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Gliders and Checklists

Aviation is incredibly safe; in fact, it is amazingly safe by any measure. But it is not inherently so. It is only that way because a lot of people work hard every day to make it safe.

You need to be one of those people.

Checklist usage is one of the ways we help to break the chain of errors that lead to almost every aviation accident.

The airlines represent the best example of aviation safety. In the period of 2010 through 2020 (last data available at the time of this writing) They have had an accident rate of less than 0.15 per 100,000 flight hours while general aviation averaged 6 accidents per 100,000 flight hours. That's a 40 fold difference.

<https://injuryfacts.nsc.org/home-and-community/safety-topics/airplane-crashes/>

We can do better.

Besides good equipment, training, and standardized procedures, disciplined checklist usage also stands out as a manner in which airline operations avoid critical items being missed.

The FAA's practical test standards for glider require each applicant to follow, utilize, or complete the prescribed or appropriate checklist for:

- Assembly
- Preflight Inspection
- Cockpit Management (including briefing passengers on the use of safety belts, shoulder harnesses, and emergency procedures & might include set up of navigation and recording equipment, etc.)
- Traffic Patterns (if applicable.)
- Before Takeoff check
- Engine starting & shutdown (if applicable)
- Normal and crosswind landing (i.e., before landing checklist)
- After landing and securing

Each checklist may be performed while accomplishing its elements - often referred to as a DO List, or as a review after the elements have been accomplished.

In most airline operations, cockpit tasks are completed through flow patterns where the items are first accomplished, and then verified for completion via the checklist.

You might have checklists placarded in your glider, on a separate card, or memorized. My own glider's ClearNav has a new electronic checklist function - not too different from an electronic checklist found on the latest Airbus and Boeing aircraft

All are acceptable, but a checklist is not going to help you unless you use it.





Human nature often leads us to complacency when completing repetitive tasks, and checklists are no exception. A common pitfall is just repeating the usual answer without actually checking or considering the item. Safety requires checklist discipline to stop and consider each item. Many airlines employ a technique of one pilot challenging the other for each checklist item. The pilot answering the checklist intentionally points at the item in the checklist as he replies with the answer, ensuring that the item is actually verified and not just repeating the usual answer.

Here in the glider world, we're doing them by ourselves often with no one looking over our shoulders to catch errors. So, it's doubly important to be careful. Consider a Challenge-response-response method whereby you say the item out loud and provide two answers. For example: "Altimeter: Set, set to 580 ft." This helps avoid simply parroting the usual answer which besides skipping the checklist entirely is probably the primary threat to a poorly conducted checklist.

We also have the luxury of writing our own checklists to suit our individual situations. Your instructor may have given you several checklists to follow to cover the basics. When you find your situation has increased in complexity, you may want to add additional items, like oxygen, transponder setting, flight recorder, turning the camera on, or making sure your lunch isn't left in the car

When considering making your own, I'd like to offer some tips on checklist construction and use.

First, you're not writing out instructions. We need to make the checklist usable, not a burden.

- Eliminate extra words. Pitot cover is easier to read than remove and stow the pitot cover. And it can be printed in larger font on the limited space.
- Ensure the things that make a difference are on it. Spoilers locked for takeoff and making sure the landing gear is down before landing are definitely worth checking
- Have the order of the items make sense. It might be inside to outside, like "controls, canopy, cable", or have the answer from one item lead to the proper setting for another such as considering the wind, before determining the approach speed, then setting the trim for that speed, or considering the direction of wind before briefing an emergency rope break plan.
- Make them convenient. An index card size that fits in your pocket is easier to deal with than an 8 ½ x 11 sheet. Post it in the cockpit, trailer or wherever it will be used.
- For checklists to be done from memory, use a mnemonic memory aide like FUSTALL, GFWATTS, or ABCCDDDE. For extra measure, back it up with a written version such as a placard, electronic checklist, or paper card.

Overall, be consistent in applying your checklists. Make it a strong habit like buckling your seatbelt as soon as you sit down. Make it so that when the stress is up, it's still an ingrained habit that you'll consistently do.

Yes, real pilots do use checklists. It's how we get to be old pilots.

