or friend.

DEVELOP YOUR SKILLS

You can continue to develop your skills further to experience the thrills of soaring across the countryside, or the excitement of aerobatics. For those with a competitive spirit there are many regional and international racing competitions where you will meet the top glider pilots, coaches and fellow competitors in an intense and friendly learning experience.

SOPHISTICATED AIRCRAFT

The first gliders were made well over 100 years ago - before the Wright Brothers pioneered powered flight - out of wood and cloth. Today gliders are manufactured with hi-tech composite materials designed using the latest aerodynamic modelling techniques. They are comfortable to sit in, easy to fly and have similar in-flight instruments to powered aircraft.

Gliders fly at speeds of up to 300kph and can cover distances of over 1,000km in a flying day. Altitudes of over 40,000ft have been achieved. On a good cross country flying day in Australia you could expect to fly a triangular course of 300 to 500km at a heights of 6,000 to 10,000ft using satellite



navigation (GPS) to accurately guide you on your journey and back to your home airfield for landing.

OPPORTUNITIES

Looking after gliders requires some specialized engineering skills that many pilots enjoy learning, adding another dimension to the sport. You can also learn to be a gliding instructor and, if you have a powered licence, fly the tug planes. Gliding is a great way to pursue an interest in meteorology, navigation and many other aspects of aviation.

FOR ALL TYPES OF PILOTS

Glider pilots come from all work backgrounds. Many pilots from commercial aviation, hang gliding, paragliding, RA and general aviation gravitate towards gliding as the most satisfying form of flight.

Gliding will bring you into contact with people from all walks of life in a co-operative social atmosphere. For many people, the social aspects and camaraderie of the sport are among its greatest attractions.

FREQUENTLY ASKED QUESTIONS

IS FLYING A GLIDER DIFFICULT?

No. You need to be able to use your hands and feet simultaneously to do different things and to interpret your surroundings and react accordingly. The basic skills that we use to drive a car or ride a motor bike demonstrate these same skills.

HOW MUCH DOES IT COST?

The clubs and their committees operate effectively to help members control costs, which vary from club to club. One of the major variables in the cost of learning is your own aptitude. Some people learn faster than others, though this does not mean that they will necessarily be better pilots. Here are some rough guidelines:

A trial lesson with a typical club costs from around \$100 - \$150. A 'go for solo' course will cost from \$1,800

Annual club membership including compulsory membership of the Gliding Federation of Australia (GFA) is \$300 - \$400.

Once you are a club member you simply pay as you go. Glider time is charged by the minute. Cost per minute varies from 30 to 60 cents. Some clubs even offer a reducing rate for each subsequent hour of flight to encourage cross country flights.

DO I HAVE TO JOIN A CLUB?

If you take a trial lesson then you automatically get a 9-day membership of the GFA included in the price, but you do not need to join a club. If you decide to continue gliding then you will need to join the GFA for either 3 or 12 months and an affiliated gliding club as well.

WHERE IS MY NEAREST CLUB?

Clubs are located close to most major cities. You can find complete list of clubs with contact details and map locations: at www.glidingaustralia.org/Gliding-Clubs

CAN I BUY A FLIGHT AS A GIFT?

Yes. Most clubs offer an option to purchase a gift voucher for a trial flight. Contact the club directly.

WHAT WEATHER CAN YOU FLY IN?

Any weather except low cloud, rain and very strong wind.



TOP LEFT: Australian pilot Bruce Taylor in his JS1. Bruce represented Australia in the World Gliding Championships in Texas recently coming sixth in the Open Class.

BOTTOM LEFT: The Mount Beauty Gliding Club Juniors. These five junior pilots gained there wings flying in the beautiful Victorian Alps.

ABOVE from top: Flying with the Adelaide University Soaring Club; wheel down and coming in to land in the Hunter Valley; soaring in the Scenic Rim Region of SE Queensland.



Gliding in Australia is based on a club system. There are nearly 100 clubs located throughout the country in all states, the ACT and Northern Territories. The sport is self administering under the auspices of the government regulator CASA. Gliding has well developed systems and structure, with roots extending back to the 1930s. It is a mature sport, and used as a model for other recreational aviation.

