

- March 2018 -



Here's an interesting early evening photo of Calgary that I took a week ago as I returned to CYKF from BC. Light low level fog shrouded the city with only the tallest skyscrapers peeking through the evening haze.

President's Message

The March meeting was a great opportunity to hear a lot of great ideas about how to survive a forced landing in inhospitable terrain. Geoff Gartshore, a national RAA member, described a few of his personal choices of items that may be required to survive in the bush country north of Orillia. He was kind enough to supply me with a copy of his presentation materials, which I reformatted to put into this newsletter.

If you didn't make the March meeting, it may be wise to read this issue before flying north. Regardless of whether you saw the presentation in March, I suggest you print a copy of this newsletter and prepare your own wearable survival kit in advance of this flying season.

V.P. Lee Coulman is continuing to gather more interesting information on ADS-B systems globally and writing a number of articles to keep us informed of the need for an affordable ground-based ADS-B system here in Canada.

The next step is to approach NavCan and Transport Canada to try to convince them of the need for a similar system as what is available in the USA for GA in Canada.

Given the number of ground stations currently operating with voice and data at the RCO's across Canada, it's not much of a stretch to envision an ADS-B network operating out of those locations, providing excellent coverage across the country in the areas where over 90% of GA aircraft operate. It won't be easy convincing government officials to spend the necessary funds to install such a system, but pilot demand and a few dedicated individuals working toward that end may make the difference. The cost may not be as prohibitive as one might think and continued efforts toward a ground-based ADS-B system for GA may pay off before too long... stay tuned!

Thanks again to Lee Coulman for all the research and work on this initiative.

2018 will be another great year for KWRAA!

- Dan

Pilot Down!

(What You Need to Know and Do to Survive a Forced Landing in the Northern Ontario Bush)

By Geoff Gartshore

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March 2018

You are flying over inhospitable terrain and the unthinkable has happened – a forced landing on the ground due to engine failure. Your very survival of this emergency situation will be dependent upon how well you have planned for it and your actions in the next few hours! Here are some useful ideas on strategies, pre-flight planning, risk management, and survival gear requirements.

Planning and Risk Management

- In flight, we should always be vigilant about our instrument scans, terrain scans, weather patterns, and how we and our aircraft are performing
- We should periodically ask ourselves – if the engine failed now, where would I set up to land?
- In the event of a forced landing, are we ready for what's next? What are we wearing? Did we notify others of our planned flight and route? Are we carrying survival gear? Are we prepared to spend a few nights waiting for help?

The First Thing to do is “STOP”

- S - Stop... don't panic
- T - Think... about survival and rescue
- O - Orientate... review survival gear
- P - Plan... for survival and next steps!

You're Down – How do You Cope?

7 Enemies of Survival

- Pain and Injury
- Fear and Anxiety
- Cold and Heat
- Thirst
- Boredom and Loneliness
- Fatigue
- Hunger

Remember the Rule of 3's

- We have 3 minutes without oxygen before brain damage commences

- We need to seek shelter within 3 hours of a forced landing – especially in harsh conditions (heat or cold)
- We survive up to 3 days without water
- We survive up to 3 weeks without food

What are the Immediate Priorities?

- First aid as needed
 - Fight to live! What's the alternative?
 - Get your first aid kit in action
 - Bandana and duct tape are indispensable in treating injuries
- Get a fire started
- Get shelter erected
- Get water (food is way down the list!)

Rescue

The length of time awaiting rescue will be dependent on whether you did any of the following prior to the forced landing:

- filed a flight plan with FSS or a Flight Itinerary with a Responsible Person
- activated a PLB such as a SPOT
- sent out a Mayday call (if time and circumstances permitted)
- activated your ELT in the air or on the ground
- called emergency services with a cell or sat phone

Any or all of these actions should ensure rapid emergency response activation. Failure to do these could prolong your emergency stay in the bush for a long time, with potentially life-threatening consequences.

