

MAKE A FUSS!

If your bird is down and you expect to get home,
you've got to tell the world. Herewith, some tips
on the fine art of signaling

by CHARLES A. LEHMAN

■ ■ The landing wasn't bad, considering that it was made without power, into the tops of 20-foot-high trees. But a family of three was suddenly faced with deadly reality. They were far from any other humans, deep in a tangled forest. It was snowing, and they were hurt and scared. In seconds their snug, warm cockpit had been reduced to cold twisted metal. Their actions in the next few hours would mean life or death.

Like most survivors, they thought about rescue—and staying alive until it came. All three were determined to make it; in fact, they had a fierce will to live. And they did live—for about a month—through unbelievable ordeals. They even kept a diary of each torturous day. It told a story of courage and frustration.

Search planes flew over them several times, but there was no indication they'd been seen. Finally the father started walking out for help. He never made it. When hunters finally found his wife and daughter after two months, they were dead too.

What killed them? Hunger? Thirst? Exposure? Not really. They died because they didn't, or couldn't, tell someone where they were.

Modern aircraft are amazingly reliable, so failures are rare. But every now and then something lets go. Sometimes the weather plays tricks on us too, and once in a while each of us makes a little mistake. The resulting unplanned landing may be far from the friendly ramp, or from any civilization at all. It can happen to anyone who flies. When it does, you've got to *tell the world*. Make a big enough fuss and you'll be home in a jiffy.

That means signaling.

But haven't ELTs made other signals unnecessary? Unfortunately, no. For one thing, they're not always heard. ELTs are a great step in the right direction. At least they'll tell someone you're out there, but don't depend on them alone to get you home quickly.

Signaling is the crux of survival in the 1970s. Modern search-and-rescue facilities and high-speed communications have made the classic "live off the land" concept obsolete. Today, if you're forced to put a sick bird down in some remote spot, you can be sure some highly trained, dedicated people are going to be looking for you as soon as you're missed.

But finding downed airplanes can be tremendously difficult. Forests literally swallow them up. Deserts are vast, and mountains almost overwhelming to searchers. Unless you make a fuss, you are the needle in the haystack. You may be an expert in the art of survival, but without effective signaling you'll probably get a chance to practice all you know—for a long time. Even if you're eventually rescued, you'll cause your family unnecessary agony while you polish your survival skills.

It's much better to return than merely to survive. But how?

Let's start before you walk out to your plane. One of the very best rescue aids you've got is a piece of white paper. Your FAA flight plan is a must. File one every time you fly. Then if you run into trouble, at least there'll be someone looking for you—fast. Without a flight plan, it could be days before the folks on either end of your route piece together the fact that you're missing, and not just somewhere else.

Remember, you could be hurt. Not all forced landings are smooth. That flight plan will have someone checking on you soon after your estimated fuel endurance expires. That could be very comforting if you're sprawled on some remote mountainside with a broken back.

Okay, your flight plan will start the search. Now your job is to make yourself as conspicuous as possible. You've got to contrast with your background like catsup on a white tie.

A few winters ago, when I was in Labrador, a beautiful red-and-yellow chartered Norseman went down in the frozen tundra near Fort Chimo. None of its occupants was seriously hurt. Several of them were Eskimos, so survival was certainly no problem. The plane was ideally painted to contrast with its background—except for one thing. It ended up on its back, and the bottom of the bird was snow white. Search aircraft combed the area for days while pilot and passengers waited in an equally white igloo, built by the Eskimos. They did not signal. Before they were finally rescued, they had given their loved ones the scare of their lives.

That same winter, I found myself down in the Labrador snow. My signaling equipment had been lost in the crash, but searchers spotted my aircraft quickly because its owners had had the forethought to paint the wings bright red, top and bottom. Also, I was wearing a blazing orange flight suit. Rescue pilots said I stuck out like a sore thumb.

A bright, contrasting paint job is a help, but if you go *down* and don't want to stay *out*, you'll have to do more than wait beside your airplane.



A fire can get you rescued, if the smoke stands out from the background. USAF Survival School photo.

If that brings to mind walking out, or carrying a large, heavy survival kit full of exotic signals, forget it. A few bucks' worth of equipment that will fit into a cigar box, plus the knowledge to use it effectively, will get you home.

Probably the simplest signaling device is the signal mirror, which lets you use the sun as a signal. These mirrors are available in several sizes, in glass or metal, selling for about \$4. On the back side of the mirrors is an aiming device—it may be a cross, a red circle, or a metal grid with a hole in the middle. Printed directions will show you how to use the aiming mark to "hit" a search aircraft. Searchers have reported seeing mirror flashes at more than 25 miles.

