Glider Ground Handling Safety

You should note that each particular glider type might have some unique handling techniques that haven't been covered by this article. The onus is on us, when in doubt, ask first. Although we are trying to save money from needless damage the real issue here is safety. A damaged control surface from a bump in the hanger or flight line could go undetected until too late. If you see or cause damage let the owner or an instructor know. The life you save could be your own!

Whenever we handle gliders we should assume Murphy's Law is in effect and that the worst will happen. General precautions can be used to prevent the chances for mishaps. Gliders should be moved using the lifting handles provided. We never push on control surfaces or flaps. During gusty conditions, when in the hanger areas or in close quarters with vehicles or other aircraft, three persons should handle the glider. Gliders are always parked well clear of traffic areas and into wind with spoilers open and the wing weighted (usually with old tires) for the wind strength. Note that when using tires they should not be leaned on the wing but placed fully on the top, clear of control surfaces. Canopies are lifted only by their frames or handles and never by the plexi-glass cutouts. Canopies should always be locked when closed and not left unattended when open. Gusts of wind have broken canopies and the replacement costs are in the thousands of dollars.

When maneuvering gliders the up wind wing tip is held. In close areas the second tip should be walked but not supported, as this could possibly stress the wing. The glider should not be pushed or pulled by the wing tips as this can stress the spar, attachments, or false spar (some types are more vulnerable than others). If you must push on a wing do so nearer the root on the leading edge side or push on the nose of the glider. For these reasons gliders are normally pushed backwards. Moving a wing laterally without supporting the tail can damage the tail wheel or tailskid. Clear communications between handlers are essential (my wing, your wing, stop, clear etc) and the other handlers should acknowledge by repeating the command before letting go (ask an instructor if you are not familiar with the banter). Handlers must also be careful that their clothing does not catch on energy probes or pitot tubes.

When parking gliders in the hanger, be wary of causing hanger rash. Plan storage so that should a tire go flat a wing would not lower onto another aircraft causing damage. Also position gliders so that should the nose be depressed and the tail rise, it will not strike another aircraft. Often damage occurs when a wing is lifted and the opposite tip drops touching another aircraft. Canopy covers should be put on when aircraft are parked in the hanger or tied down. Spoiler brakes should be unlocked to ease springs if stored in a hangar. If aircraft are tied down outside external control locks need to be used along with anti lift devices on the wings or securing the tail on a raised platform to reduce angle of attach. Gliders have been flipped when tied to concrete weights so “screw in tie downs” are best.

Gliders are towed on occasion when the flight line is at the far side of the field. The towrope must be greater than 1/2 the wing span to prevent the possibility of the wing striking the tow vehicle. If an automobile is used, the driver’s windows must be open and radio off in order to hear commands from the wing walker. Also, the speed must be a walking pace for the walker holding the wing. All gliders should be "DI" before putting them on the flight line to avoid possible confusion (how many of you do not check the DI log when the glider is already at the flight line before flying?). You should also never run around in the vicinity of gliders, as it is possible to strike your head on a wing or tail. Some trailing edges can cause a deep cuts or concussions.

Some gliders (mostly fiberglass/composite) require tail dollies to be attached to move the glider and care must be used so that they are removed if the glider is put in a launch position or is going to be left unattended. A gust of wind can yaw the glider swinging a wing into another aircraft, vehicle, building, or person. Always be mindful of the total energy probe extended from the vertical stabilizer when handling tail dollies. On some gliders with tail skids or tail wheels that don’t castor, the nose must be lowered to raise the tail when the aircraft is turned otherwise the tail wheel/skid can be damaged by side loading.

In some aircraft (like L-13 Blanik's) most clubs prefer that the control stick be held back by the seat belt to prevent the elevator from banging on the stops when ground handled. However, this is best done with an external control lock brace on both sides of the horizontal stabilizer. This prevents stress on gliders using a torque tube for elevator control. Also some L-13 Blanik's tail wheels may have been replaced with one that has more clearance and the glider can then be pushed forwards or backwards, but the L-13 is normally pushed forwards unless the tail handle is used to lift the tail (normal procedure to clear landing area). The L-23 Tail wheel is more robust and castors easily. However, care is needed, as with all gliders, to prevent the rudder from striking the ground when the tail wheel enters a rut or uneven surface (rudder clearance is also required when parking gliders near the small hanger with tails into the ploughed field area). Cockpit rudder locks should be in place when glider is parked or moved if it is so equipped. Lifting the tail by the horizontal stabilizer on T-tails also can cause damage. The L-13 Blanik's vertical stabilizer should not be pushed to move the glider backwards as there have been ADs on cracks to the bulkhead where the stabilizer attaches.

. If a parachute must stay in an aircraft do so such that it does not interfere with the controls and fits properly into the seat (never put a parachute on the ground - dampness rot and all that). Some glider canopies (Jantar) if hinged backwards have acted as parabolic reflectors and started the headrest on fire. Best to always keep closed if sunny.

When gliders are assembled and disassembled, one person familiar with the practice should assume the role of supervisor and verify all stages are completed and in the correct sequence. The horizontal stabilizer should always be removed before the wings are disassembled and replaced after the wings in reassembly (should the fuselage tip over without wings the tail could snap off). A qualified person other than the assembly crew should complete a "DI" of the glider after it is reassembled. Positive control checks must be made before next flight. Also, Journey log entries should be made after each inspection following reassembly.

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