Most clubs operate every weekend, weather permitting. You can find the club nearest to you online at www.glidingaustralia.org/find-a-gliding-club

Gliding clubs provide training and coaching, club aircraft and facilities, and launching services. Many also provide on site accommodation. Much of the day to day running of gliding clubs relies on volunteers, which helps keep the cost of flying low compared to other types of aviation.

Like most sports, gliding relies on various activities, people and disciplines working together. Activities mainly fall into three main categories. **Airworthiness** involves maintenance, servicing and repair of aircraft and equipment. **Operations** include teaching new pilots to fly and maintaining safety standards. **Sport**, the more exciting side of flight, covers cross country training, racing, competition and coaching.

Many club members enjoy the opportunity to participate in the maintenance and engineering tasks, other pilots concentrate on teaching and coaching and all club members enjoy simply being on an airfield surrounded by gliders and aviation.

Most clubs organise social activities throughout the year and many members become life long friends. Clubs are family-friendly as well. All family members, from the youngest to the oldest, are welcome to soak up the atmosphere and become a part of gliding in Australia.

Find out more about the gliding administration in Australia by visiting www.glidingaustralia.org

TOP: Club members meet for a social occasion outside the club house in Benalla. Gliding is a club based sport with people from all walks of life and age groups actively participating.

LEFT: Pilots discuss the conditions on the grid before launching.

BELOW: A tug plane prepares to aerotow a glider.





WHAT ARE GLIDERS MADE OF?

Gliders are made of a wide variety of materials, from wood and fabric, to ultra-modern fibre glass, carbon-fibre and kevlar based materials.

Australia has an active vintage glider movement, with many gliders over 50 years old.

Gliders are often designed for a specific purpose such as training, cross-country flying or aerobatics, but most gliders can do a bit of everything.

High performance gliders are very streamlined with a minimum of obstructions to the airflow, which would otherwise cause drag. Glider design is sophisticated and at times has led to developments that later find their way into general aviation.

BELOW: The Australian Gliding Museum at Bacchus Marsh has an extensive collection of glider bodies and parts.
www.australianglidingmuseum.org.au

Vintage Gliders Australia hold events that attract visitors from Australia and overseas. Their annual rallies are held in South Australia, Victoria or New South Wales, where as many as 25 vintage sailplanes may gather. www.vintageglidersaustralia.org.au



ABOVE: The British manufactured Slingsby T-31 first flew in 1949. Here, a T-31 is being winch launched - pulled into the air by a high powered winch reeling in a cable. This method of launching is still widely used today and is a quick and exhilarating way of getting airborne.

BELOW RIGHT: Modern gliders are made using composite materials in high tech facilities such as the Glaser-Dirks factory in Germany pictured here.





TWO SEAT GLIDERS

For your first flights you will be flying in a two-seat glider. While you are training, you will learn basic flight control in a two-seater until you are competent enough to go on your own. Two-seat gliders have the same controls and instruments in the front and back to allow the instructor to demonstrate. This also allows your instructor to take control when needed.

These gliders are usually larger and easier to fly than the sleeker, single-seat gliders. This is to make sure that the student can easily learn the basic skills of flying without having to worry about high performance and complicated controls. Many pilots continue to fly in two-seat gliders once they are solo so that they can share the enjoyment with their friends and family.

TOP: A high performance two-seat ASH 25 pulling up after a competition finish. All clubs have at least one two-seater for training purposes and many have one of several types of high performance machine for cross country flying, such as the Duo Discus pictured below right.

BELOW: A typical glider instrument panel showing both a mechanical and electric variometer, airspeed indicator, altimeter, radio and GPS.



WHAT EQUIPMENT IS IN A GLIDER?

All gliders have the same basic flight controls. Your pilot will show the different instruments to you. These will include:

Airspeed Indicator - shows you the speed of the glider.

Altimeter - shows you the height of the glider in Feet. You will typically launch to about 2-3,000ft above the ground.

Variometer - shows you if the glider is going up or coming down. The glider flies by sinking through the air, so typically the vario will show the glider slowly coming down. If the pilot finds some lift then the vario will start to show the glider climbing. This instrument is used by pilots to help them soar over long distances. Usually this instrument will emit a sound so that the pilot can hear when they are in lift and keep looking out instead of having to watch the instruments.

Radio - for communication with the home and surrounding airfields, tug plane and other gliders.

