

Ground Handling and Wing Running



Overview

- Member knowledge of proper ground handling enables NESAs to conduct safe operations and prevent unnecessary injury and/or damage to equipment
- Additional information can be found at the Soaring Safety Foundation website www.SSF.org

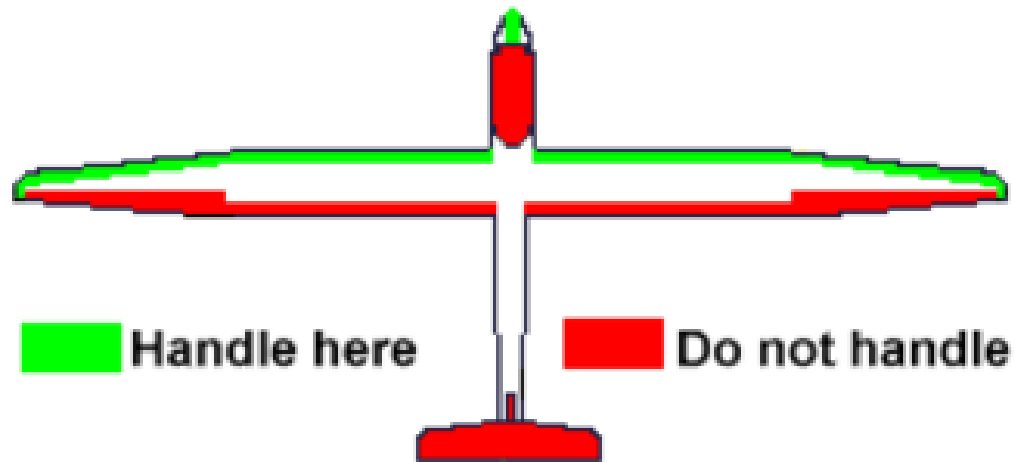


Before moving the glider...

- ...plan your route and ensure that there are enough helpers to move the glider safely
 - Look for obstacles (runway/taxiway lights, VASI, etc.)
 - Sloping terrain
 - Secure controls with seat-belt
 - Radio

Avoiding damage...

- ...by knowing where to push or pull on the glider to avoid damaging the airframe





Keep speed to a minimum...

- ...and do not move the glider faster than a slow walk.
 - Incidents are less likely to happen when you have time to recognize and react to hazards





When conditions are gusty...

- ...take extra care and precaution when moving. Ask for an extra hand walking the opposite wing.





Do not leave a glider...

- ...unattended without properly securing or ensuring that it is safe to do so
 - Parked gliders should be restricted to tie down areas or designated staging areas
 - Do not leave gliders unattended in areas that will restrict the safe and unimpeded movement of incoming/departing aircraft or airport vehicles

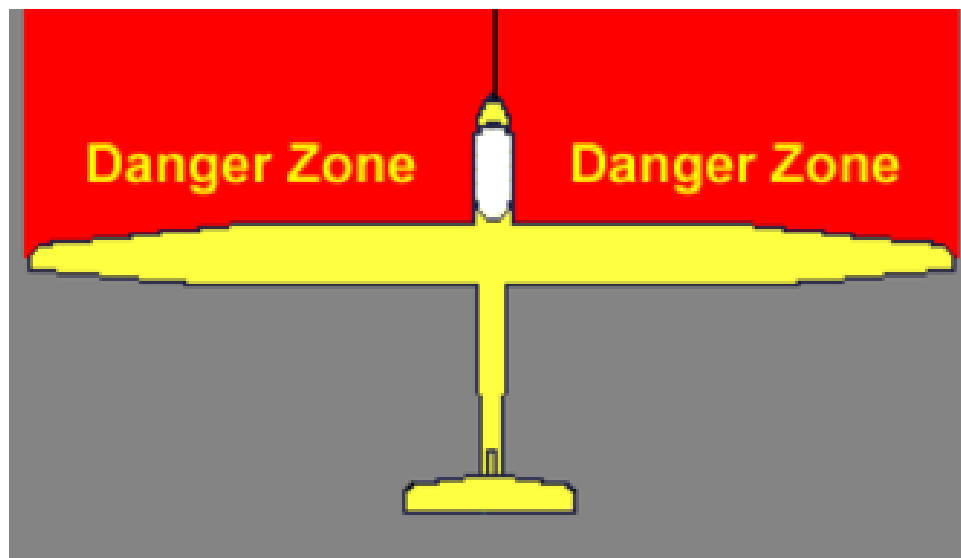


Park and Secure

- Park and secure the glider in a safe manner considering the surface wind, other aircraft, and vehicles
 - Park cross-wind
 - Open spoilers
 - Canopy closed and locked

Launching

- Wing runner should be aware of all hazards once glider is attached to the tow rope





A Recent Incident

- Yesterday during a launch there was some miscommunication among the various parties.
- The launch was proceeding,
- The slack was out of the rope and the tug beginning to accelerate
- but the wing runner was still in front of the glider.
- I'm not sure whether he was trying to stop the launch, or he never thought it was happening, but he was concerned about a glider that was about to enter the pattern.
- The pilot was focusing on the tug which was powering up, and became aware that the wing runner was in the way when he felt a bang and the glider swerved.
- He pulled the release and looked over to see the runner in the midst of a low-level aerobatic maneuver over the top of the wing.
- Luckily no one was hurt and nothing was damaged, but you can imagine it was an upsetting situation for those involved.
- The tug continued the takeoff and proceeded around the pattern.



An Open Question

- How often have you seen a wing-runner in front of the wing after the glider is hooked up?



Further thoughts...

