



Darling Downs Soaring Club

PO BOX 584 Toowoomba QLD 4350 Australia

Website www.ddsc.org.au

Airfield Tel (07) 4663 7140

“Queensland’s Premier Soaring Club”

TRAINING COURSE INFORMATION

The Darling Downs Soaring Club runs weekend and midweek courses, which are tailored to meet a wide variety of individual needs and expectations while providing a challenging new experience of learning to fly a sailplane.

Six-day courses are designed to progress you towards achieving solo flight. This will depend on several factors, for example, the weather, your personal aptitude and previous flying experience. For these reasons going solo cannot be guaranteed at the end of the course.

The club also runs a variety of shorter courses to cater for pilots with previous experience in either gliding or powered flight and for those wishing to experience some early flight training and then continue training at a later stage. More information on these courses can be found on page three or by contacting one of the committee members listed below.

A short term membership of the Gliding Federation of Australia (GFA) is required for those people wishing to participate in the shorter courses while for the longer courses a one, three, or 12-month membership of the GFA and of the Darling Downs Soaring Club is required.

We will normally organise a midweek course if there is a minimum of two people attending, while any of the weekend courses will be run for 1 or 2 people. Course members can stay in the club bunkhouse or they can arrange their own accommodation offsite.

The club conducts weekend training for club members who wish to fly when their time permits. Opportunities are also providing for more advanced flying for those members seeking to improve their flying skills in such diverse areas as cross country and competition flying, mountain and slope soaring, mutual flying, aerobatics, the carrying of friends and family as passengers and instructor training.

For any further information on club operations or courses, please contact any of the committee members listed below or visit our website www.ddsc.org.au.

Chief Flying Instructor
Darling Downs Soaring Club

8 February 2009

CLUB INFORMATION

The Darling Downs Soaring Club is situated between Jondaryan and Bowenville, on the Darling Downs. It is about 200 km by road west of Brisbane. It takes approximately two to two and a half hours to drive from Brisbane, on a mostly four-lane highway. The airfield, clubhouse and hangars are 50 km northwest of Toowoomba on the Warrego Highway towards Dalby. There is a *Darling Downs Soaring Field* sign at Mason Road, which is approximately eight km west of the Jondaryan Township. This sign is on the southern side of the road, opposite the railway line.

The club has been active since 1960 and has been based at its present site since 1969. Club members and visitors may stay overnight in the club bunkhouse, which has kitchen, shower and other facilities. You need to bring your own bedding, blankets in winter and sheets in summer.

The club has four two-seater training gliders, six single-seater gliders and conducts all launches by aerotow using a Pawnee and a Cessna 182 tow aircraft. Some club members fly their own private aircraft, which are hangared at the club.

The tug aircraft tows the glider to approximately 2000 ft above the ground where the glider pilot releases the glider and turns in rising columns of warm air called thermals. These soaring flights can last many hours if desired, depending on the weather conditions and pilot ability. In winter the opportunity to fly along ridges and in mountain wave over the Bunya Mountains also exists in the right weather conditions.

The State Gliding Championships are held at the club every three years, with up to fifty gliders and tug aircraft operating. Average speeds of 100 km/hr are frequently flown over tasks ranging from 200 to 600 km. A number of 750 km tasks and two 1000 km tasks have been flown from the site.

The name of the club's airfield is McCaffrey Field. Its geographic coordinates are 27.22'06" S 151.32' 00" E and it is 1200 ft AMSL. The runway directions are 12/30. The grass runway is 4000 ft long. The local area radio frequency is 122.5 Mhz.

The clubhouse phone number is (07) 4663 7140. The website address is www.ddsc.org.au.

CLUB CONTACTS

For further information please contact any of the people listed below.

President
Pam Kurstjens
Phone 4638 7850
Email pam@kurstjens.com

Treasurer
Bob Flood
3342 0807
Email bobflood@optusnet.com.au

CFI
Ralph Henderson
Phone 3843 6178
Email rhenderson@iinet.net.au

Secretary
Richard Armstrong
3369 8948
Email richard@qtac.edu.au

COURSE TYPES

The Darling Downs Soaring Club offers a variety of courses and flying opportunities to suit the individual. These range from introductory flights up to full courses designed to progress the pilot towards solo flight. Courses are run most months of the year.

The shorter courses are designed as an introduction to gliding through either a single flight or a series of flights depending on the course. The *Sky's the Limit* is aimed at power pilots and glider pilots returning to gliding after a long break, and compresses their training to take into account their previous flying experience.

The six-day courses are designed to allow for intensive training over six consecutive days for the midweek course, or over consecutive weekends for the weekend courses. The weekend courses are flexible to suit the individual and the training timetable can be tailored so as to fit in with the student's time. Ideally the time between visits should be as short as possible to obtain the greatest benefit from the courses. The courses can also be extended over a longer time period but additional flights may be required at an additional cost to the student.