GPS Navigation system - GPS systems have greatly reduced the cockpit navigation workload in gliders, which can fly hundreds of kilometers from their home bases.

Flarm - is an electronic device to alert pilots to other aircraft in the vicinity.





GLIDERS WITH ENGINES

More and more commonly, gliders are fitted with engines that enable them to either take off unaided or maintain height when there is no rising air to be found.

The self launchers or motor gliders, as they are called, permit the pilot to operate with total independence, while the sustainer versions allow you to get home from a long cross country flight.

Most versions of motor gliders have automatic systems that allow the engine and pylon to be fully retracted and stored inside the existing fuselage.

TOP: A DG 1000 self launching motor glider. In the photo to the left you can see the engine bay doors that neatly close over the engine when it is retracted after launch.

BELOW: Many glider pilots are interested in the maintenance and engineering aspects of the sport. Here you can see a workshop with several gliders undergoing their annual maintenance review.

BOTTOM: Gliders are designed to be easily dismantled and placed in trailers for transport to other sites or road retrieves after outlanding.

FREQUENTLY ASKED QUESTIONS

HOW MUCH DO GLIDERS COST?

Glider costs vary greatly. Technology has brought huge gains over the last few decades, but this comes at a price. For the latest two-seat, self-launching high performance glider from Europe you could pay upwards of \$300,000. At the other end of the scale is a well used or even vintage glider for a few thousand dollars. A typical used glider with modest performance will cost \$20,000 - \$50,000. Syndicating is a popular method of reducing the individual costs.

CAN YOU TAKE GLIDERS APART?

Yes. Gliders are designed specifically to be disassembled so that they can be stored in weatherproof trailers. This also allows you to land in a paddock far from home and simply call your retrieve crew to pick you up. This is called an outlanding and is considered a normal part of gliding.

HOW SAFE IS GLIDING?

Gliders are also very safe. They have been designed and built to the same standards as normal passenger aircraft, and undergo regular maintenance according to the requirements of the Civil Aviation Safety Authority (CASA) and the Gliding Federation of Australia.

The person who takes you for a flight is fully trained and approved according to rigorous standards, in most cases this person will be an instructor with the Gliding Federation of Australia.

All aviation sports have some risks, but the training and procedures have been designed to minimise these risks. Each year there are thousands of flights with very few incidents or accidents – Australia has an enviable safety record.





FREQUENTLY ASKED QUESTIONS HOW DO GLIDERS FLY WITHOUT AN ENGINE?

Have you ever seen a flock of pelicans circling high in the sky or a seagull hovering motionless over a headland? The pelicans are flying in a column of rising air called a thermal, and the seagull is flying in the rising air deflected upwards by the cliff face. In both cases the birds are in an air mass that is rising faster than they are descending through it. Gliders exploit exactly the same natural phenomenon.

HOW LONG CAN YOU STAY UP?

This depends on the weather. On some days there is no rising air to be found, so your flight can only be a gentle glide back to earth. This will still take around 10 – 20 minutes! On the other hand, when there is rising air to be found, flights of five hours or more are common place.

HOW HIGH DO GLIDERS FLY?

On a typical flight you will release from the launch at around 2,000 feet. After that you may rise to 10,000 feet without the need for supplemental oxygen. The current world height record is around the 50,000ft. That's higher than a jet airliner's cruise altitude!

HOW FAR CAN YOU GO?

On poor soaring days you will be restricted to within glide range of the airfield. However, on good days, once you are competent, you can attempt recognised flights of 50, 300, 500 or 1,000km. The straight glide performance of gliders varies immensely. A modern high performance competition glider may glide 60km for every 1,000ft of height. A typical club glider will easily glide 10km for each 1,000ft without encountering any rising air.

HOW FAST CAN YOU FLY?

Typically gliders fly at a sedate 90 – 135kph between thermals. When circling in lift the speed may be as little as 70kph. The highest speed that gliders can normally fly is 250kph.



**LEARN MORE ABOUT GLIDING &
FIND A GLIDING CLUB NEAR YOU**
www.glidingaustralia.org

**GFA OFFICE
MEMBERSHIP ENQUIRIES**
membership@glidingaustralia.org

Tel: 03 9303 7805 (Mon- Thurs 9am - 5pm Fri 9am - 3pm)
Level 1, 34 Somerton Road Somerton Victoria 3062

