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Safety Is No Accident

Ground Handling

or the care and feeding of the sailplane

As you found in the air, your instructor is allowing you to become more responsible. Just as planning is important to the successful outcome of any flight, judgment, knowledge, planning ahead and care also play an important role in moving aircraft.

The first step in any safe flight is a complete preflight (including assembly), which in addition to an inspection of the sailplane includes: familiarization with the functions of the controls, performance limitations, weight and balance, outline of the proposed flight, and knowledge of the current and forecasted weather.

Before each takeoff, as part of the requirements of knowing the performance limitation of your sailplane, you should know the length of the runway for that condition. In other words, if you have a strong wind you don't have to worry as much about the runway length whereas if you were taking off with a tailwind on a hot day you would use a lot more runway, especially in a heavy sailplane. This is one consideration you need to think about and get additional instruction in as necessary, possibly even stop the tow pilot and talk it over. You are or will be the PILOT IN COMMAND.

WHAT YOU ARE LOOKING FOR ON A PRE-FLIGHT: The most obvious thing you are looking for is a blatant problem, but a complete pre-flight looks into all areas which make the aircraft unsafe. Some important thoughts: Is there any object which could slide/move to block a control (including trash under the seat, cushions, loose seat belts)? Be very critical! Any loose rivets, holes in the fabric, missing cotter pins or nuts, strange paint indicating corrosion, loose fitting or improperly assembled controls, cracks in the aileron hinges or other cracks without stop drilled holes, worn skids or parts? It is realized that you are not a mechanic, but most problems are very obvious and do not become dangerous for a long, long time and if found early these problems are easily repaired. Report immediately any problems with the aircraft. We cannot repair what we don't know about, use the SQUAWK SHEETS which are available in the Office.

In the case of a Schweizer 2-33, even though we call them Schweizer tanks and they are over built, they can still be damaged by improper preflight/ground handling. Before preflight it is your responsibility to determine wind direction and strength. It is recommended that your first walk around be done with the outboard ropes still tied down. Check the

cockpit, skid, tires, struts, fuselage, tail section, bottom of wings, ailerons, rudder, elevator, etc. When you remove the rudder locks you must place them behind the sailplane (by the fence) so someone won't unintentionally push, pull or run a sailplane into or over them. To check the upper spoilers put one wing down (upwind wing first) check this spoiler, then lower the other wing (never drop, always ease it all the way down). Once this wing's spoiler has been checked you have the downwind wing down (unless there is a strong wind, more on that later). Why do we do this? As you walk around you do not want the wind to lift one wing and slam the other one to the ground. To let the wing down you should be holding some substantial part of the wing when it touches (do not just let go, not even a foot!). It is very important that the trailing edge is never lifted or pushed on. Ask your instructor to point out repairs due to wings being dropped, and stress points leading to repairs being needed.

There are many days, especially weekdays, that the sailplane's canopy is not clean. You want to be sure that the canopy is clean before each and every flight. This is important to you. The proper way to clean the canopy would be to wipe the dust off with water and by bare hand, then using a clean soft cloth dry the canopy always moving in the direction that the wind would flow over the canopy. If you wipe in circles on the canopy you are going to scratch it in circles. The sun will pick up on the scratches from almost any angle and create more glare than necessary. So always wipe in the direction of the wind both inside and out. Again it is extremely important that the cloth you use is clean with no oil or dirt. Be sure it is a canopy cloth, not a shop cloth.

WHERE TO PUSH/PULL: Footsteps, front handle, inboard close on the stabilizer (if going backwards), inboard strut by bolts, frame on instrument panel, bar between seats. On 2-33's when pulling on the left foot step do not push on the stringer, it will bend in and interfere with the spoilers.

NO-No's: Do not lift, push or pull anywhere on the trailing edge. Wing tips may be lifted, but are not for pulling. To turn a sailplane that has no swivel tail wheel push down on the front handle or lift on the tail (except "T" tails). Do not rotate in one spot, you will dig a hole in the dirt and it will be hard to pull it out. It is best to roll and rotate when moving $\geq$ than 45° Do not push on the fiberglass nose. To put the nose down to climb in use the front handle, not the tube by the seat or the step, and to balance while getting in, place your hands over the reinforced area of the instrument panel not 6 to 8 inches forward where you might notice cracks have started by others pushing there. NEVER, NEVER leave a sailplane untied or unattended. If you must leave you must have someone watch the ship for you. These procedures are not just for wind gusts or thermals, but also for an emergency moving of ships for one of many reasons. Do not place objects on the canopy including tape. NEVER PUT DUCT TAPE ON AN AIRCRAFT, this honor is reserved for mechanics only. No suction cups on canopy glass, ever!

The seat belts can do great harm if tossed out or onto the canopy or wings. Therefore, watch where the belts are placed. DO NOT just toss them off your shoulders. The 1-26's are especially prone to this and the wing takes the punishment – a smooth, strong wing is something which you may want to use later, especially in turbulence and at high altitudes or even low altitudes.

Be sure there are no other aircraft competing for the spot you are moving to (i.e. clear in all directions, before pulling out). Decide where you will position yourself for take-off to have sufficient runway, considering the sailplane, towplane, winds and temperature. Just as the checklist saves lives, complete and through pre-flights save lives, damage to hulls, and egos!