Even your wife's vanity mirror could get you rescued.

To use any mirror or shiny metal without an aiming device, just use it to reflect sunlight onto some object near you. Hold your free hand out at arm's length toward the reflected sunspot and "capture" it on your hand. Now move mirror and spotlighted hand together, until your hand covers your rescuer. Drop your hand out of the way, and the sunspot will be right on your rescuer's windscreen. Wobble the mirror slightly, to

make it flash, and you should be seen. You can check your aim any time by using your free hand to relocate the spot of light.

But suppose there's no sun to reflect. For about \$10, you can equip yourself with a flare that puts out a big cloud of bright orange-red smoke. It contrasts with almost any background. One of the best is the 1½-by-5-inch Day-Nite flare made to military specifications. These have been responsible for a lot of rescues over the years. Smaller smoke flares are also available, but they lack the large smoke volume of the Day-Nite. All these flares are self-igniting, usually by pulling a lanyard.

Smoke doesn't have to be orange to get attention. When I was regularly flying over the Canadian wilds, we used to kid the Air Force rescue boys at Duluth that if we ever went down they should "just search on the upwind end of the biggest forest fire in Ontario." That was an exaggeration, of course, but big, smoky fires have saved a lot of airmen.

In a really isolated area, any smoke will draw attention, but many remote spots are popular with campers. You might not find the campers, but your fire should be different from theirs if you want searchers to notice it.

One way is to make three fires instead of one. Space them about 50 yards apart in a triangle. That's an international distress signal recognized by anyone involved in air searches.

You can use parts of your airplane to make your fire even more obvious. A small tool kit will free them for your use. Burn one of the tires (let the air out first) and it will produce a dense black smoke column visible for miles.

Oil from the engine is almost as good. Just pour it onto some wood, skin fabric, leaves, or upholstery material before you ignite it. If the weather's cold, get that oil out of the engine before it congeals.

Fuel from the tanks is helpful in igniting these signals, but never pour or throw it onto a fire that's already smoldering. Also, if you use fuel to start a fire, light it with a long torch. The last thing you need in a survival situation is a flash burn. It's best to save these expendable signals until you're reasonably sure rescuers are in the area.

Keep your fires going at night, too. In many ways that's a better time to signal anyway. It's likely that some searchers will continue their operations during the night, so use the darkness to your advantage.

The other end of that Day-Nite flare will emit a blinding red light when you pull the ignition lanyard. Even the old-fashioned highway flares or railroad fuses are very good. They can be seen for miles, they're long-burning, and they're cheap. The only drawback of all these signals is that their light is on the ground, where trees and terrain can hide it.

You can get around that by using one of the pen-style flares that can be



The orange-red Day-Nite flare, made to military specs, costs about \$10 and contrasts with almost any backdrop. USAF Survival School photo.

One of many pen-style flares available from aviation supply companies.



MAKE A FUSS *continued*

launched to ignite several hundred feet in the air. The launcher and half a dozen flares cost about \$12 and will fit in your shirt pocket.

All flares have one weakness. Once they're fired, they are worthless. And that dictates the way you should use them. Never waste flares until your rescuers are in sight—or at least within earshot. Nothing could be more frustrating in a survival situation than to have a rescue aircraft fly over just *after* you've fired your last flare.

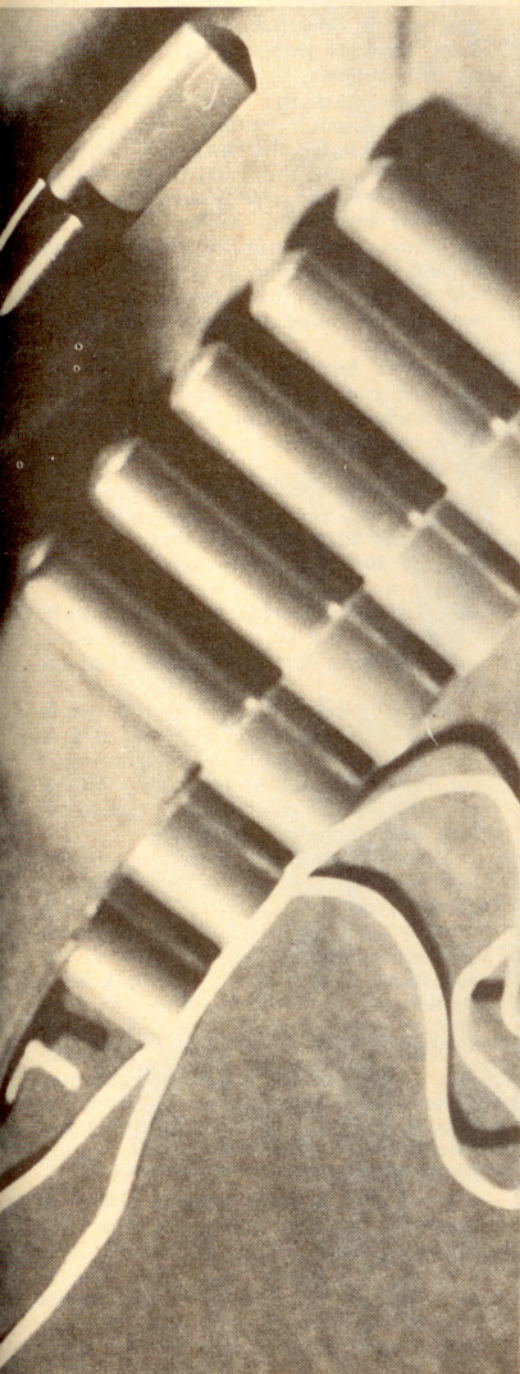
Signals such as these are important no matter where you fly. Last year two men crashed into the edge of the clearing they had chosen as an emergency landing site. Both were hurt seriously, but at least one was able to help himself. He spent his time trying to make a splint for his broken arm. They carried no signals and made no fire. Both men were dead when a local farmer found them 7½ weeks later. Any signal would probably have saved them: they were just three miles from town.

