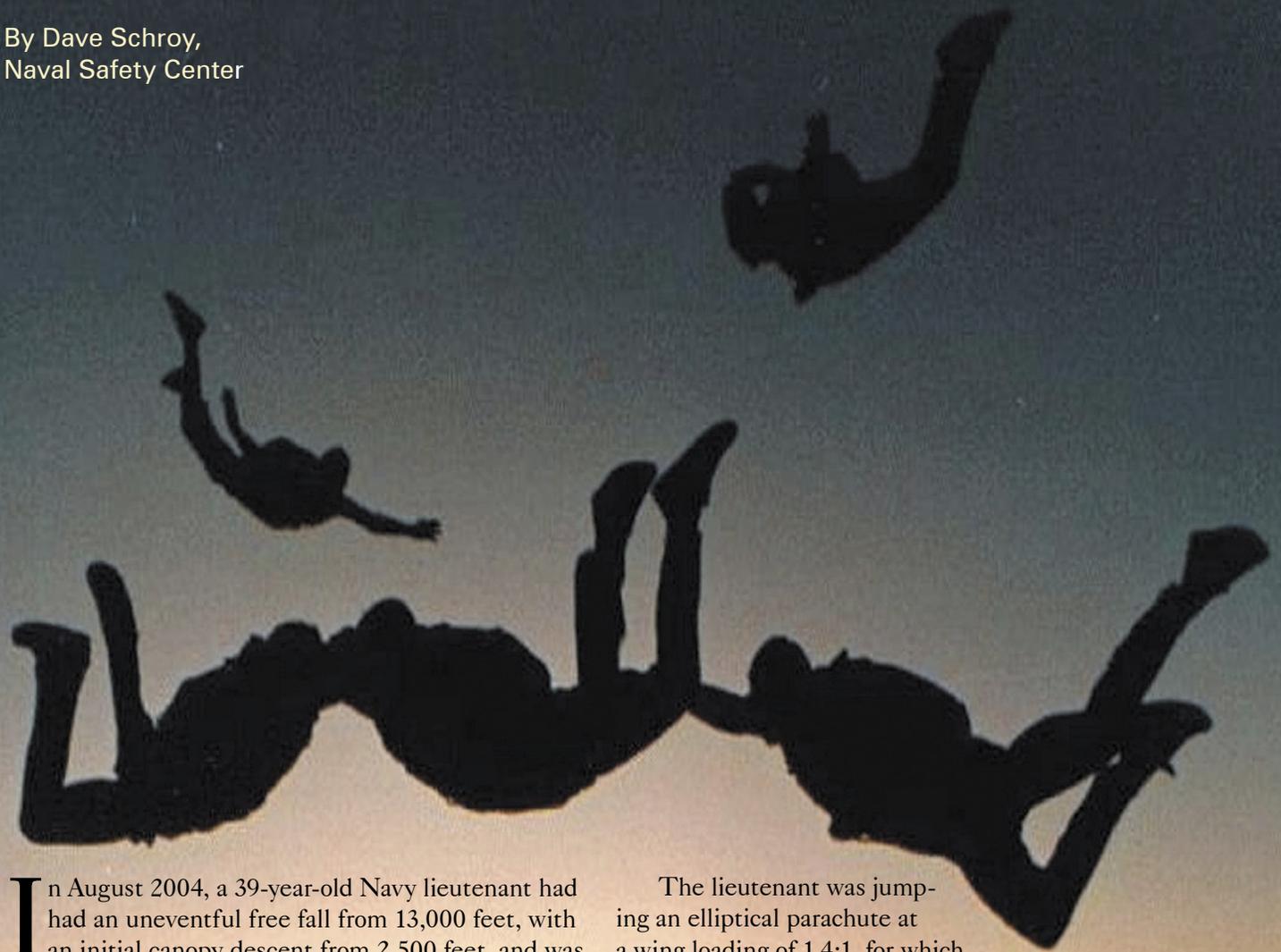


# Skydiving, Accidents and the FAA

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In August 2004, a 39-year-old Navy lieutenant had had an uneventful free fall from 13,000 feet, with an initial canopy descent from 2,500 feet, and was set up to make a straight-in approach from approximately 600 feet. At 300 feet, he pulled both risers down evenly, apparently to increase his forward speed so he could do a high-performance landing. Between 15 and 10 feet, the lieutenant let up on both risers but failed to flare the canopy. He subsequently hit the ground feet first, and his head struck the ground hard, causing fatal injuries.

The lieutenant was jumping an elliptical parachute at a wing loading of 1.4:1, for which the manufacturer recommends the jumper be an expert. This canopy choice was very aggressive for the lieutenant, a jumper who never had received any type of structured canopy training and who may have been unaware of how the canopy would react while using front risers. He was found with a toggle in only one hand, but it is believed he had both toggles in his hands during the landing approach.

