



Photo by Steve Roti

## The Three P's Preparation, Practice, Prevention

by Steve Roti

“There are no accidents.”

- Master Oogway in the movie  
*Kung Fu Panda*

Our most important safety tool as pilots is located in our heads. How we think about safety, how we talk about it, and how we integrate it into our flying determines, to a large extent, how successful we'll be at making good decisions and avoiding accidents. It's a truism that all accidents are due to pilot error, but research by NASA's Aviation Safety Program has shown that no one thing “causes” accidents; they're caused by a confluence of multiple events, actions taken or not taken, and environmental factors. So how can we think about safety in a way that helps us avoid accidents? After 17 years of flying paragliders, a couple thousand flights, and one trip to the emergency room for a broken arm, I've categorized my safety-thinking into three P's: Preparation, Practice and Prevention.

It may sound corny, but what the Boy Scouts have been saying for a hundred years is eminently applicable to paragliding and hang gliding. Their motto, “Be Prepared”, encourages us to be ready in mind and body. “Be Prepared in Mind by having thought out beforehand any

accident or situation that might occur, so that you know the right thing to do at the right moment, and are willing to do it. Be Prepared in Body by making yourself strong and active and able to do the right thing at the right moment, and do it.”

What does this mean in our sports? For starters, a well-rounded fitness routine will prepare your body for the physical demands of flying—strength for carrying the glider, agility for launching and landing, and endurance for staying in the air for multi-hour flights. Hang gliding and paragliding may not be as taxing as running a marathon or riding in the Tour de France, but being fit maximizes our performance as pilots and minimizes the chance that we won't be able to handle an emergency situation that requires physical effort (for example, handling a glider in strong wind).

Mental preparation can cover a wide variety of topics such as visualization of in-flight scenarios and appropriate responses to them, review of pre-flight checklists, and study of sectional charts. When we first learn to fly, our instructors provide us with skills and knowledge that prepare us to fly on our own. But Novice-level instruction can't cover everything, so it's up to us to continue the learning process afterwards. Examples of the types of preparation we can do on our own are

reading books and watching videos on flying techniques and weather concepts and consulting maps when planning to visit a new flying site. The concept of “life-long learning” is important in aviation—there's always more to learn, and the more we learn, the safer we are.

Equipment preparation plays a part as well. Before flying, we need to check our electronics (GPS, vario, radio, cell phone, camera, etc.) to make sure the batteries are charged and everything is working correctly.

If we're planning to fly cross-country, we need to prepare by having adequate water, food and clothing for the conditions we're flying in and the terrain we're flying over. And if we're flying alone, we need to take one extra step of preparation by letting someone know our flight plan. The tragic example of Scotty Marion, one of the most accomplished paraglider pilots the U.S. ever produced, who disappeared on a cross-country in Austria five years ago, is a lesson to all of us. Without knowledge of his flight plan, searchers spent months looking, but failed to find any trace of him.

Practice Makes Perfect. It's also said that “Nobody's perfect.” So if nobody's perfect, how can practice make perfect? The answer is to think of “perfect” as being the best pilot you can be.

Anders Ericsson, one of the world's leading researchers on expertise, writes, "[T]here is surprisingly little hard evidence that anyone could attain any kind of exceptional performance without spending a lot of time perfecting it." Practice makes perfect means the more you practice, the better you will become. When we are learning to fly, our instructors tell us to practice as much as possible. Paragliding and hang gliding are the types of sports where we can continue to learn year after year, so continual practice is necessary to achieve our full potential. It's a good thing we love to fly, because if we didn't, we probably wouldn't work hard enough at it to get really good.

There are so many aspects of flying paragliders and hang gliders it's hard to know where to start practicing, so I'll suggest launching. A confident and competent launch sets the tone for the rest of the flight. Many of us probably remember a particularly shaky launch that rattled us psychologically and diminished our enjoyment of the entire flight. The best way to avoid having that happen again is to practice launches on a training hill (and that includes kiting practice for paraglider pilots). As we gain experience over the years and our flights get longer, we often don't do as many launches as we did earlier, so periodic launch practice is a good way to sharpen old skills, especially after a long winter's layoff.

