



Rules of Threes

3 seconds without hope
3 minutes without air
3 hours without warmth
3 days without water
3 weeks without food

Kits should be light enough to carry without strain, but contain enough of the bare necessities needed to ensure one's survival.

- CRASH

In this second installment, we look at what aviation survival gear you should carry.

By Mike Hangge

Photos by Mike Hangge



Imagine flying north up the coastline of Washington State with nothing but a carpet of green hills off your right wing and a sea of blue off the left when suddenly the aircraft stops. Scrambling to make a mayday call, you pull the nose for your first water landing. You're looking at a quarter-mile swim through 52-degree water as you salute farewell to your favorite winged investment. The sun is setting and the temperatures are already beginning to settle lower as you pull yourself up the beach in shorts and a thin shirt. Now you must engage survival tactics.

Think it can't happen? Tell that to Charles Mellor, who ditched his Cessna 310 a dozen miles off the coast of Hilo, Hawaii. Mellor was lucky the U.S. Coast Guard showed up to capture a great video of the incident.

Hopefully, you grabbed an aviator's survival kit before wading out of your crashing aircraft's door. The kind of gear a pilot should store in that kit matters, and individual choices will depend on your training, experience, terrain, weather, weight allowances, available space and budget. "There are no set rules in survival priorities," said Jeff Randall of Randall's Adventure and Training. "Cover the basics—fire, water, shelter, navigation, signaling, light source, first aid and food." Some necessary items may include a good quality knife, tourniquets and means to start a fire and obtain clean water.

When building a survival kit, you could take the easy route and let somebody else pack, or you could do it yourself. Typically, I'm not a fan of prebuilt kits—most cost too much, offer too little and are filled with equipment that can't be trusted even if your life does not depend on them. But ESEE has created a kit that could make taking the easy route a better option.

From the orange nylon cordura bag to the orange-handled ESEE 4 survival knife, quality workmanship and forethought is immediately evident in the ESEE Advanced Kit, which Mike

Necessary items to include in a survival kit vary from person to person, but keep in mind the basics, especially warmth (far left, above left). Bright colors can help you find your kit and its items should you lose them or have insufficient lighting (above right).



A variety of medical supplies, such as gauze, latex gloves and scissors, would be crucial in treating injuries (above). Survival items can be stored in any large container such as a backpack (right).



Perrin of ESEE said was designed to expertly cover basic survival needs with enough room for personalization. Because blazing orange is not a color generally found in nature, it marks nearly everything in the kit to prevent losing sight of any items in the field and to help signal rescue crews. In fact, the kit impressed me so much that I now carry one in both my car and plane.

My kit was a product of my asking, "What would happen if I crashed right now?" I've now carried it for two decades, and it has evolved from a small kit with only the essentials to a complete kit that is still compact and easy to carry. I wanted enough gear to keep me watered, fed and warm long enough to either find humanity or help it find me. Loaded into a Presidio Pack from Flying Circle Bags, my kit weighs into the fight just south of 20 lb and measures a compact 9X11X17 in. It might seem like an odd collection of gear, but after living out of it twice I feel that it's just about perfect for me.

When choosing what gear to include, I used four concepts in the "KISS Principle:"

1. MARCH—Massive bleeding, airway, respiration, circulation, hypothermia, head injury, and hypovolemic shock
2. Rule of Threes—A human can only survive three seconds without hope, three minutes without air, three hours without warmth, three days without water and three weeks without food
3. Every item should have multiple uses and warrant its own weight
4. Two equals one; one equals none

Carrying Vessel

I prefer a backpack or small cloth bag durable enough to withstand years of wear and tear. It should have multiple handles and straps to easily secure and carry, and be large enough for essential equipment yet compact to save space. I usually recommend something colorful so it could be easily located inside the aircraft or outside on the ground. I chose the Presidio Pack because it's strong but lightweight, and has pockets, comfortable straps and attachment points for strapping gear. Lastly, on the outside, I carry quick-access essentials, such as a tourniquet, squeeze light, knife, machete, carabiners and a name tape.

Medical

Before anything else, I strongly suggest receiving good training on any medical equipment you choose to carry. Any medical equipment should go in the most easily accessible compartment, such as the large front pocket. A cut in the femoral artery could kill you quickly, so include a dozen tourniquets in your pack (It won't hurt to also keep some in your car and house, among other spots). Also, medical gear can be useful for other tasks: elastic bandages for bundling items together, hand sanitizer for a fire accelerant and medical gloves for the ever-popular Glove Chickens.

Knives and Tools

If I could only take one tool into a survival

Large knives aren't necessarily better than a simple, serrated, fixed blade (right). Fire-starting items include matches in a waterproof container or a fire steel and scraper (far right).



Fire

A heat source is another critical factor of survival, but carrying the gear to easily start a fire isn't all that cumbersome or difficult.

Everything I carry to start or maintain a fire weighs less than 7

ounces and easily fits into a

small baggie. A pencil sharpener is great for making tinder; petroleum lip balm can lubricate a fire-bow drill and can burn easily; tampons are compact bandages, water filters and tinder; and trick birthday candles stay lit even in the roughest winds.

Some recommended contents include disposable lighters, dryer lint and matches in a waterproof case.

Shelter and Clothing

Dress for the ground, not for the cockpit. Always have good shoes, a hat, jacket and raincoat. I would also recommend a boonie hat, space blankets and warm gloves and socks.

situation, it would be a quality knife. While the best knife in any survival situation may be the one you've got with you, there are certain qualities that help some stand out from others. And that doesn't necessarily mean carrying a knife as long as your forearm with a hollow handle. No true survivalist carries those. Heck, nobody should carry them. Choose a survival knife with a serrated, fixed, 4- to 6-in blade and is about a 1/4-in thick with good balance, a nice handle and a full tang.

Personally, I carry the Benchmade 175 CBK for personal protection, the ESEE 5S all-around survival knife, the CRKT "ChanceinHell" machete for chopping down trees and the CRKT M16 ZLEK folder for everything from breaking glass to whittling wooden voodoo dolls. The CRKT Survival Para-Saw is built from a tungsten carbide-coated wire saw braided into nine feet of paracord and is also useful to secure gear to my pack. My Gerber multi-tool has probably seen more use than my toolbox, and the Gerber Safety Cutter is a quick way to break windows or cut seatbelts.

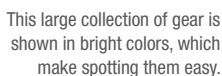
Hydration

Although water is critical, it can become too heavy to carry. Instead, carry just enough until you can find a new source. Always have a plan to find and purify water because bad water can cause diarrhea or vomiting, which will quickly lead to dehydration. I recommend carrying chemical purifiers or survival straws that kill "beaver fever," remove turbidity and naturally sanitize polluted water.

Some recommended items include a Camelback, condoms to carry water or to waterproof other items, drink mixes, a water bottle and a water filter.



Keeping hydrated is just one of several basic survival requirements. Surprisingly enough, condoms can carry water or help waterproof other items.



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