Another fatal recreational skydiving mishap occurred in February 2005. The victim in this case was a 24-year-old PO2 who, according to reports, had an uneventful free fall. When he opened his primary chute a little later than usual, however, he had a “line over” *[a suspension line wrapped over the top of the chute]*. His efforts to correct this problem failed, and, after releasing his main canopy, he tried to get stable. He waited until about 400 feet to activate the reserve chute, which, unfortunately, didn’t allow enough time for it to deploy fully.

The victim was an experienced skydiver, with 170 jumps in six years (28.3 jumps per year) to his credit. He hadn’t jumped, though, in more than two months. Investigation findings also reveal he just had had his reserve chute repacked. At the time, he asked the rigger to remove the static-line reserve lanyard (SRL), which is designed to open the reserve chute immediately after a malfunctioning main canopy is released. The victim had no automatic actuator device (AAD) that would have deployed his reserve chute once he released his main canopy.

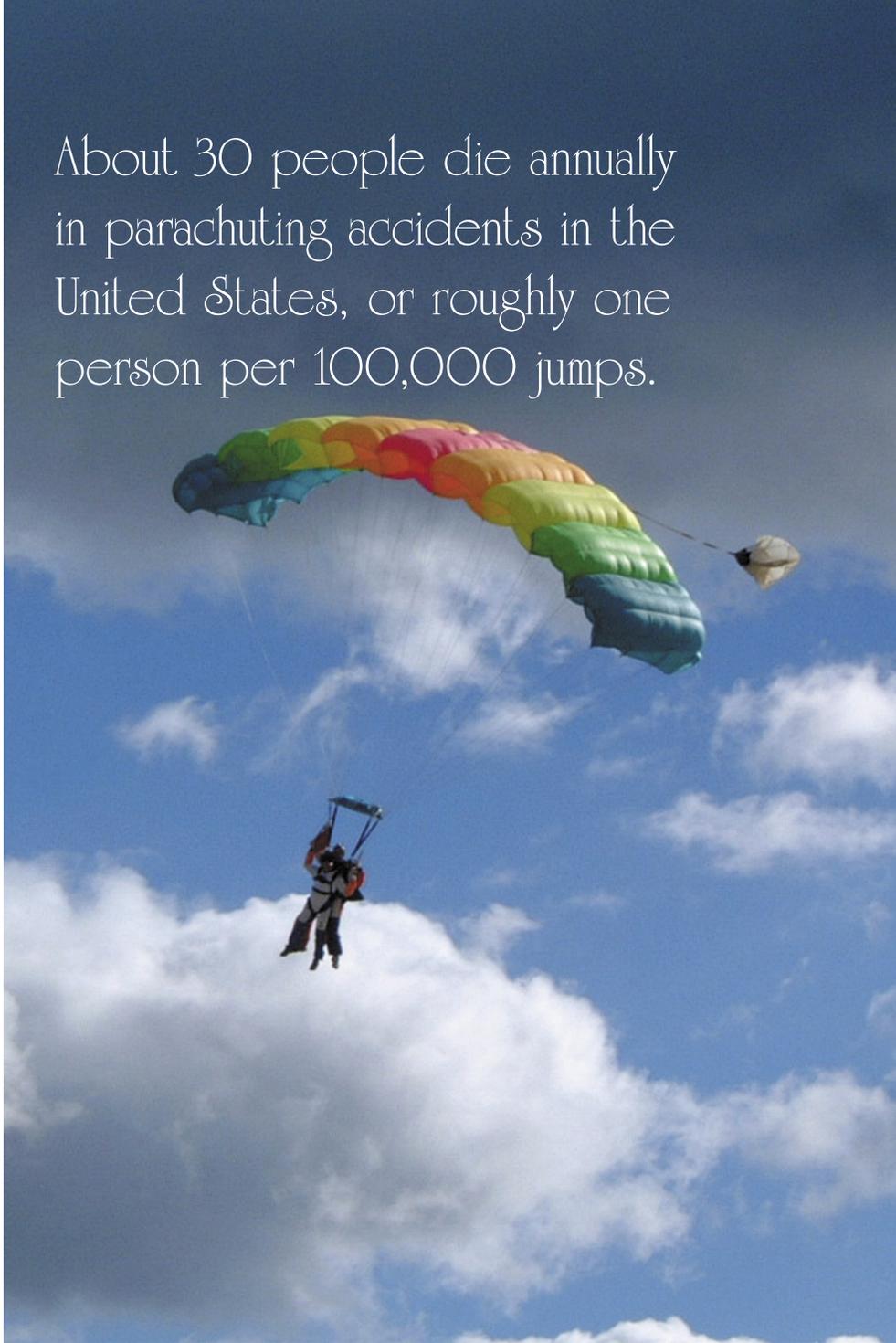
### How Dangerous Is This Sport?

Statistically, parachuting is a relatively safe sport. However, if inexperience and pushing the envelope too far come into the picture, then anything from minor mishaps to life-threatening situations can occur.