Essential Survival Kit – Top 10 Items

That fancy well stocked survival pack stuffed in the back cargo area will be of no use to you if you can't get to it because of injury, or aircraft damage. Once you exit the aircraft, under those conditions, your survival will depend on what you are currently wearing and carrying with you!

Having a carefully planned selection of emergency items and carrying them somewhere on your body is paramount! The survival pack in your plane will of course be helpful in the event you can retrieve it, but don't bet your life on being able to get it out of the plane in an emergency.

The Leading Edge



Here are the 'TOP TEN' items that should be carried by pilots flying over inhospitable terrain.

1. A Sharp Cutting Tool

A Swiss army knife and/or Leatherman multi-tool can be useful for digging, cutting, shaping, sawing, fire starting, and gutting food.

2. Coverings

A re-useable space blanket with grommets (available at MEC) can be secured to objects with ropes to make a shelter, cover, or water collector. The SOL emergency blanket (Canadian Tire) and a couple of heavy duty 178 litre (55 gal.) drum liner bags (Home Depot) are good sized, very light, and foldable. They can be used for a shelter, ground sheet, blanket, raincoat, reflector, water collector and can also be used for signaling.

3. Combustion devices

Waterproof matches or lighter should be carried, but if these aren't working, a ferro-cerium rod and sparking tool (outdoor stores, Canadian Tire) can be used to light a fire. Fine Steel wool is very combustible. It can be lit with sparks from the fire starter tool mentioned above or when connected to AA batteries.

Cotton balls covered with Vaseline also make a good fire starter and can be stored in a pill container.

4. Steel container and filters

A portable stainless steel pot or water bottle can be used for drinking and cooking. By using a wool sock, water can be filtered as it enters the container. A single wall container can be heated over a fire to boil water purifying water, but a double wall (insulated thermos) will explode over a fire. Ideally, you should be able to carry it in your clothing.

5. Rope

Parachute cord (paracord) is a kern-mantle type of rope that has great strength for its size. 550 paracord is recommended as it is multi-strand, strong, and light, with many uses such as shelter building, securing coverings, or even securing a splint on a broken limb. Separate the strands to make fishing line, sewing thread, or sutures. Be sure not to get the cheaper imitation cord that uses fabric inside rather than multi-strand cord. Real paracord has many times the breaking strength!

6. Compass (with whistle and mirror)

To a pilot, a standard sighting compass seems like an obvious must have item, but when it is combined with a whistle and mirror it becomes a valuable rescue tool. Remember that three (3) of anything is a standard call for help. Blowing a whistle in bursts of three or flashing a light in bursts of three flashes are ways of signaling for help.

Using the signal mirror near your eye, aim through two fingers on outstretched arm to direct light just in front of advancing aircraft. Flashes from a mirror can be seen up to 20 km on sunny day. A CD can also function as a signal device by sighting through the hole, lining up the aircraft between outstretched fingers and reflecting the sun onto your fingertips in bursts of three flashes.

7. Duct Tape

Choose duct tape in the 1 to 2 inch width to make it easy to carry. Black tape works well to mark a large X on an emergency blanket for signaling. Duct Tape works well for repairs, waterproofing, cordage, and of course fastening. As a first aid tool, use duct tape to secure bandages and splints or hold cut edges of a wound together.

8. Bandanas

A 100% cotton bandana can be used as a sling, or for securing a wood splint, a pressure bandage or tourniquet, a head covering in hot sun, a water filter (strainer), a towel, or even for signaling. Ideally carry two bandanas; one blue (what SAR looks for in the fall), and one orange for other seasons.

9. First Aid Kit

A small and portable kit should include a sewing needle and a set of tweezers.

10. Light

A flashlight, headlamp, Maglite, or LED strobe will be useful at night and provide another means of signaling for rescue. Make sure to check the batteries as part of your pre-flight checks and carry extra batteries. Flashlight batteries can also be used as a fire starter when combined with steel wool. Use two AA batteries and fine steel wool between the terminals to generate a small flame.



