

Gliding Australia Training Manual

Trainer Guide



Unit 34

Outlanding Planning Demonstration & Execution

Unit 34 - Outlanding Planning Demonstration & Execution

AIM

To develop the skills and knowledge required to plan, prepare and perform a landing in an unknown field. This may include a landing at the conclusion of a cross country flight and in an emergency situation (launch failure, low in circuit, etc) close to the airfield.

PRE-REQUISITE UNITS

- GPC Unit 15 - Break-off & Circuit Planning
- GPC Unit 16 – Circuit Joining and Execution
- GPC Unit 17 - Stabilised Approach and Landing

COMPLEMENTARY UNITS

This unit should be read in conjunction with:

- GPC Unit 35 - Flight preparation, glider, trailer and pilot.

COMPETENCY ELEMENTS AND PERFORMANCE STANDARDS

ELEMENT	PERFORMANCE STANDARD
1. Select a suitable landing area	<p>Demonstrate</p> <ul style="list-style-type: none"> • Commits to outland • Identify suitable landing area (W6S)
2. Prepare and Plan for outlanding	<p>Demonstrate</p> <ul style="list-style-type: none"> • Determine landing direction and aiming point • Plan circuit • Configure glider • Communicate intentions
3. Perform safe circuit to a field	<p>Demonstrate</p> <ul style="list-style-type: none"> • Standard circuit, not too high • Monitor suitability of field and approach path throughout the circuit • Prelanding check • Monitor angle to aiming point • Maintain safe speed • Final turn above 300 feet AGL

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4. Land in field	<p>Demonstrate</p> <ul style="list-style-type: none"> • Adjust touchdown point to optimise safety • Ensure clearance from any obstacles • Minimise ground roll
5. Post outlanding actions	<p>Describe</p> <ul style="list-style-type: none"> • Communicate successful outlanding • Secure glider • Contact property owner

KEY MESSAGES

- Outlanding requires concentration and planning and adherence to standard procedures. It should not be done in haste so an early decision to land is critical.
- Set personal minima for decision to land and for flying the circuit, and stick to these.
- The student needs to be able to monitor and estimate height above ground without reference to instruments
- Identifying obstacles, wires, crops, wind direction are key observations required
- Every landing the student makes is practice for an eventual outlanding.

NOTE TO INSTRUCTORS:

THE INSTRUCTOR TEACHING THIS UNIT SHOULD BE COMPETENT AT OUTLANDING, WITH RECENT PRACTICE

LESSON PLANNING AND CONDUCT

Briefing

An outlanding may be required at any time, even when flying locally or approaching for circuit. Pilots must develop the skill to identify when a landing at the airfield is not working out and to choose to select and fly a safe circuit for another field.

Select suitable landing area

- Situational awareness – identify when an outlanding is the best or only option. It is a common activity in gliding.
- You have to ensure that you always have glide to suitable landing fields, and as you get lower to remain in contact with those fields.
- Ensure that you have a choice of fields that are big enough and appear clear of hazards.

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Prepare for outlanding

- Select a field based on the following criteria. W6S: WSSSSSS
- Wind, Size, Slope, Surface, Stock, Surroundings, SWER (Single Wire Earth Return) wires.
- Identify wind direction and land into wind where possible
- Actions required to configure glider for landing can be undertaken at height in preparation for landing:
 - Straps are tight,
 - Water ballast dumped in gliders so equipped,
 - Engine configuration set
 - Radio is on the correct frequency, that volume and squelch are correctly set, and that the microphone is positioned for best performance.
 - Flaps set,
 - Undercarriage lowered,
 - Speed required at circuit
 - Trim to an appropriate speed for the downwind leg,
- You need to set up for a normal circuit, only the location is different. Select a field and identify landing area and aiming point and configure the glider for landing prior to commencing the circuit at a 'normal' circuit height.
- Make a radio call so that others are aware of your intentions. You may have difficulty making contact once you are on the ground.
- Estimate your height above ground based on observation of features such as trees, stock, fences

Perform circuit

- Dangers in the field, such as high crops, wires, ditches, fences, tree stumps, tree branches, stock are more easily observed as you get lower and closer. A high, wide circuit reduces your opportunity to identify and adapt to problems.
- You require a high level of concentration and observation to avoid any traps.
- The circuit should be consistent with what you do back at the airfield
- Monitor speed, track and angle to ensure a final turn no lower than 300 feet AGL
- On Final, select a track that avoids and clears all obstacles. Clear obstacles by at least 50 feet (1 wingspan). Be prepared to adjust your aiming point if you see an obstacle, fence, ditch or rough ground.

