



## Ram-air or round parachutes

**I HOPE EVERYONE HAD A WONDERFUL** holiday season and a happy new year. I also want to congratulate our U.S. Aerobatic Team on a job well done.

In the past few months there has been a lot of discussion on *The Exploder* about the pros and cons of a round pilot emergency parachute versus a ram-air one. A ram-air parachute is rectangular in shape like a sky diver uses. Also, there has been a fair amount of talk about the use of a static line to assist in the deployment of your parachute. I guess it's time for me to add my two cents' worth.

If you look back on past issues of *Ask Allen*, I've touched upon this subject before. Refer to articles I've written that were published in December 2006: "Should I Consider Buying a Ram-Air Parachute?" and April 2009: "How to Use a Static Line."

Let's start with the ram-air versus round canopy issue. My last save was Sean D. Tucker in 2006. He used a ram-air canopy. He has several hundred jumps and is very proficient with a ram-air parachute. He is also cool to watch fly. The chance of a pilot bailing out, fortunately, is very slim, and using a ram-air parachute can require a great deal more skill to ensure a safe landing. This may be compounded by injuries you sustained while bailing out or from the mid-air collision you just had.

I personally won't sell potential customers a ram-air parachute unless they receive some additional training. They don't necessarily have to even make a practice jump unless they want to, but they need additional training on how to fly their wing to a safe landing and how to deal with any malfunction that may have occurred during deployment. They need to sit through some form of ground school, usually at a sky diving center. I also require a letter or certificate as proof of completion. I want to make sure they've been properly trained to cope with certain types of problems that only a ram-air canopy can have. They're just a few, but you need to know how to instantly correct them or you leave yourself open for serious injury or worse.

One that comes to mind is premature brake release of one brake/steering line that can put you into a violent spin. Ram-air canopies are typically packed with the brake/steering lines stowed during opening. It's like having half flaps on your aircraft and one side suddenly

releases and goes back to the neutral position. What are you going to do? Simple, just release the other brake line or pull the one that released back down to half brakes if it's not tangled around something. But suppose you can't because that arm was injured during bailout and you can't reach that line. However, you're clever and you just undo the other brake/steering line. Now your canopy is stabilized and flying straight, but you can't flare it on landing because you only have the use of one brake/steering line. Your steering has just become much more complicated. For example, if you have the left steering line in your hand, you can only turn left. A 90-degree right turn is now a 270-degree left turn. If you forgot and attempted to flare (pull down on the one remaining handle) on landing, your parachute will suddenly remind you that you shouldn't have done that. You need the use of both steering handles to flare. It will probably put you into a violent spin low to the ground. What do you do? You quickly let up on the steering handle, and the parachute suddenly tries to correct itself but you're still too low, and it stalls at 10 or 15 feet above the ground. If this sounds confusing just reading this scenario, imagine this happening to you under your parachute. That's why I feel most pilots should keep it simple (KISS) and only wear a round parachute.

One analogy I use to explain this to a pilot is to say, "Just because you're a pilot of your super-duper single-engine aerobatic airplane doesn't mean you can fly an F-16 fighter safely." About the only thing a round parachute and a ram-air parachute have in common is the rip cord used to deploy them. A round parachute is much more forgiving. You can hang beneath it like a rag doll, and it doesn't do a whole lot to get you into trouble—especially if you're incapacitated in any way. You really need the use of both arms and hands to fly a ram-air parachute. They have a much greater forward speed, and it's best if you can flare them for landing just like you do on your aircraft. Most of the people I put into a ram-air canopy are flying at higher field elevations, like the Denver area, weigh 220-plus pounds, and would like to have the softest landing they can manage, so they get the additional training. However, owning a ram-air canopy still does not ensure you'll have a soft landing. One thing I

can assure you of is the cost of owning one, and this does not include the additional training you should receive. You can expect to pay about \$1,000 more for a ram-air parachute. Check out my column in the December 2006 issue of *Sport Aerobatics*. I hope I've made my point.

Now let's discuss the use of a static line deployed parachute (refer to my April 2009 column). All my columns are on my website, if you haven't saved all your past issues of *Sport Aerobatics* like everyone else. I have mixed thoughts about the use of a static line. They are very popular in Europe, and they generally work quite well. A typical static line has about 30 feet (10 meters) of line. One end is attached to some portion of your aircraft and the other to your rip cord handle. It sounds really cool; all you have to do is get clear of your aircraft, and it opens your parachute. Herein lies the problem as I see it. When you jettison your canopy, if you have one, or your door and bail out, you have your static line playing out. About 30 feet later you have your parachute coming out in close proximity to your spinning, out-of-control aircraft. Could they entangle?

Now let's throw in the scenario that you have a passenger who is also wearing a static line-equipped parachute. You're both lucky and make it out of your disabled aircraft. This is going to be your lucky day, but you soon realize both your parachutes are opening side-by-side, and they get tangled up, causing both of them to malfunction.

Perhaps you had a great flight, and in your exuberance to exit the aircraft and tell all your waiting friends about it, you forget to unhook your static line. Oops, your parachute just deployed, and the spring-loaded pilot chute is caught in the wind and your parachute has inflated. You now find yourself being dragged across the airport in your parachute. Your friends think it's pretty funny until they realize the danger you're in. They try to stop you, but before they can, you hit something and get all scraped or broken up.

My suggestion is that you get properly trained on how to manually deploy your parachute. Then you shouldn't have any of the above mentioned static line problems.

One place I could possibly see using a static line is when you're giving passengers a ride, and you use a static line on their parachute. Of course they still must be given a briefing on how to manually pull the rip cord as if the static line failed, and they still need to be briefed on how to steer and land the parachute they're wearing. I have several articles on my website that talk about this. You can also e-mail me, and I'll send you a copy of my bailout seminar handout material that's not on my website. This is an outline of what I teach at my seminars, which can be useful when briefing your passengers or as a refresher for yourself.

Fly safely and remember to disconnect your static line before climbing out of your aircraft.

**IAC**