- First and foremost to all wing runners, DO NOT LINGER IN FRONT OF THE WING! Hook up and get away, check the pattern from the safety of the wing tip. The tug has limited visibility. 1
- If you pick the wing up it will signal to the tow pilot all is clear and the launch should proceed.
- Depending upon the type of glider, its location relative to the background and even other gliders positioned behind it, the difference between wing level and wing down might be imperceptible to the tow-pilot. You cannot rely on the tow pilot to see it.
- If you want to stop the launch, put the wing down and alert the glider pilot to RELEASE-RELEASE-RELEASE.
- As the glider pilot you need to realize if your wing is down, that means something is wrong, and you should release. Figure out the reason later.

Recommended Procedure at NESAs



- HOOK-UP
 - DO NOT HOOK UP A GLIDER BEFORE THE PILOT HAS COMPLETED HIS CHECK-LIST AND THE CANOPY IS CLOSED;
 - HOOKUP then immediately;
 - MOVE CLEAR OF THE WING;
 - DO NOT PICK UP THE WING;

Recommended Procedure at NESAs



- CHECK PATTERN
 - PILOT “IS THE PATTERN CLEAR”;
 - WING-RUNNER – LOOK AROUND AT FULL PATTERN FOR ALL RUNWAYS. WHEN CONFIRMED CLEAR STATE LOUDLY “PATTERN IS CLEAR”
 - PILOT GIVES “THUMBS UP”

Recommended Procedure at NESAs



- TAKE UP SLACK
 - TOW PILOT WILL NOT BEGIN TAKING UP SLACK UNTIL WING IS LEVEL.
 - ONLY AFTER PILOT GIVES THUMBS UP
 - WING RUNNER:
 - HOLDS WING LEVEL &
 - GIVES TAKE UP SLACK SIGNAL

Recommended Procedure at NESAs



- LAUNCH
 - PILOT WAGGLES RUDDER
 - (no need to slam the rudder against the stops)
 - WING RUNNER – GIVES LAUNCH SIGNAL



ABORT

- ABORTS ON THE GROUND ARE THE SAME AS IN THE AIR, i.e.
 - TOW PLANE GOES LEFT (or straight ahead if left not possible)
 - GLIDER GOES RIGHT if necessary to avoid tow plane;



Discussion

- Importance of giving Instruction in good launch procedures to avoid incidents;
- Ground and air signals;
 - Is the Rudder Waggle a safe signal?
- Abort procedures;
- Wing-runner safety;

61.87 Solo requirements for student pilots.

(b) **Aeronautical Knowledge.** Demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph: (1) Must address the students knowledge of (i) applicable sections of parts 61 and 91 (ii) airspace rules and procedures for the airport where the solo flight will be performed (iii) flight characteristics and operational limitations of aircraft to be flown. **[See 2-33 pre-solo test]**

(c) **Pre-solo flight Training.** Prior to solo a student pilot must have (1) Received and logged flight training for the maneuvers and procedures of this section applicable to the make and model of aircraft to be flown; (2) Demonstrated satisfactory proficiency and safety, as judged by an authorized instructor on the maneuvers required by this section in the make and model of aircraft or similar make and model of aircraft to be flown:

- (i) Maneuvers and procedures for pre-solo flight training in a glider: (1) Flight Preparations: pre-flight planning, aircraft systems (2) surface operations (3) launches including normal & crosswind (4) straight & level flight,

Launch Signals

ON GROUND:

<p>1. CHECK CONTROLS</p>	<p>2. OPEN/CLOSE</p> <p>TOW RELEASE</p>	<p>3. TAKE UP SLACK</p>	<p>4. HOLD</p>	<p>5. PILOT READY, LEVEL WINGS</p>
<p>6. BEGIN TAKE-OFF</p> <p>GROUND CREW</p>	<p>7. BEGIN TAKE-OFF</p> <p>waggle rudder GLIDER PILOT</p>	<p>8. STOP ENGINE/ RELEASE TOWLINE</p>	<p>9. STOP OPERATION</p> <p>EMERGENCY!</p>	<p>10. TOWPLANE READY</p> <p>waggle rudder</p>

IN AIR:

<p>1. TURN RIGHT</p> <p>pull gentry</p>	<p>2. TURN LEFT</p> <p>pull gentry</p>	<p>3. SAILPLANE CANNOT RELEASE</p> <p>move out, then rock wings</p>	<p>4. INCREASE SPEED</p> <p>rock wings</p>	<p>5. DECREASE SPEED</p> <p>fish tail</p>
<p>6. RELEASE NOW!</p> <p>rock wings</p>	<p>7. TOWPLANE CANNOT RELEASE</p> <p>towplane fish tail</p>	<p>8. SPOILERS OUT</p> <p>waggle rudder</p>		

And Now for the rest of the story on the incident...



- **And it is a very important lesson for everyone to take away.**
 - **After the early termination, the glider pilot got out of the aircraft and immediately checked on the condition of the glider, and then the wing runner (joking – I'm sure it was the other way around . . . maybe . . .)**
 - **then they repositioned the glider for relaunch as the tug came back around around in the pattern. I'm sure there was some vigorous arm-waving from inside the tug, and then relaunch.**
 - **At about 200 feet the pilot noticed the canopy creeping open, and realized that in all of the excitement of the proceeding event, he hadn't thoroughly gone through the checklist.**
 - **This is exactly what happens when things go wrong, and is part of the chain of events we talk about preceding an accident. In this case the pilot handled the event with no more drama, the tow was completed and the canopy re-latched and he went on the a long (and boring) flight.**