

Gliding Australia Training Manual

TRAINER GUIDE



Unit 2

Ground Handling & Signals

Unit 2 - Ground Handling & Signals

AIM

The aim of this unit is to develop the skills and knowledge required to safely handle gliders on the ground and use correct signals.

PREREQUISITE UNITS

There are no formal prerequisite units to this GPC Unit.

COMPLEMENTARY UNITS

Theory Course T1 should be completed as part of this GPC Unit.

Unit 2 - Ground Handling & Signals

COMPETENCY ELEMENTS AND PERFORMANCE STANDARDS

ELEMENT	PERFORMANCE STANDARDS
1. Control, move and secure the aircraft on the ground.	<ul style="list-style-type: none"> • Describe: <ul style="list-style-type: none"> ○ The boundaries between the runways, operational and non-operational areas. ○ The responsibilities of a person on a wing tip to steer the glider. ○ The concept of a sterile environment. • Demonstrate: <ul style="list-style-type: none"> ○ The safe areas to push gliders and not to push. ○ How to steer the glider from the wing tip. ○ The correct use of tow ropes, tow bars, rudder chocks, fuselage dollies and wing walkers. ○ The correct process for rotating glider in stronger wind conditions. ○ How to secure controls and the correct tie-down technique.
2. Use the standard ground signals.	<ul style="list-style-type: none"> • Describe: <ul style="list-style-type: none"> ○ Who can stop a launch. • Demonstrate: <ul style="list-style-type: none"> ○ The "Take up slack" signal. ○ The "All out" or "Full power" signal. ○ The STOP signal.
3. Correctly perform wing tip runner and hook-on duties.	<ul style="list-style-type: none"> • Describe: <ul style="list-style-type: none"> ○ Correct tow-rope and weak link configuration for launch. ○ Correct radio calls, runway and airspace clearance requirements for launch. • Demonstrate: <ul style="list-style-type: none"> ○ Correct glider hook-on procedure. ○ A satisfactory "airspace clear for launch" check. ○ Correct wing-tip runner techniques.

Unit 2 - Ground Handling & Signals

KEY MESSAGES

- Safety is a shared responsibility. Any person can call and signal STOP!
- When hooking on, check for knots, rope condition and correct weak link (for winch launch).
- Check "Airspace clear for launch" including ahead down runway and launch flight path. ("All clear above and behind" is insufficient.)
- Haste increases risks of damage or injury.
- Ensure distractions are minimised, to provide better focus on safety and checks. (Ensure the student understands the concept of a sterile environment).

LESSON PLANNING AND CONDUCT

Classroom Briefing

This unit is best done over several days of operations, in a variety of environmental conditions, with careful introduction and initial close supervision. Seek advice and guidance from experienced pilots.

- Brief the areas of an aircraft where force can and cannot be applied in ground handling.

Note that some glider types may have areas that cannot be used as shown in the diagram below

