

## Can a Parachute Save the Day?

Written by John Bengtson

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Every time a pilot sets foot in their airplane, they should ensure there are backup plans in place in case something goes wrong. Having extra fuel provides options for new destinations in case something unexpected - such as bad weather or a runway closure - prevents a landing at the intended airport. Extra fuel also ensures that the plane will reach the planned destination even if the winds prove to be less favorable than expected. As a pilot is flying along, it is important to ensure that several options for suitable landing areas are available in case the engine starts to hiccup. And when flying in the mountains, staying close to the side of a canyon provides sufficient space to turn around.

But there are instances when no amount of preflight planning or caution will prevent a disaster. A sudden failure of a major flight control surface, a midair collision or an unrecoverable spin will most likely have tragic results. While these types of incidents are extremely rare, it's nice to have one more chance to save the day.

When Boris Popov barely survived a 400-foot fall in a collapsed hang glider, he realized the value of having that final lifesaving option. Because of this incident, he invented a parachute that could safely bring down an aircraft in case of a catastrophic failure, and in 1980 Popov founded Ballistic Recovery Systems (BRS). 13 years later, the company entered the certified aircraft market when it was granted FAA (Federal Aviation Administration) approval for its parachute system on the Cessna 150/152.



The parachute is deployed using a manual handle within easy reach of the pilot's seat. Upon activating the system, a small rocket shoots the parachute through the ceiling of the fuselage.

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The parachute is attached to a harness which cradles the plane and slowly brings it down to the ground.

### **But do you need a parachute?**

The rhetoric question is: Do you want to survive a potential crash? A review of the 2007 Nall report, published annually by the AOPA Air Safety Foundation, shows that in 2006 nearly 90% of general aviation accidents that started in the cruise phase of flight resulted in a fatality. Accidents that start in a maneuvering or descent/approach phase and accidents which are a product of bad weather resulted in death approximately 60% of the time. These are significant numbers, and since these accidents all begin at altitude, a parachute has a good chance of preventing a fatality.

“As an aircraft firefighter, I’ve seen the tragic aftermath of aircraft accidents first hand,” said BRS CEO Larry Williams. “The most gratifying part of this job for me is when this system saves lives that otherwise may have been lost.”

BRS claims more than 200 lives have been saved by their parachute system. Some of these incidents may not have resulted in loss of life without the help of the parachute, as many were classified as loss of control incidents where the pilot may have been able to recover. However, there is no doubt that in several of the incidents when the pilot pulled the parachute, lacking this option would have resulted in death. Some examples of these situations are engine-out over terrain unsuitable for safe landing, mid-air collision and structural failure. No matter how good a pilot’s skills are, making safe landings under these conditions would require a miracle.

Another good reason to opt for the parachute is what Williams refers to as the “spousal factor.” Do you have a difficult time convincing your partner to fly because of his or her fear of flying? He or she may be afraid of what may happen in case you, the pilot, become incapacitated during flight. Prior to the availability of the BRS parachute option, right-seaters would take what’s called a “pinch hitter course” to learn to land the plane in case the pilot gets incapacitated. A pinch hitter course can take several weeks to complete and requires a strong level of commitment and dedication on the part of the co-flyer. With BRS, it only takes a few minutes to learn how to safely get the plane down in case of an unrecoverable problem.

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With the option of parachute deployment, you may be able to convince more of your reluctant friends to come for a flight. They don't need to spend hours learning to land the plane. You just need to give them a five minute briefing on the parachute deployment. Many of these types of passengers are more comfortable and willing to fly knowing that they can pull the parachute in case of a serious problem.



BRS has received some criticism in the general aviation community for providing a false sense of security. The option of using a parachute may prompt some pilots to take off when they normally wouldn't if that additional lifesaving choice wasn't there. Williams defends this critique: "You don't increase your chances of driving into a wall just because you have an airbag."

Another complaint is the lack of steering once the parachute is deployed. While this is a valid concern, there is still a much greater chance of surviving the impact with an object at a slow speed than when accelerating toward the ground at  $9.8 \text{ m/s}^2$ .

As with the initial public unsureity of airbags in cars, any early resistance to the BRS parachute has waned as the pilot population becomes more and more used to the idea of a parachute - and see its potential value. "When it comes to making the decision whether to include a parachute in the option choices, I think of it as buying a Chevy Nova with a two point safety belt versus a new car with shoulder belts and airbags," Williams said "and our customers are

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beginning to see it the same way.” BRS is the only company currently offering a parachute system for aircraft and has sold more than 25,000 parachutes worldwide.

Cirrus Design Corporation offers the BRS parachute system as standard equipment, a choice that has afforded great success for the company. And Cessna Aircraft Company recently recognized the value of the parachute by offering it as an option on its newly announced SkyCatcher light sport aircraft. BRS parachutes are also available for the 172 and 182. It takes only two days to have a parachute installed in your Cessna. The 172/182 parachute STC installation costs nearly \$20,000, but consider this: how much is your life worth?