General Aviation First Aid Kit

Medical Supplies

Alcohol
Antiseptic ointment
Adhesive tape x 2 rolls
Band Aids
Betadine/Povidone Iodine 10%
Burn Cream
Cotton Balls
Duct tape
Elastic Wrap w/Velcro
Hand Sanitizer
Latex gloves
Local Anesthetic Spray
Steri-Strips
Tourniquet
Triangular Bandage/Sling x 2

Non-Medical Supplies

Mirror
Emergency Strobe
Whistle
Matches/Lighter
Hatchet
Knife
Work gloves
Thermal blanket
Poncho
Flash Light
Cell Phone (charged/charger)
Permanent Marker
Insect Repellant

Medications

Acetaminophen
Ibuprofen
Vicodin/Tylenol w Codeine (rx)
Keflex/Cipro/Erythromycin (rx)
Benadryl
Hydrocortisone Cream
Personal Daily Meds

Improvising for Survival

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The importance of carrying cold weather survival gear on board the aircraft in winter is well known, and many concerned pilots have taken survival courses in order to learn how to use the equipment effectively. But the one piece of equipment many of us have very little practice in using is not to be found in a kit or gear bag; it is located inside our head and it is called a *capacity for improvisation*.

Many anthropologists believe the ability to improvise, which is linked to human imagination, is what has enabled human beings to survive, thrive, and multiply in spite of the hundreds of natural calamities the earth has been subjected to over the course of history. In modern times, when convenience goods and convenience stores are the order of the day, that innate ability may have grown rusty in some of us, accustomed as we are to living in a world of mechanical gadgetry.

It may be a good idea to exercise this skill occasionally in order to be reminded that it is still in good working order. You never can tell when you may need it. Winter survival problems, for example, are not limited to airmen on extended cross-country flights over sparsely settled areas. Downed pilots have been stranded in snowy woods only a few miles from a highway or town; have become disoriented, frostbitten and even died because they were unable to adapt to the situation successfully. The secret to surviving, once you have gone down, is never to think about the items you should have brought along, but to consider, confidently, what can be done with what is at hand.

For example, one instrument for survival which is commonly overlooked by persons who flounder around in circles trying to find a nearby road of town is the universal wristwatch. A watch can act as a pretty good

substitute compass, as long as you have some indication of where the sun is. If the sky is overcast you can still determine where the sun is as long as you can see some semblance of your shadow on the ground or snow. If you point the hour hand at the position of the sun, a line halfway between that hour hand and the twelve o'clock indicator will point approximately north/south. How do you determine which is which? In the morning, if the sun is on your right side as you sight along this line, you will be facing north; the converse is true, of course, in the afternoon.

Can't be done with a digital watch? Of course it can. Just draw a clock face on the ground or snow, with the hour hand's position indicated by your digital readout and pointing toward the sun. Works even better than a watch face, if you make a large drawing.

Your watch crystal, incidentally, will serve surprisingly well as a reflecting device for signaling to aircraft, even on partially overcast days. A CD or DVD also makes an excellent signaling device.
Supposing you are not close to a settlement and you elect to stay vby the aircraft rather than travel. Night is fast approaching, the temperature is plunging toward zero and your matches are wet or non-existent: What can you use to make a quick fire? Would you believe a flashlight? There is usually one in the glove compartment. Look also around the cabin for stray pieces of steel wool or other fine wire, which you will need to short-circuit the batteries. Unscrew and remove the reflector assembly, twist the steel wool into a U-shaped strand, and place the two ends of the U against the two metal tabs in the flashlight tube. Turn on the switch and in a few seconds you should have a glowing tiny ember between the tabs. Nurture it with some dry supportive tinder, such as cotton or leaves, blow on it gently and you have taken the first step toward a crackling fire.

As a matter of fact, if your aircraft battery has survived the forced landing and you have a cigarette lighter on the panel in working order, you need to look no farther for a source of ignition. If your panel does not have a lighter you can jump a spark across the battery terminals through a clump of steel wool and turn it into a glowing mass.

If the battery is dead, or you want to save it for signaling with lights or the radio, look and see if either of the magnetos is in good shape and accessible. They are usually bolted to the rear of the engine, and you have to remove the two hex nuts that hold each of them in place. Then you need two insulated wires (spark plug cables will do fine); you plug one bare end into one of the sparkplug wires receptacles in the magneto and ground the other wire to the mag casing. You can then jump a spark between the two exposed wire ends by whirling the magneto gear manually, once again using steel wool or something close to it for initial tinder.

These methods are not as artistic as the time honored string and bow, or flint and steel methods, but they are quick and handy. Most airplanes carry a flashlight, and there is usually a scrap of steel wool to be found on the cockpit floor. To be on the safe side you might want to jam a piece of steel wool and some cotton balls in a small plastic bag, and stow it in your flight kit.