Fine steel wool and two AA batteries used as a fire starter.
(Source: Before It's News.com)

How to Carry the Survival Gear?

All of these items fit nicely in a well-constructed outdoor vest. Mine is a Royal Robbins with a handy pouch in the back for the ground sheet coverings, numerous inside and outside pockets, and elastic side pouches for water bottles and a steel canteen container. It weighs 8 pounds (3.6 kg) including my Spot Tracker.



Survival vest and gear I wear when I am in my plane.

Water Woes

If you are feeling really thirsty, you are already partially dehydrated! Do not sip to try to conserve water; drink in 200 ml. portions... your body needs water now!

Avoid tea, coffee and other diuretics. Don't eat if you have limited water. Food protein requires a lot of water for digestion. Remember, water is the priority here!

Collect rainwater using an emergency blanket and assume anything but rainwater is tainted! Giardiasis and other waterborne diseases are debilitating and not worth the risk.

<https://en.wikipedia.org/wiki/Giardiasis>. If you get water from a lake, pond or stream, treat it with water purifying tablets or iodine, or boil it for at least one minute before drinking it or using it for washing food.

You can melt ice/snow inside a wool sock above a fire and allow it to drip into your steel container, or squeeze the water from a wet bandana into your steel container.

Protein Food Sources

Cattail, dandelion, and clover are all good sources of carbs, starch and protein. Fish can be cooked over a fire inside a wet bandana, covered with ash, or suspended on sticks or wet paracord over fire. Worms can be boiled in water for one hour until they turn pink, then fried or roasted. Insects should always be roasted over a fire before ingesting them.

Edible(?) Berries

If it's blue, it's good for you. Blueberries, blackberries, or black currants can be found seasonally in parts of Ontario.

If it's red, use your head. Strawberries, raspberries, and elderberries are good, but deadly nightshade is bad.

If it's white, do not bite. Dolls eye (white baneberry) has white berries and is bad!

Making a Fire

Place parallel rows of sticks on the ground as a firebase to keep away moisture and promote air circulation. Collect dead standing wood as dead wood on ground will likely be too moist to burn well. Birch bark is an excellent fire starter, but have some kindling and sticks ready as the birch bark burns very quickly. Setting small sticks up in a teepee shape gets the fire growing quickly. Add larger sticks as the fire grows. Use your reflective space blanket to reflect heat toward your shelter.

Hypothermia* and Insulation

What you wear in the plane may be all that you will have to survive with and stay warm. It is essential to be insulated to reduce heat loss from body so it is best to wear wool or synthetics as they retain heat and help wick moisture away. Cotton may work for summer but it is not ideal for fall and winter in the bush. A wool head covering is important in colder weather so a bright orange wool toque is ideal. A bandana, a space blanket and a bivy sack are also good for keeping warm.

** If you can't touch your thumb to each fingertip on that hand you are hypothermic!*

Orientation

The general consensus from experts is to stay at the landing site unless circumstances force you to move. Only move to reach a more optimal spot for visibility and signaling, food/water, or to reach a nearby road to flag down a motorist.

Your analog watch can be used to tell general north and south direction. Point the hour hand in direction of sun. Bisect the angle between hour hand and 12 o'clock on the clock face to find south.

Draw an imaginary line through the crescent ends of the moon to the horizon to determine south (in the northern hemisphere).

Final Words of Advice

Work at 50-60% and stop early before dark to avoid sweat build-up. Wear clothing when flying that will help keep you alive for a few nights if you go down in the bush. Stay at the crash site unless forced to move. Erect signal materials and follow the above guidelines. But most importantly...

Never ever give up!