About 30 people die annually in parachuting accidents in the United States, or roughly one person per 100,000 jumps. According to U.S. Parachute Association (USPA) statistics, 1998 was the worst year on record for U.S. skydiving fatalities, with 44. The numbers in subsequent years were as follows: 1999 – 27, 2000 – 32, 2001 – 35, 2002 – 33, 2003 – 25, 2004 – 23.

To put those numbers in perspective, consider that roughly 40,000 people die each year in traffic accidents in the United States. That’s 1.7 deaths per 100 million vehicle miles. Therefore, if you drive 10,000 miles a year, your chance of dying in a car crash

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is something like 1 in 6,000. You would have to jump 17 times per year for your risk of dying in a skydiving incident to equal your risk of dying in a car wreck if you drive 10,000 miles a year.

### Regulations

Parachuting began in World War II as a life-saving necessity. In peacetime, it evolved into a sport known as skydiving. In general, skydiving is a self-regulated sport, which is overseen by the USPA. This organization sets the basic guidelines for jumpers to follow, depending on experience level.

Drop-zone (DZ) owners, managers and operators who fall under the USPA group members have pledged to follow USPA basic safety requirements for student and advanced skydivers and to offer first-jump courses taught by a USPA-rated staff. Some DZ officials even add extra safety requirements for jumping at their zones. For example, they may require all jumpers to have an AAD mounted on their rigs or to have completed a minimum number of jumps [e.g., *Key West DZ requires 500 jumps as a minimum*].

Federal requirements can be found in the Federal Aviation Regulations. Most of these regulations concern the aircraft, pilot and rules of flight. However, 14 CFR Part 105, “Parachute Operations,” regulates when and where jumps may be made and designates the requirements for parachute equipment and packing. For example, 14 CFR Part 105 (subpart C) requires the person packing the main chute to be a certified rigger (e.g., *one who has taken an FAA-approved training course and has passed rigorous FAA testing*) or to be the person jumping with that chute. A certified rigger, however, is the only person authorized to maintain the reserve chute.

14 CFR Part 105 is based on the assumption that anyone who chooses to skydive has assessed the dangers involved and assumes personal responsibility for his or her safety. The regulations in Part 105 are intended to assure the safety of those not involved in the sport, including persons and property on the surface and other users of the airspace. The skydiving community is encouraged to adopt good operating practices and programs to avoid further regulations by the FAA.

## Accident Investigations

When a skydiver is involved in an accident, the first step by the FAA is to determine if any regulations were violated. An investigator will examine the circumstances and route of the flight, the certification of the pilot, and the airworthiness of the aircraft. The investigator also will inspect the parachute system (both parachutes and harness assembly) to ensure everything was maintained according to the regulations. If the FAA does not find any evidence of regulatory violation, it will defer any further investigation of the accident to local law enforcement, and the FAA has no further involvement.

If the FAA determines one or more of the regulations were violated, it will launch a separate investigation into the areas under its regulatory control,

which concern the aircraft, its pilot, mechanic, the location or timing of the jump, and the parachute rigging. You can view all the regulations by going to [www.gpoaccess.gov/cfr/index.html](http://www.gpoaccess.gov/cfr/index.html), typing “parachute operations” in the site-search block at the top of the page, and hitting the “submit” button.

## Jump Practices

The drop zone is a designated landing area clear of obstacles and usually is marked. Some drop zones are located beneath complex airspace, and jump organizers have a Letter of Agreement with the appropriate FAA air-traffic-control facility to address site-specific issues and concerns.

Each day, before jumping begins, the drop-zone operator contacts the FAA flight-service station for the latest weather and winds-aloft forecast. The jump pilot files a Notice to All Airmen (NOTAM) at least one hour before the first jump. Skydiving operations with continuous activity may file permanent NOTAMs, which often are depicted on aeronautical charts.

NOTAMs help alert other pilots about the jump. Since skydivers often free-fall at a speed of 120 mph or more, they can be extremely difficult to spot from other aircraft. It’s the responsibility of all involved to watch and avoid one another.

During jump operations, pilots follow procedures covered by the general operating and flight rules covered by 14 CFR Part 91 of the Federal Aviation Regulations, as well as Part 105. The pilot will contact FAA air-traffic control a few minutes before the jump, advising of the jump altitude and exit time. Air-traffic controllers will advise of any other aircraft or unsafe conditions in the area.

From a typical jump altitude of 10,000 to 15,000 feet, it takes just over one minute for a skydiver to free-fall to parachute-opening altitudes of 4,000 to 2,000 feet above ground level.

Once the jump pilot ensures all jumpers have exited, he or she advises air-traffic control and makes a quick but safe descent to the airport. Skydiving ends when the pilot advises air-traffic control that all the jumpers have landed. ■

*For a copy of the 2004 Skydiver’s Information Manual, go to [www.uspa.org/publications/SIM/2004SIM/section9AC105.2C.htm](http://www.uspa.org/publications/SIM/2004SIM/section9AC105.2C.htm).*