The Six Day Courses include up to 32 glider flights, tows, aircraft hire, flight instruction, books and all documentation. Both courses cover the same training syllabus and the midweek course can be started on either a Sunday or Monday to suit individual requirements.

Short Courses

<i>Trial Introductory Flight</i>	Aim - to provide an introduction to gliding. Standard 2000 feet launch Deluxe 3000 feet launch	\$140 \$180
<i>Flying Start</i>	Aim - to teach the basics of flying 3 flights with launches to 2000 feet to a maximum total flight time of 3 hours, over up to 3 consecutive days	\$220
<i>Weekender</i>	Aim - to teach the basics of flying plus some circuit and aerotow training. 7 flights with launches to 2000 feet over up to 3 consecutive days.	\$500
<i>Sky's the Limit</i>	Aim - to convert power pilots, or glider pilots with sufficient previous experience, to solo glider flying 10 flights over 2 or 3 consecutive days	\$900

Six-Day Courses:

<i>Solo Quest</i>	Aim - to train pilots to solo standard 32 flights over 3 consecutive weekends. Includes membership of DDSC and GFA.	3 month membership \$1700 (\$1350 for students). 1 Year membership \$1980 (\$1600 for students)
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All costs include GST.

Going solo at the end of any of the courses may not be possible due to many factors.

COURSE DETAILS - ALL COURSES

Students participating in *Sky's The Limit*, *Going for Solo* and *Solo Quest* courses will be supplied with the following GFA reference material:

- Basic Gliding Knowledge Handbook.
- Radio Procedures Handbook
- Rules of the Air
- Pilot Log Book
- Training Notes for the Development of Effective Lookout
- Course Notes

Students participating in a *Weekender* course will be supplied with a GFA logbook and course notes.

A deposit of \$200 must be paid when booking any course other than *Trial Introductory Flights* and the *Flying Start* course. The balance of all fees must be paid at least one week prior to the commencement of the course. The club treasurer's postal address is as follows:

Bob Flood
Treasurer
Darling Downs Soaring Club
C/- Minserve, Level 1
1 Swann Road
TARINGA QLD 4068

Short term club and GFA membership fees are included in the cost of *Trial Introductory Flights* and the *Flying Start* course

Students participating in *Sky's the Limit*, *Going For Solo* and *Solo Quest* courses are required to join the club and GFA for at least the duration of their course this is included in the cost of the course. The minimum membership period is 3 months. These costs include GST. Students may pay the club-joining fee and become a full club and GFA member after their initial membership has expired.

All training courses start at 9 am each day and students are expected to arrive by this time to assist with aircraft preparation. Generally the same instructor is involved with each student during a midweek course. More than one instructor is usually involved with the weekend courses depending on the course content and duration.

The use of a hat, sunglasses, long sleeved shirt, long trousers and sunscreen during the course is strongly recommended to minimise the effects of the sun.

Course members can make use of the club kitchen facilities to prepare their own meals or may chose to obtain their meals from either of the two local hotels which are approximately 10 kms drive from the club.

In the event of a non-flying day occurring, there are several local attractions that can be visited including the Jondaryan Woolshed, the Army Aviation Museum at Oakey, the Bunya Mountains, the Rimfire Winery, and the garden city of Toowoomba, the Zacolli Warbird Museum and various golf courses within the area.

SIX-DAY COURSES **GOING FOR SOLO and SOLO QUEST**

Students participating in the six-day courses receive up to 32 flights during the course. The aerotow launches are usually up to a maximum release height of 2000 feet above ground.

The planned flying program is as follows but can be amended to adapt to daily circumstances:

- | | |
|-------------|--------------|
| ▪ Day One | Four Flights |
| ▪ Day Two | Five Flights |
| ▪ Day Three | Five Flights |
| ▪ Day Four | Six Flights |
| ▪ Day Five | Six Flights |
| ▪ Day Six | Six Flights |

The weekend courses are designed for a single student but two students per day can be accommodated. One club two-seater is allocated per course, per student and is given some preference in launching.

Students are instructed in aircraft ground handling, aircraft preparation and an overview of aircraft Daily Inspections throughout the course. They are also taught basic radio procedure in preparation for a GFA Radiotelephone Operators Authorisation.

It is recommended that prospective students have some trial flights such as a *Flying Start* course or a *Trial Introductory Flight* before beginning a training course, to give them an introduction to gliding. Students may have additional flights at their own cost at the completion of a course.

A series of exercises is listed for each days flying and this is normally the minimum that will be covered on each day. However, there may be variations forward or backward in the syllabus to introduce new material or consolidate previous material, according to pilot ability and progress.