Geoff Gartshore (RAA Member 9406) has logged about 800 hours as a private pilot in several aircraft types (taildraggers, Advanced Ultralight, Tricycle gear, Certified aircraft, Amateur built). He has owned and flown an Advanced Ultralight for 8 years, and currently owns and flies a Zenith CH 200 Amateur built aircraft based at Guelph. He worked as a Field Ecologist/Consultant for 33 years, surveying inhospitable terrain throughout Ontario, often alone, over extended periods – requiring a good working knowledge of survival techniques and equipment. Special thanks to Mr. Gordon Dedman (bushcraftsurvivalaustralia.com.au), a military special forces commando and survival expert/trainer, who kindly allowed some of his material to be incorporated into this article.

The Leading Edge

Upcoming Events in 2018: (Highlighted lines are KWRAA Events*)

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| April 9 | - | April Meeting at 7:30 in the Cadet building at CYKF |
| April 10-15 | - | Sun-n-Fun in Lakeland Florida |
| May 14 | - | May Meeting at 7:30 in the Cadet building at CYKF |
| June 16 | - | KWRAA Largo Woods Fly-in near Winterbourne |
| June 21-24 | - | COPA National Convention in St. John, NB |
| July 7 | - | KWRAA Fly-In at at CMZ2 – Metz/MacPat Field in Arthur |
| July 14 | - | Zenair Open House – Midland ON at CYEE - Huronia Airport |
| July 23-29 | - | Air Venture Oshkosh in Wisconsin |
| July 28 | - | KWRAA Fly-In at Roger Deming's – Kenilworth ON |
| August 11-12 | - | Gathering of the Classics in Edenvale, ON |
| August 17-19 | - | UPAC Convention – Lubitz Field, Plattsville ON |
| August 25 | - | Aviation Fun Day at CYKF – Waterloo Region International Airport |
| September 1 | - | KWRAA Fly-In at Tom Shupe's in Mount Forest |
| September 10 | - | September Meeting at 7:30 in the Cadet building at CYKF |
| October 15 | - | October Meeting at 7:30 in the Cadet building at CYKF |
| November 12 | - | November Meeting at 7:30 in the Cadet building at CYKF |
| November 30 | - | KWRAA Christmas Party – Details to follow later in 2018 |

* KWRAA events are fly-in and/or drive-in (Please advise the host in advance if you plan to attend whenever possible.)

Executive Contact Information:

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|------------------|---------------|---|
| KWRAA President: | Dan Oldridge | (519) 651-0651 oldridge@golden.net |
| Vice President: | Lee Coulman | (519) 664-8217 lee.coulman@gmail.com |
| Secretary: | Open | (Looking for a Volunteer) |
| Treasurer: | Mike Thorp | (519) 338-2768 mhthorp@hotmail.com |
| Director: | Gunter Malich | (519) 747-5066 gunter.malich@gmail.com |
| Director: | Open | (Looking for a Volunteer) |
| Director: | Mac McCulloch | (519) 831-0967 macpat@live.ca |
| RAA Canada: | Gary Wolf | (519) 648-3030 garywolf@rogers.com |

FOR SALE

Fuel Tank Caps and Parts

2 - RIEKE, 3" composite tank filler neck and cap (asking \$10.00 each)

2 - SHAW AERO, Aerobatic fuel stopper, non-vented adjustable type (asking \$25 each; current list price \$66.75 at ACS) Contact: Clarence Martens at cemartens@rogers.com

Rotax Heat Monitor Strips

Mac has a number of Rotax Heat Monitor Strips that can be applied to sensitive areas to monitor for extreme heat readings. They are presently being recommended by Rotax to monitor the ignition modules. He is offering them individually for \$15 each incl. HST. or two for \$28 incl. HST.

Contact: Mac McCulloch at macpat@live.ca

WANTED

Stringer Material

5/16" x 1" rectangular tubing with 0.50 wall thickness in 12' lengths. Contact Ted Welfred if you have some for sale or know of any available.