A space-age descendant of the old pyrotechnic flares is the strobe light. These powerful little flashers use a battery and an electronic circuit to fire a photo-flash tube about once each second. About \$30 will put one in your signal kit.

The prime advantage of strobe lights is long life. At room temperature they'll flash for about 12 hours on one battery. The lights generally use mercury batteries, which are susceptible to cold, so you've got to keep them warm. If the battery loses power from chilling, just tuck it inside your clothes for a few minutes to warm it up and it will flash away again.

Frequently, the difference between a good ops-shack story and a funeral is simple ingenuity. Some good signals can be improvised. Naturally it's easier to gain attention with a blazing flare or an orange smoke cloud, but anything you do to make yourself stand out from your background can sometimes get you back to the fire-side.

One young man I know made it home, after crash landing his light-plane in a remote wooded area, by



merely waving his T-shirt. Of course, he waved it on the end of a 20-foot pole from the top of the highest ridge in the area. If he'd stayed in the tree-filled valley near his bent bird, he'd probably still be there.

The familiar SOS, tramped out in a snowy clearing or on a frozen lake, has saved unfortunate fliers. Even if you never fly over snow, this technique is worth knowing. The trick again is contrast. In snow, you make shadows by tramping the letters down, so they're lower than the surrounding snow. The sun does the rest. If there's no snow, make the shadows some other way. Tramp down the grass in a clearing, or pile up brush to outline your letters. You can even do it by turning over sod clumps, provided you can improvise a shovel. Rocks make good outlines, too.

Remember, there are few straight lines in nature, so letters or symbols with straight sides catch attention a bit quicker than more exotic shapes.

If you routinely fly over the lake country of the Upper Midwest or Canada, you can improvise clever eye-catchers from a maritime signal: sea-marker dye. This fluorescent yellow-green dye is designed for use from life rafts, but it does a great job of turning a small pond or slow-moving stream into a fine signal. You can also use the dye to outline an SOS in the snow.

So much for signals visible from the air. Sometimes pilots find themselves marooned in weather so bad that no airborne search can be mounted. In those cases, it pays to have some kind of loud aural signal to supplement your flares, fires and stuff.

When searchers are on horseback or on foot, the old police whistle will summon them as well as anything. It'll last a lot longer than your voice and give you better range. For a few cents you can be prepared to guide ground parties to you from considerable distances.

One signal that's so obvious that it's often overlooked is the radio in your bird. People have died right next to their airplane when it had a good battery and a perfectly operating radio. Use your radio. It's especially effective right after you get on the ground, while you still know who was on your frequency.

When you're searching for the right frequency, remember the radio uses far more battery power when transmitting than when receiving. It may be better to listen a lot and hold your own calls until you're reasonably sure someone is on the frequency. Also, the aircraft battery loses power fast as it gets cold, so keep it as warm as possible.

What about those other electronic signals, the survival radios? They're excellent—if you can be sure someone's on the frequency. The military can be sure, and as a result their UHF survival radios are responsible for more rescues than any other signal. But for general aviation, survival radios have the same limitations as ELTs—and you've probably broken the family budget buying your ELT anyway. So if you can't afford a survival radio, don't worry. The cheaper signals will do the job.

Tuck a few of them into your bird, remember the tricks of using them, and any rough situation you get into will be a short one.

Just make a fuss—a *big* fuss! □