Next, we need to practice landings. As the saying goes, "In aviation launches are optional but landings are mandatory." In unpowered aviation we don't always get to choose the time and place of our landings. This is particularly true on cross-country flights but can also happen in ridge-soaring sessions when the wind abruptly changes direction or velocity. At flying sites I regularly use, I like to practice by using landmarks to help regulate my approach—for example, turning from downwind to base over a particular tree and turning base to final over a road. If I'm too high or too low nearing a familiar landmark, I can make small adjustments to my approach to get back in the zone. When I visit a new flying site where I haven't had a chance to practice the approach, I look at the landing zone and try to find similarities to familiar LZ's, so I can use the techniques and tricks I've practiced at home.

The topic of practicing flying skills is a large one and beyond the scope of this article, but I think of it as an on-going process of constantly refining my existing skills. We've all heard the advice to only try one new thing at a time: learn it, practice it, incorporate it into your skill set, and then you're ready to try another new thing.

Weather forecasting is something we can practice even on days when we can't fly. Get the forecast as if you were going flying, make your best guess about what the conditions will be like, and if any other pilots do go out flying, quiz them on conditions and see how close your guess was. Also use non-flying days to read as much as you can about weather, because forecasting is one important flying skill that benefits from life-long learning.

Benjamin Franklin's famous saying, "An ounce of prevention is worth a pound of cure," was actually fire-fighting advice, but it applies to our sports too. Most flying accidents are preventable, which means the pilot could have prevented the accident by taking different actions. Some accidents are predictable and some aren't, but there are steps we can take to prevent most of them.

One obvious step is to eliminate safety hazards. Obstacles in or near launch and landing areas are a prime example of safety hazards. If there's a tree or a large rock in front of the launch area or in the middle of the landing zone, someone eventually will hit it. Removing obstacles at flying sites is an important preventative step.

Near-misses are something we tend to ignore, but they should be taken seriously. You might come close to hitting a fence on landing approach and not think anything of it because you weren't actually injured. However, sometimes, it's just a few feet or a split-second that separates the near-miss from a serious injury. The next time you might not be so lucky. Find out what caused the near-miss and take proper action to prevent it from happening again.


There's a popular aviation saying, "It's better to be on the ground wishing you were in the air than in the air wishing you were on the ground." How do we make the decision about appropriate flying conditions? Forecasting is part of it, but assessing the conditions correctly at the

flying site is the single most important part of this. The first year I was flying Phil Pohl taught me the "15 Minute Rule": when you get to a flying site, spend 15 minutes watching the wind and the sky before making the fly/no-fly decision. If you see unsafe conditions, for example, peak gusts stronger than your personal limit, reset your timer and spend another 15 minutes watching.

Of course, conditions can change while we're flying. A cloud deck can move in below our flying altitude or a cumulus cloud can grow into a cu-nim. In cases like this, prevention tells us to keep a constant eye on the changing weather conditions and to fly away or land, before we get trapped above a cloud deck without a visible LZ, or below a cloud that's sucking us up faster than we can descend using emergency techniques.

As pilots we understand the importance of pre-flight checklists, but it's easy to forget items when we're interrupted. To prevent interruptions, find a quiet place to go through your checklist, and, if interrupted, take an extra minute to start over from the beginning. It's better to spend a little extra time on pre-flight safety than to launch a hang glider with the hang strap unhooked or a paraglider with the leg straps unclipped.

Proactive thinking can help prevent accidents by anticipating events and giving you more time to make an optimal decision. While flying, work on being proactive rather than reactive. Think ahead, make plans, and ask yourself "What if my plan doesn't work?" We should always have a Plan B as a safe backup.

Finally, humility is a way to prevent over-confidence. Granted, it takes a substantial ego to fly an unpowered ultralight glider, to think that we can toss aside hundreds of thousands of years of human evolution on the ground and step off the top of a hill with only a lightweight glider above our heads. We need to remember that we're still at the mercy of the atmosphere, so it pays to be humble. As the saying goes, "There are old pilots and there are bold pilots, but there are no old, bold pilots." 

"The mark of a true hero is humility."

- Master Shifu in the movie  
*Kung Fu Panda*