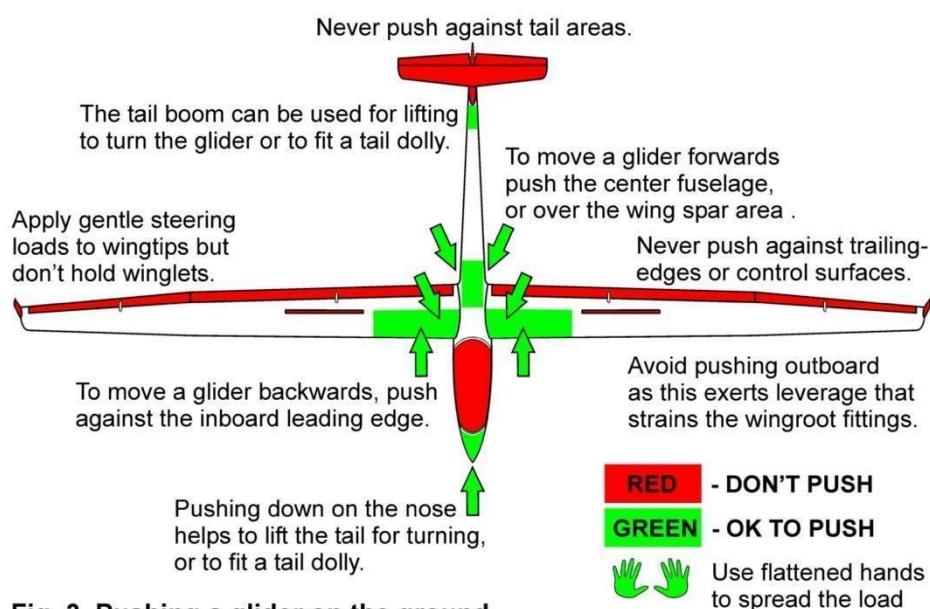


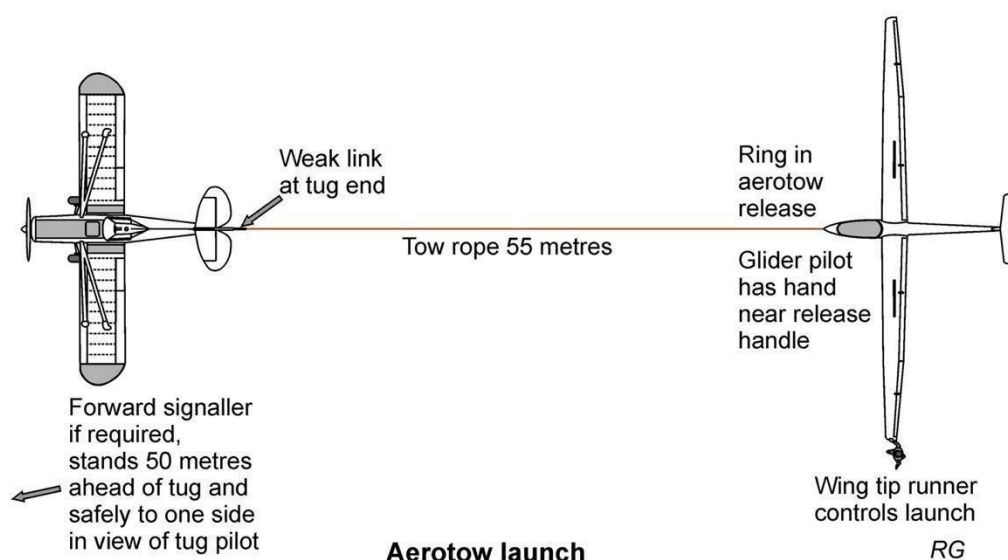
Fig. 3 Pushing a glider on the ground.

- Safe habits must be instilled early, given the inherent risk exposure - injury, glider damage, operational impacts and damage to vehicles and ground handling equipment. Early involvement of a student in these ground handling elements can build a sense of contribution

Unit 2 - Ground Handling & Signals

and trust, with positive motivational effects. Negative effects can also arise from poor training and supervision, or poor corrections for unintended errors or lapses.

- Use approved Standard Signals only – Take Up Slack / All Out – Full Power / Stop Stop. Stop! Demonstrate these.
- The person at the wingtip is responsible for steering the glider.
- When running a wingtip, support the wing but do not hold it back. Allow the wingtip to slide through fingers without impediment.
- With ground handling, there are many variables associated with glider design, weight and geometry, ground handling equipment configuration differences, launch methods, signals, airfield layout, ground hazards and obstructions.
- Students should be introduced to these competency elements in benign conditions first, in simplest circumstances, before being introduced to strong wind conditions, heavier gliders and more complex ground handling equipment.
- Reinforcement is therefore required. Do not assume that a student, having been shown a correct procedure or use of equipment once, will then be able to manage this unassisted in future, for all gliders and ground handling equipment, locations and weather.
- Ground handling training should address the main elements separately. Control and movement of a glider on the ground should be trained separately from correct use of Ground Signals, and then Wing-tip Runner and Hook-on duties. There will be an increasing level of responsibility and student situational awareness as they progress through this unit.
- With ground handling, hazards may arise quickly and interventions and corrections may be urgently required, particularly when inexperienced people are involved. It is fine for an instructor or supervisor to yell “Stop Stop Stop!” to prevent a hazard being realised, however, rather than shout at the offender; it is preferable to have someone else take over and then more quietly debrief the student regarding the hazard and required correction.



Unit 2 - Ground Handling & Signals

Notes:

1. Many pilots have been previously trained to check "all clear above and behind" prior to launch. This has proven to be inadequate. Many hazards that might pose a risk to a safe launch might emerge from a forward or lateral direction.
2. The correct check prior to launch is "**airspace clear for launch**". This check must be thorough. The PIC (Pilot In Command) must be advised of any hazards so that they can make a decision on their readiness to proceed with or delay the launch.
3. The PIC remains in command – the check is to inform the PIC of the hazard environment.
4. This unit provides opportunities to introduce and reinforce some important concepts, including:
 - demarcation between groundside and operational airside areas;
 - diligent lookout and airspace clear for launch checks;
 - fragility of tail surfaces, trailing edges, canopies.

PRE-FLIGHT BRIEFING

There is no pre-flight briefing for this GPC Unit.

FLIGHT EXERCISES

There are no flight exercises for this GPC Unit.

COMMON PROBLEMS

Problem	Probable Cause
<ul style="list-style-type: none"> Applying force to a part of the aircraft that may cause damage. 	<p>Memory lapse regarding how to safely handle the aircraft.</p> <p>Insufficient briefing or demonstration of how to handle aircraft on the ground.</p>
<ul style="list-style-type: none"> Holding onto wingtip during launch causing the glider to turn. 	<p>Insufficient briefing and demonstration on the way to correctly hold the wingtip during launch.</p>
<ul style="list-style-type: none"> Failure to release wingtip on launch when aircraft speed increases. 	<p>Misunderstanding of when to let the aircraft wingtip go.</p> <p>Additional briefing and demonstration required.</p>
<ul style="list-style-type: none"> Allowing aircraft to collide with another object or tow vehicle. 	<p>Distraction during ground handling.</p> <p>Reluctance to speak up when a hazard is identified.</p> <p>Failure to consider all other potential obstacles in the aircraft's path.</p>

THREAT AND ERROR MANAGEMENT

- Insufficient skills and knowledge.

Unit 2 - Ground Handling & Signals

- Maintain situational awareness on the flight line during launching and landing.
- Danger zones associated with launching and landing gliders and powered sailplanes.
- Safety is a shared responsibility – anyone can call and signal “Stop! Stop! Stop!”
- Some sites require Hi-Visibility clothing on the flight line. Introduce this to the pilot.
- Many avoidable accidents have happened towing gliders with tow-out equipment into fixed obstacles around the airfield. Keep a good lookout for obstacles.
- When parking the tow vehicle, always disconnect the glider so you (or others) don’t drive off with the glider still hooked onto the vehicle.

TRAINING MATERIALS AND REFERENCES

- Pilot Guide GPC Unit 2 – **Note! The Pilot guide contains necessary information for the Trainer to cover for all 3 forms of launching – aerotow, winch and autot-tow (it is not covered in detail in the Trainer notes – please refer to the Pilot Guide)**
- GPC Logbook.
- GFA MoSP 2 Operations