Suitable fuel to feed a fire is not always available at a crash site, but you should not limit your search to familiar sources like wood. Plastic cutlery, such as the forks or spoons provided in a packed lunch, when stuck in the ground and ignited will serve as makeshift candles. They may burn for as long as ten minutes each. They are more useful for illumination than heat, however, as with all petroleum products they give off toxic fumes in a non-ventilated shelter. Another kind of candle may be made from a tube of wax based lip balm. You can poke some string into the contents of the tube and create a remarkable long lasting light.

Survival Kit

This can be a commercially prepared item, or something you put together yourself. It need not weight more than a few pounds altogether, and you may never use it in a hundred years – but some of the "bare" essential components of a winter survival kit (which has value all year long) are:

Shelter: a high-visibility plastic tube tent, with emergency space blankets which fold into a space no bigger than a deck of cards.

First Aid: a complete first aid kit.

Food: High-energy dehydrated food, enough to last at least three days per person.

Warmth: an all weather fire starter kit. Matches, too, of course, but these alone are not good enough!

Signaling: heliographic mirror, aluminum foil, aerial flares, CDs. These may be bought through boating supply companies.

Outdoor Living: a strong knife, a good compass, cable saw, tin pot (to melt snow or gather water), candles.

Equipment of this kind that is designed for minimal weight can be bought at outdoor or camping stores. Get the best you can afford.

If you make up your own survival package, take some hints from that required for flight into Canada and Alaska.

For all flights within designated sparsely settled areas in Canada (about 90% of the country), required items are: sleeping bag, flashlight, pocket compass, axe, matches in water proof container, insect lotion, rifle and ammunition (no handguns – you could get into big trouble here!), five pounds of concentrated food per person, cooking utensils, hunting knife, mosquito nets, fishing tackle, snare wire, a stove and supply of fuel, tents or engine and wing covers, two pair snow shoes, a signaling mirror, at least three flares, a survival manual, and a flexible saw blade.

Alaskan requirements are similar except that food for two weeks per person is required plus a first aid kit, a fishing net, and two signaling devices in sealed containers.

Survival Uses For Aircraft Parts

Air Filter: fire starter (usually made of paper impregnated with oil; highly flammable.

Aluminum Skin: reflector for warmth around fire, signaling device, splint, snow shovel, saw blade.

Battery: signaling with lights, fire starting.

Battery box: stove or cooking container

Charts/Maps: stuff inside clothing for insulation.

Compass: establishing direction.

Control Cables: binding for shelter, splints.

Doors: shelter, windbreak.

Engine Cowl: shelter, water collection, wind break, fire platform.

Engine Magnetos: spark producers for starting fires. Remove from rear of engine by unfastening two large nuts. Spin mags by hand with spark wires in contact.

Engine Oil and Gas: fire starter and fuel for fire, black smoke for signaling.

Fabric Skin: fire starting material, water collection.

Fuel Cells: melt snow on black surface, burn for black smoke, lay out on ground for signal.

Fuselage: shelter.

Hoses: siphoning fuel from tank.

Inner Tubes: canteen, elastic binding material when cut in strips, black smoke when burned.

Inside Fabric: water strainer or filter; clothing, bandages.

Landing Lights, Strobes, etc: signals when used with battery, lights at night.

Nose Spinner Cone: bucket, stove with container for sand, oil, and fuel; scooping tool in snow; pot for cooking, funnel.

Oil Filter: burn for black smoke.

Rotating Beacon Lens: drinking cup

Rugs: ground pad, insulation, clothing.

Seats: sleeping cushions, back brace for spinal injury, insulation, ground pad, sponge rubber for neck support.

Seatbelts: binding material, slings, bandages.

Tires: black smoke.

Vertical Stabilizer: shelter support, platform.

Wheel or other fairings: formerly recommended for black smoke when burned. However, combustion found to release plastic fibers known to cause lung cancer. *DO NOT USE!*

Windows: snow block cutting.

Wings: windbreakers, shelter supports, overhead shade, platform for fire, water collector, signaling device.

Wing Tips: drip collection and water carriers.

Wiring: binding and rope.

Wooden Wing Struts, Braces and Props: fire and starter and fuel.

For further research, including activities, the web contains a variety of courses available. A few of the links are:

http://www.dunk-you.com/ http://www.apathways.com/ /http://www.emergencyresponseintl.com/

http://www.boss-inc.com/ http://www.deepwoodstraining.ca/

Several friends have suggested this book, which fits nicely in a survival kit or nav bag: *Survival Sense for Pilots and Passengers*; Robert Stoffel and Patrick LaValla, 1980 Emergency Response Institute, ISBN:0-913724-24-6, 224