Landing

- Touch down as slow as possible by holding off as long as you can. This will reduce the ground run and means you will hit bumps and holes and branches on the ground at a much lower speed.
- Use the wheel brake to stop the glider as quickly as possible. Assume there is a hole in the ground directly ahead which will swallow your main wheel. Avoid the temptation to taxi closer to the house.

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Post landing

- Explain the need to tie the glider down, protect against stock.
- When walking to the house or road, take water with you. It may be a while before you return.
- Note location of gates and roads. Take photos. Leave flashing lights at key locations.
- Use your mobile to contact your crew. Text may work better if in low reception area.

Use of See You and Google Earth and simulators

- Review available fields in your flying area. (crops may be different but you can see many issues.)
- Look for power lines and roads and houses.
- Identify field that could be suitable.
- Select a suitable field and plan the circuit

Flight Exercises

On field exercises to practice outlanding

- it is possible to develop some skills on your normal airfield. The Instructor should select an area of the field where the pilot has not landed before or arrange an angled approach. This is to remove the familiar approach surroundings as pilots, however unintentionally, use them to assist judgment. You can even simulate fences and rough ground with suitable props. It is most important that the marked area has a safe undershoot and over-run area available.
- The instructor should conduct a Risk Assessment based on weather conditions and the field.
- The Instructor must watch the approach and landing and assess the following: -
 - The standard circuit was used;
 - The normal approach path was used and there was no "hopping" over the fence;
 - The airbrakes were not excessively worked in and out;
 - The landing was normal, not forced on or "floated" over the fence;
 - No excessive nose skid grinding or excessive wheel brake was used;
 - The aircraft stayed within the selected area. If any of these features are noted, the Instructor should re-brief the pilot before a further attempt.
- The pilot should display a degree of polish well above the minimum standard.
- Demonstrate an approach with (nearly) full airbrake to show how this can be used to shorten the landing distance.
- Explain the option of a ground loop to avoid hitting a fence. Reduce speed and firmly place the wing tip on the ground, keeping the tail wheel/skid off the ground.

In flight exercises

- Within close proximity to the airfield, demonstrate and then ask student to point out suitable fields. Compare their size to the normal landing area. Identify risks and describe possible circuit and approach.

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- On local cross country flights, student to indicate areas that are suitable for safe flights, and areas where landing opportunities are limited.

Motor gliders

- The best training opportunity is where you have a motorglider available, for identifying and selecting a suitable field, and then to fly the circuit down to low level. Landing if the Aircraft is suitable.

Outlanding

- Where possible, an actual glider landing in a field is great training. Even having arranged a suitable field with farmer approval for an outlanding provides the pressure and focus required to fly the circuit and landing.

Advice to Instructor regarding their responsibility to maintain safe flight.

The student preferably needs to conduct a dual outlanding to complete this unit. If you are sending a pilot cross country without having completed an actual outlanding, then you need to be very confident about their skills and performance under pressure. This would require very benign conditions and terrain.

COMMON PROBLEMS	
Problem	Probable Cause
<ul style="list-style-type: none"> Failure to identify problems with field 	Not learning and not following the W6S
<ul style="list-style-type: none"> Circuit too high or too low 	Possibly using ground features for circuit rather than angles to the aiming point. Re-training required.
<ul style="list-style-type: none"> Poor speed control 	Possibly overloaded. Instructor support/advice recommended
<ul style="list-style-type: none"> Overshoot or undershoot on landing 	Failure to select an aiming point and not monitoring progress to achieve this.

THREAT AND ERROR MANAGEMENT

- Not committing to land and then trying to thermal
- Not following normal procedures for circuit and landing
- Human factors – losing focus and discipline
- Poor speed control and height management

TRAINING MATERIALS AND REFERENCES

- Australian Gliding Knowledge



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