



Allen Silver

Ask Allen

A master rigger answers your questions about parachutes.

By Allen Silver, IAC 431160

Q: How fast do I decelerate when I bail out?

A: This question often comes up. Pilots ask a lot of *what if* questions. Like *what if* the wings of my aircraft come off and I just become a very fast falling lawn dart. After a high speed (or any speed) bail out, do I need to wait before I pull the rip cord, to prevent possible damage to my parachute when it's deploying?

The best advice I can give you is that once clear of your aircraft, you need to locate your rip cord and pull it right away. You may be close to the ground where time is critical and waiting may cost you your life. We've all seen cartoons of Wile E. Coyote leaving an impression in the ground after a long fall and then getting up and shaking himself off. In real life that doesn't happen. You need to get under an open parachute as soon as possible. Most bailouts occur at lower altitudes where waiting to slow down before pulling your rip cord may leave you as a lasting impression in the ground. Do not think you have to wait before pulling your rip cord. That's why I've come up with the attached graph that gives you a rough idea of just how fast you slow down.

I don't want to hear from you engineers out there picking it to pieces as not quite accurate and bombard me with all sorts of formulas. I actually had a sky diver friend who just happens to be a test flight engineer for a small company in the Seattle area come up with this graph. Originally being an engineer, he came up with a graph that only Einstein and other engineers could decipher. While back at Oshkosh we sat down over a couple of beers and came up with this graph depicting **airspeed versus time for deceleration**. I figure that if I can understand and make sense of it, most everyone else could, too.

What became apparent is just how fast you decelerate once you bail out. Within just two to three seconds you typically slow by as much as 50 knots when bailing out at high speeds. It will take most of that time, if not longer, to look, find, reach, and pull your rip cord. What also was interesting was around seven seconds to about 11 seconds, when bailing out at higher speeds, you will start to re-accelerate slightly until you reach terminal velocity, which is about 110-120 mph. The chart is probably more

accurate if you're a sky diver and know how to get stable, but for the majority of you that is not an option. You need to concern yourself only with locating that shiny handle and pulling it like your life depended on it. Trying to get stable like a sky diver is not as important as finding the rip cord and pulling it. I don't care if you're on your back, spinning, tumbling, or are doing lomcevaks, **just pull your rip cord**; the spring-loaded pilot chute knows up from down, and within just a couple of seconds you'll be under an open parachute.

Q: What do plastic ties, tape, and Velcro have in common?

A: These are just a few of the items that I've seen used to attach all sorts of things to your parachute harnesses. Many could hinder or even prevent your parachute from deploying properly. Plastic ties are for garbage bags, and your parachute is not a garbage bag. Tape to hold things like glass cases, flashlights, or knives in place will eventually weaken the nylon it's touching. I've seen firsthand how creative pilots are when using the type of Velcro with the adhesive backing to attach items to their harnesses. Any type of glue will weaken nylon over time. After all, why should I consult a qualified rigger when I can save a few bucks and do it myself? Remember any type of glue/adhesive that comes in contact with any portion of your parachute assembly will cause damage over time. Even something as simple as some types of ink in marking pens can cause damage to nylon.

The bottom line is do not write on or attach anything to your harness without consulting your parachute rigger. Another good rule of thumb is do not attach anything to your harness above your chest strap. Many parachutes have flaps, particularly over the shoulder area, that must come open for your parachute to deploy properly. As I've stated before, what seems like a great idea and makes you wonder why no one has thought of it before, probably isn't. You do not need to nominate yourself for the Darwin Award.

I also wanted to take the time to thank all of you who attended my bailout seminars or came up to me and said hello at Oshkosh. 🇺🇸