I'm sure that you've noticed that most of the sailplanes do not have swiveling tail wheels. Those that do not have a swiveling tail wheel must be lifted or turned over the ground by pushing the nose down. This prevents digging a ditch with the tailwheel and putting undo side load stress on the tail assembly.

When pulling your sailplane out, if possible have a wing walker on the upwind wing. In winds under 15 mph you may pull sailplanes out with downwind wing down. When moving backwards remember the wingtip wheel might catch in a hole and be amputated. The same situation you face when your instructor catches you! In strong winds, you must have help.

One way to pull out the 1-26 or 1-36 is to stand on the side the canopy opens to (the side with hinges), reach in and pull with the shoulder straps with the canopy open. You must however, be careful when moving a ship with the canopy open, so that it cannot come loose or slam shut. (some ships like the Grob's must have the canopy closed and locked when moving). When stopped, the canopy must be closed and LOCKED so the wind cannot open it abruptly (canopies run in the thousands, of your dollars). If the wind is not a problem it is ok to leave the canopy open, but it is best to close and lock it!

Other nice things to do: Wipe your feet, dry if possible, wipe off rocks and mud, don't just step on cushions, make sure that there are not sharp objects in your pockets, watch hitting the instrument panels with your feet, remove buttons from the top of your baseball cap. Use smooth and full rudder signals for take off without hitting the stops (if you think about it, when you slam the spoilers or bang the rudder, you must be hurting something. So take care of the sailplane and she will take care of you). Do not step on or kick arm rests or seat panels. Turn over the cushions that are in the sun to avoid the dreaded burned posterior.

When adding ballast, be sure that there is nothing blocking the SAC ballast compartment, and then you must secure the ballast bar with a pin/bolt. If you are adding weight under your seat, be certain that it will not slide out and block your controls. When removing ballast do not

throw it on the ground. It is your responsibility to remove your ballast and return it to the proper place.

When you get out on the line and you are ready for take-off you might notice that you have too many cushions. Please remember that the cushions are very expensive. If there is no line boy available to take the cushion back to the cushion box and you have to remove a cushion please do NOT treat them as Frisbees and fling them. This really destroys the cushions by starting a small tear in the fabric, just set them down where it is clear that no one will roll over them. It is best to return them to the cushion box. Think about what you are placing it on (try not to put it in the mud or on an oil spot, etc.) This calls for common sense like everything we do around aircraft.

On takeoff without a wing runner, you should have the wing down toward the center of the runway. This is because when you start moving, you initially start pulling towards the down wing. Also it gives more room for other landing aircraft. One trick to remember when you are taking off without a wing runner is point the nose about twenty to thirty degrees towards the down wing. What happens is as the tow plane starts rolling, his initial pull will actually straighten the sailplane and this lower wing going faster will help to lift the wing.

Once airborne, there is very little (if any) damage done to the sailplane unless the airframe is overstressed, unlike a power aircraft, which is affected by vibrations and sonic wear. The hardest thing on the sailplane is the release, many feel it is appropriate to pull back on the stick then dive and release. This is NOT a good procedure due to the strain on the tow plane tail, tow release and tow rope. It is also important to not release under heavy load. To properly release, be sure the area is clear for the tug and you, don't release under load or while you are moving up in relation to the tug, slight nose down is fine (a small bang is fine!). Ground handling, however, is definitely a separate case. You must exercise your common sense when moving any aircraft to avoid injury to others or damage the aircraft! An important area to save wear on the aircraft is the skid, get the skid up as soon as practical and hold it up on the landing as long as you can. This saves skids, runways, vibration to the aircraft frame, and the instructors nerves!

On completion of your landing roll out, do what you can so a wing will not just drop. Close spoilers gently (if you hear them close it was too hard). On the roll out DO NOT ATTEMPT to stop near other aircraft, remember it is very difficult to judge your wing span and distance (or lack thereof) from other objects!! As your roll out stops you should (except in cross winds) have your nose parallel to the runway, and the stick all the way back.) Do not let the tail drop as you get out.

If you land in very strong winds (25+) do not get out of the sailplane, this will keep the nose down (lower angle of attack) and you maintain control using the flight controls. Open the spoilers and keep the nose down with forward elevator. The ground helpers will move you and tie the sailplane down with you in the pilot seat.

When you tie-down your sailplane after landing use the back (nose facing towards the road) tiedowns first. Very often somebody will come back, land and park in the front spot. This means that the next person has to untie the one which is already tied down so they can slip the wings under and over to park. This is quite unnecessary as well as discourteous. "After landing checks" should include: Inspect the tiedown area and make sure that your ship is correctly tied down, remove your number, extra cushions, any trash and your ballast. Note any problems areas, and complete a SQUAWK SHEET if necessary.

As you can see, everything pertaining to ground handling is very logical and based on common sense and courtesy. Given time you would figure all of these procedures out on your own. But as we have a limited number of sailplanes, we appreciate your efforts in taking care of the equipment. We at Sky Sailing hope you understand and will abide by these practices.