



To Pull, or Not to Pull

Fine Tuning Your Airframe Parachute Decision-Making Skills

Both optimists and pessimists contribute to our society. The optimist invents the airplane and the pessimist the parachute.

— Gil Stern

Call it pessimism if you will, but for Boris Popov, the inspiration for developing a commercially successful whole-airplane parachute system was based more in the reality of his own aerial life-or-death situation. In 1975 he narrowly survived a 400-foot fall during a hang glider accident. Unfazed, Popov would later go on to establish Ballistic Recovery Systems (BRS), the producer of airframe parachute systems. Since 1981, they have been delivered to 30,000 aircraft owners worldwide including 3,500 systems used on FAA-certificated aircraft. These include installation on several popular Cessna training models, the entire line of Cirrus general aviation aircraft, and a variety of ultralight and light sport aircraft. All together, these systems are credited with having saved over 300 lives.

That number might even be higher, however, were it not for the hesitation and unwillingness of certain owners to use these aircraft parachute systems in an emergency. So, what's holding back these pilots from realizing the potential of these life-saving devices? It's a bit more involved than you might think.

Fly Like You Train

There are many things that go through a pilot's mind during an emergency. That's precisely why pilot training is so heavily focused on how to deal with emergency situations, often to a degree of instilling instinctive reactions. Not a bad thing, mind you. However, when a whole-airplane parachute system is involved in the safety mix, your normal responses to emergencies may need to be augmented to incorporate this device. This isn't always easy, especially for someone who has never flown or trained with such a device. But not taking the time to properly integrate this technology with your personal safety habits can present a serious problem when it comes time to really use it.

Take for example the following tragic flight situation detailed in Cirrus Aircraft's *Guide to Cirrus Airframe Parachute System (CAPS)* that shows a pilot's reluctance to use BRS:

On October 25, 2006, an instrument rated pilot departed S. Lake Tahoe, CA, with his wife and three children en route to Grand Canyon, AZ. The pilot departed VFR, but picked up an IFR clearance to his destination after noticing deteriorating weather ahead. Shortly afterward, the pilot entered an area of convective activity that contained icing conditions and reported an emergency. Data shows the airplane stalled and entered a spin for 14 rotations and 45 seconds until impacting the ground. The pilot never activated the CAPS to recover from the spin.

Cirrus claims its CAPS system has saved 77 lives to date, but states that its success stems not just from the system itself, but also from a well-trained pilot who's already predetermined how and when it will be used. One look at their website will reveal their strong dedication to system awareness and training. You'll find guidebooks, checklists, and videos, as well as contact information for flight schools that have CAPS handle equipped simulators.

To Pull, Or Not to Pull

As we mentioned, having a predetermined plan for using BRS can make a huge difference if and when that critical moment of decision arises. Knowing the limitations of the system you're using is a large part of that (e.g., what is the minimum safe deployment altitude, what are the speed restrictions, etc.) You also have to consider all the specifics of your situation before pulling the handle.

Smoke or fire in the cabin might inhibit your flying abilities, but pulling the chute in this situation may only worsen your chances of survival from an impending fire or smoke inhalation as your aircraft slowly floats to the ground. In many other situations however, (e.g., pilot incapacitation, structural failure, or loss of control) immediate activation of the chute may be your only safe recourse. To the extent possible, pilots also need to consider positioning the aircraft away from congested areas or dangerous terrain; once you're under canopy, you're along for the ride.

Real Pilots Don't Need Chutes

This unfortunate mantra is yet another sticking point for some pilots who have parachute-equipped aircraft and who feel they can aviate their way out of any situation or may feel emboldened by the fact

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is in direct contrast to a maintenance technician. Tablets loaded with mobile apps make diagnosing aircraft issues faster and easier, which is all well and good until the latest grumpy cat meme about holiday shopping pops up. You laugh (because how true is that?) and then rush off to show/forward it to your friends.

Some have panned the Dirty Dozen for being “old.”

Yes, they have been around since the early 1990s, but the 12 reasons for error are as relevant as ever. “Distraction” is one of the maintenance dirty dozen. It includes anything that can draw your attention away from the task at hand. This can be external, such as when that leaky muffler you are working on gets interrupted by those social media funnies, or it can be internal, like being preoccupied with a loved one’s ailing health. Either way that muffler takes a back seat while you are focused on something else.

While I am a huge advocate for taking mental “time outs” during long or particularly monotonous projects — my favorite is to take a brisk walk around my office building — it is imperative to understand when you need to have 100 percent focus. While the human brain is arguably the world’s greatest super

computer, our attention spans sometimes fail to live up to the hype. To combat this problem in areas where focus counts, we must be aware of our own propensity to drift off topic and take steps to ensure the work is done correctly.

Make sure that you are well-rested and mentally “in the game” before starting a new task. Keep tabs on where you are in the procedure by using and marking a checklist. If you do get distracted, go back two or three steps and start over from there, to make sure nothing is missed. If you have a lengthy break in the process, tag incomplete work so that you know exactly where you left off. If you disconnect something, be sure to document that section. These techniques can also come in handy if you are handing off work to another person. Lastly, always double-check or have another set of knowledgeable eyes come in behind you to review finished critical tasks. The old adage that two pairs of eyes are better than one certainly holds true here.

The best way to combat any of the maintenance dirty dozen is to be aware that they *can* happen to you. Accept and plan for that reality! Be the solution and not the problem. This holds true for the bystander as well. Be selective about when to distract your colleagues. Ask if they have a moment, before asking them how to resolve your question. Awareness and understanding go a long way in prevention.

Now, back to work. Riiight after I check back in on that National Zoo panda cam.

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they have parachute in their “back pocket.” On the flipside, no one is implying a BRS system should be used in the same careless vein as the infamous Staples® “Easy Button” shown in TV ads.

The decision to activate an aircraft parachute ultimately comes down to the specifics of your situation, coupled with the knowledge and expertise you’ve hopefully garnered through training and research. Aircraft parachutes are a valuable safety feature, but one that deserves careful consideration and continual planning for it to be successful.

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Learn More

Cirrus CAPS Training Resources (video, checklist, training syllabus, etc.)

<http://cirrusaircraft.com/caps/>

Aww Chute! Making the Pull Parachute Decision – Nov/Dec 2010

www.faa.gov/news/safety_briefing/2010/media/NovDec2010.pdf