Extensive ground briefings are used and are very effective. These briefings give the information the student will need to make best use of the time in the air.

Instructors may refer to their *Instructor Flight Reference Cards* when giving briefings and debriefings after flights.

TRAINING COURSE SYLLABUS

FLIGHT CHECKLISTS

<p>PRE TAKE- OFF CHECK "CHAOTIC"</p> <p>Check Maintenance Release before flight walk around, carry out Pre Take-Off Check.</p> <p>C CONTROLS Check for full movement in the correct sense prior to entering the cockpit.</p> <p>H HARNESS Security, lap straps low on hips for both pilots.</p> <p>A AIRBRAKES and FLAPS Full and free movement, airbrakes closed and locked for takeoff. Flaps set as required.</p> <p>O OUTSIDE and OPTIONS Competent ground crew available. Airspace and takeoff path clear. Mentally rehearse emergency options.</p> <p>T TRIM and BALLAST Trim set as required. Ballast as required and secured. Tail dolly removed.</p> <p>I INSTRUMENTS Altimeter set to QNH. All other essential instruments serviceable. Switches ON. Radio ON.</p> <p>C CANOPY Closed and locked. UnderCARRIAGE Locked down. CONTROLS Full and free movement.</p>	<p>PRE-LANDING CHECK "FUST"</p> <p>F FLAPS Set as required, ensure not in negative position.</p> <p>U UNDERCARRIAGE Down and locked. Check against placards.</p> <p>S SPEED Safe speed, 1.5Vs.</p> <p>T TRIM Set for the selected speed.</p> <p>PRE-STALLING, SPINNING AND PRE-AEROBATIC CHECK "HASLL"</p> <p>H HEIGHT sufficient for recovery by 1500 agl.</p> <p>A AIRFRAME Flaps, airbrakes, undercarriage, set as required. Trim as required.</p> <p>S SECURITY Harness tight and locked. Loose objects stowed.</p> <p>L LOCATION Clear of built-up areas, cloud, controlled airspace.</p> <p>L LOOKOUT Carry out a 180-degree turn followed by a 90-degree turn in the other direction. Do not carry out a 360-degree turn. In particular check around and below the glider.</p>
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The correct radio procedure should be taught to the student from the first flight of the course and should be used on every flight so that it becomes second nature.

Mandatory Radio Calls are:

Release: Tug Call/Sign..... rope gone.

Circuit Joining: All stations McCaffrey Field, Glider call sign..... joining downwind for runway 30 or 12 (Add right hand circuit if required).

DAY ONE

Four Launches

LEARNING CONTROL

Stable Platform
(Theory of Flight)
Small Movements
Correct control column grip - relax
Look Out

ELEVATOR

Nose Down
Nose Up
Wind Sound
Attitude related to horizon
Trim

AILERONS

Lower wing - look at tip
Raise wing - look at tip
Lower wing - look ahead
Raise wing - look ahead
Turn results from bank

AILERON DRAG

Check understanding
Observe nose to opposite direction

RUDDER

Check understanding of yaw
Yaw left - right
Heading alters - track unaltered

RUDDER FURTHER EFFECT

Check understanding
Yaw - wing lifts

USE OF AILERON AND RUDDER

Rudder overcomes aileron drag
Co-ordination
Vary rates of roll
Gentle weaving
Returning to straight and level

Ensure the **SAFE HABITS** of:

- S** safe speed near ground
- W** wind strength - direction
- O** other traffic
- L** landing area obstructions

NOTES

The above exercises are covered thoroughly. However, according to student ability and progress, exercises can include an introduction to some of the day two material, especially the use of the 3 controls and turning. Try to bring students on the controls as soon as possible. Emphasise safe habits.

DAY TWO

Five Launches

USE OF 3 CONTROLS

Trim to speed - set aircraft nose attitude
Eliminate slip and skid - use of string
Three control co-ordination
Straight and level
Banked

TURNING

Look out - safety
Going in
Staying in
Coming out
Emphasise ARE

URNS - VARIATIONS

Coming out on headings
Variations - roll rate - bank angle
Medium turns - vary speeds - S - turns

MAINTAINING HEADINGS

Pick a point on the horizon
Steer to a landmark

AEROTOW LAUNCH

Keeping station
Causes of loss of position
Recovery
Release
Emphasise - Locate, identify, operate to the student

NOTES

The above list is used to consolidate day one training and to lay the foundation of the student's upper air flying. Again, according to the student's ability and progress, some introduction of day three exercises is allowed for aerotow and stalling, however first refer to the notes for day three.

The co-ordination exercise of turning backwards and forward past a chosen point in stages, initiate turn, let go round, level wings and turn other way and so on, should be used extensively.

