

How Low Can I Go?

BY ALLEN SILVER, IAC 431160, SILVERPARACHUTES.COM



EVEN THOUGH I CALL myself semi-retired, I still sell parachutes and receive calls wanting information on what would be the best parachute for the caller and their aircraft. I encourage the potential buyer to ask as many questions as they have, so they end up with what they want. I want to make sure they have enough information to be an informed buyer of their expensive cushion. I've been in the parachute business and have over 50 years' experience and have seen a lot. Most has been good.

This brings me to one of the most often asked questions: "How low can I go?" This has been on people's minds for as long as I've been working on parachutes. After all, if you have to bail out, it's nice to know a few facts to ensure your survival. This is not a contest to see how low you can bail out and

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Being prepared ahead of time for the possibility of an emergency bailout is the key to your survival. I've written about this before, but you need to practice, practice, practice your emergency bailout procedures before and after each flight to ensure everything will work in your favor and it becomes muscle memory. Practicing will often cut your egress time down 50 percent or more. You need information that is accurate, not hearsay. That's where I, or your parachute rigger, can help. Don't pretend or guess you have the all the answers.

When you have finished reading my article, I want to make sure you understand that **the distance it takes for your parachute to deploy will vary depending on the attitude of your aircraft** when you decided it was time to bail out. This also applies to you. Hesitating to bail out because you are not prepared will decrease the possibility and chance of your survival. This is not a game of Russian roulette.

First and foremost, I want to make sure you understand that the time it takes for your parachute to fully open and be descending at the slowest rate of descent will typically be between **two and three seconds** from the time you pull your rip cord. In many cases, it's closer to two seconds. So, at the end of that time if you're only 6 inches above the ground, consider yourself very, very lucky, and you owe the parachute rigger who packed your parachute an extra hug and bottle of their choice. After all this, some pilots still ask me, "How long does it take for the parachute to slow down after it's fully open?" **Let me repeat: ONCE it is fully open (approximately two to three seconds), that is the slowest it will descend.**

Now that we understand the time it takes to open, let me explain the distance, or loss of altitude, it takes to be fully deployed. This will depend on the attitude of your aircraft when you bailed out. Let's say, for example, you had an onboard fire and were able to control your aircraft and trade off some airspeed for altitude. Slowing your aircraft probably will make it easier to egress, but most importantly you need to be aware of your altitude and get your butt out of there. You've been diligently practicing your emergency procedures and are prepared. Muscle memory kicks in. You jettison your door or canopy, if you have one. Next you undo your seat belt(s) and get your butt out of there. Once you're out, tumbling through the sky, you need to locate your rip cord handle; it may well have shifted. Now pull the rip cord like your

life depends on it. Because you are traveling somewhat horizontally to the ground and have been practicing your emergency procedures faithfully, you may only lose around 150 feet (45 meters) of altitude, during the two to three seconds it takes for your chute to deploy. You're not a trained skydiver, so don't think you need to get stable before you pull the rip cord. Just pull the rip cord. Your parachute knows what to do. And then think about what your parachute rigger likes to drink.

Now, let's go to another scenario. You had a midair collision or a structural failure. You are rapidly spiraling/tumbling down like a lawn dart toward terra firma. It still takes approximately two to three seconds for your parachute to deploy, but your loss of altitude has greatly increased because your airspeed has increased and you're pointing straight down. All this may be compounded by an increase in g's. This is why you must make the decision to bail out quickly. This can only be done by practicing. You wouldn't think of going to a contest and not practicing ahead of time, would you?

One more thing to keep in mind: **AGL is much more important than MSL when making a bailout.** So, "How low can you go?" You can increase your chance of survival by practicing your aerobatic routine high enough for you to have the time necessary to egress safely, with enough altitude to enjoy the scenery and maybe even select a safe landing site. Many years ago, I had a customer who spent over 5,000 feet (1,524 meters) trying to escape his disabled aircraft that was pointing almost straight at the ground. He fortunately was practicing his aerobatics at 6,500 feet AGL. He never gave up and was finally successful as he was approaching 1,000 feet (305 meters) above the ground. His chute was fully deployed in about two to three seconds, but his loss of altitude was about 700-800 feet (213-244 meters). His one comment that I'll never forget was that the scenery was spectacular, but the ride under his parachute lasted only about 12-15 seconds. I did receive my thank-you bottle of wine. Being from the grape country of California, I always enjoy a good bottle of wine.

Remember, **NEVER GIVE UP.** At right is a photo of me standing next to Sean D. Tucker, taken in September 2011, five years after his successful bailout on his way to SUN 'n FUN in April 2006.

Your survival depends on many other factors, such as your mental and physical condition on that fateful day. Are you hydrated? Are you practicing at an altitude that will enhance your chances of survival? Pilots who have low-level waivers did not start out at 100 feet (30 meters) from the ground; they earned that right over time. Leave your worries and troubles at home or at your office when you're practicing. You must be in the right frame of mind and focused when you take off to practice or compete in a contest or an air show. That's why most air shows have a quiet area for the pilots to focus all their attention on their upcoming performance. Just because you're only a recreational or weekend aerobatic pilot doesn't mean you don't have to pay as much attention to details, such as practicing your emergency procedures. Your safety starts before you untie your aircraft and is not finished until

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Sean D. Tucker with Allen Silver

you and your aircraft are safely back on the ground and secured.

In the September/October 2022 issue of *Sport Aerobatics*, Tom Myers, a good friend, talks about doing a pre-flight inspection of his aircraft and missing the rudder lock. Don't get sidetracked or interrupted when you are preparing to fly. You need to preflight your mind as carefully as your aircraft. All must work in close harmony.

I encourage you to talk to your rigger. You can also call, text, or email me, and we can discuss any questions you may still have. We can also Zoom, if you want to show me something. Zooming is a valuable tool and can be helpful. Consider going to my website. I have a lot of articles there, and I have a webinar I did for EAA in October 2020. The handout material that goes along with it is located right above where you click on the webinar. It goes down well with a cold beer or glass of wine.

Now go out and have fun, fly safe, and blue skies. **IAC**

Allen Silver, silverparachutes.com