During turns the student should be asking themselves *ARE we maintaining a correct turn with the use of A - Aileron, R - Rudder, E - Elevator?* They should be reminded to constantly assess their co-ordination during all stages of flying.

DAY THREE

Five Launches

THE STALL

Ground discussion
Gentle stall - straight flight
Nose high stall
Recovery
Stall in medium turns
Stall speed increases with bank
Stall with brakes out

FLYING NEAR STALL

Air sound - slack controls
Keeping wings level
Medium turns - buffeting

CIRCUIT PLANNING

Ground discussion
Angle to airfield
Increase speed on base
Break off point
Circuit procedure
Modify circuit as required
Radio

AIR BRAKES

Ground discussion
Flight exercise
Their use on the ground
Approach speed control

Ground Briefing for Circuit Procedure

Emphasise SAFE HABITS

Safe speed near ground
Wind strength - direction
Other traffic
Landing area obstructions

FUST CHECK

NOTES

Revision and reinforcement of material already learned and introduction of later techniques should be used as a means of consolidating the students flying ability, if student ability allows.

With the student very lightly on the controls, a relatively shallow final approach should be used on a number of landings to get the student to feel the movements and sense the timing of the round-outs.

The stall should be introduced very gradually by shallow gentle stall demonstrations first, followed by student attempts, gradually working upwards to nose high stalls and stalls in turns. The student should be ground briefed first that this exercise is to remove their fear of stalling and teach correct preventative procedure. If the student is not disturbed by these stalls, then an introductory incipient spin demonstrating the beginning of auto-rotation for as small a portion of a turn as possible can be shown.

DAY FOUR

Six Launches

FINAL APPROACH

Ground discussion
Normal pattern
Base leg drift
Safe areas to land
Wind strengths
Gradients
Overshoot - Undershoot
Use and effect of airbrakes
Clearing obstructions
Flight path observation
Flight exercise

FULL LAUNCH AEROTOW

Ground discussion
Ground run- use of controls
Separation, holding above ground
Countering drift
Normal climb
Stabilise - release

ROUNDOUT AND LANDING

Ground discussion
Brake set before ROUNDOUT (Check 1)
Flare out - eyes ahead
Flying speed off - stall on (Check 2)
Control on ground run
Flight exercises

NOTES

Revision of previous exercises is usually necessary to further consolidate upper air flying. Circuit planning and airbrakes are formally worked on first. Emphasise - locate, identify, operate to the student as well as lookout prior to releasing from tow.

Aero-tow training, which requires higher levels of concentration, should be practised by allowing the student a large margin of error, which is gradually reduced as they become more proficient. The student's hand should be beside the aero-tow release prior to releasing. This prevents 'groping' and looking away from the towing aircraft. Emphasise - locate, identify, operate to the student.

Similarly the student's hand should be rested lightly on the airbrake as soon as the aircraft has turned onto the base leg. Once again emphasise - locate, identify, operate to the student as well as lookout during the circuit. It should be mentioned to the student that the base leg is the time to increase airspeed by half of the indicated wind speed shown by the windsock. To assist with initial attempts at round out and landing the Instructor sets the glider on a relatively flat final approach to reduce the criticality of the round out.

DAY FIVE

Six launches

LAUNCH FAILURE AEROTOW

Ground discussion
Towplane signals
Call emergency landing areas
Simulate launch failure
(a) Above circuit height
(b) Below circuit height
Simulated double hook-up

INCIPIENT SPINS

Pre aerobatic check
Ground discussion
Incipient spin recovery

SPINNING

Ground discussion
Full spin recovery
Accidental spins

GROUND BRIEFING FOR PRE-AEROBATIC SPIN CHECK

'HASLL' CHECK

- H** HEIGHT sufficient for recovery by 1500AGL.
- A** AIRFRAME Flaps, airbrakes, undercarriage set as required. Trim as required.
- S** SECURITY Harness tight and locked. Loose objects stowed
- L** LOCATION Clear of built-up areas, cloud, controlled airspace
- L** LOOKOUT Carry out a 180 degree turn followed by a 90 degree turn in the other direction. Do not carry out a 360-degree turn. In particular check around and below the glider

DAY SIX

Six Launches

DOUBLE HOOK UP AEROTOW SLIPSTREAM BOXING

Ground discussion
Brief tug pilot
Flight exercises

EMERGENCY PROCEDURES

Cramped approaches
Emergency landing areas
Ground manoeuvring
Flying without instruments
Kiting in high tow - ground discussion
Sideslipping - demonstration and practice

Possibly two check flights

1. All EMERGENCY CHECKS
2. Normal circuit - 1500ft launch

SOLO

(If Pilot standard is sufficient)

Pilot assessment
Suitable weather
Solo flight

Note: Decent phase of double hook-up is discussed only, it is not practiced.