



Surviving After an Accident

In many serious accident situations it is likely that some, or all, of the aircraft occupants will receive injuries. These may range from cuts and fractures to serious head and internal injuries. As the pilot-in-command you should know how to identify what type of injuries your passengers have, be able to prioritise their treatment, know what basic first-aid techniques to apply, and have a good knowledge of survival skills. This article covers the basics of post-accident planning and looks at surviving a night out in the open. We hope you will never have to put this advice into practice, but if the worst were to happen it might just help you to save someone's life.

Initial Actions

Vacating the Aircraft

Any post-accident situation requires someone to be assertive and take charge. That person should be you, assuming that you are not badly injured. If you are badly injured, nominate someone else to take control of the situation, particularly if your injuries are going to hinder your mobility. Your first priority should be to get everyone well clear of the aircraft as quickly as possible. This is particularly important if there is a risk of fire or an explosion. The only exception to this may be if you suspect that a passenger has spinal or neck injuries. If this is the case you will have the difficult task of deciding whether the fire risk is greater than the risk of causing a permanent injury to the patient. Try to locate the aircraft first-aid kit (if it is safe to do so), and ensure that the emergency locator transmitter (ELT) has been activated.

Assessing the Situation

Before any consideration can be given to treatment of the patients, it is important to make a very quick assessment of the accident site for potential hazards. Watch out for things such as leaking fuel (and any potential ignition source), and broken power lines, as they can be fatal.

Consider your own safety first before helping your passengers as you will be of more use to them uninjured. Having assembled everyone well clear of the aircraft, and confirmed that everyone is accounted for, you need to make a quick assessment of what injuries your passengers have, and prioritise their treatment. Utilise any able-bodied passengers, and give them clear instructions on how they can help, for example by administering first aid.

Your brain is your most important survival asset. Use it, don't panic. Act with care, and don't do anything until you have thought it through.

Calling for Help

Finding an opportunity to call for help when there are seriously injured passengers who need attention can be difficult. Seek help as quickly as possible (especially if it is nearby), unless there are passengers who are seriously injured and in need of urgent attention.

If you have a cellphone and you have cellular coverage, dial 111 and notify the emergency services of the accident.

Continued over...

This should be done even if you managed to make a MAYDAY call before losing radio coverage. Try to include in your phone call, accurate location details (to the best of your knowledge), the number of people injured, and the types of injuries involved. This extra information will not only allow the emergency services to locate you more quickly, but will also enable them to bring sufficient resources to handle the situation.

An accident in a remote mountainous area, or heavily bushed area, is considerably more difficult to deal with than in open farmland. It may be some time before help arrives, so be prepared to survive several nights out in the open. The time taken to receive medical help will depend on how accurate your last position report was, whether your ELT is working correctly, the nature of the terrain, and the weather being suitable for search and rescue operations.

Practical First Aid

All pilots are encouraged to attend a first-aid course and regular refresher courses. The Red Cross and St John offer these courses.

It is important to have a well-stocked first-aid kit in the aircraft you fly. For information on the suggested contents of a first-aid kit refer to the March/April 2006 issue of *Vector*.

After stabilising your passengers as best you can, STOP and assess the situation. The STOP acronym should help you do this.

S – Stop Take a deep breath to calm yourself down. Recognise what has happened is in the past and cannot be undone. Deal with the here and now, that is, survival first and foremost.

T – Think Your brain is your most important survival asset. Use it. Don't panic. Act with care, and don't do anything until you have thought it through. The Kiwi 'can do' attitude is one of the best attitudes to have. Stay positive.

O – Observe Look around you and assess your supplies, equipment available, and the nature of your surroundings.

P – Plan Assign priorities to your immediate needs. Develop a plan to survive, and follow it.

If you can STOP, you can survive.



A typical survival kit.

Surviving the First Night

If there is any doubt that you will be found the same day, then you must prepare to spend a night out in the open. Making yourself and your passengers as comfortable as possible throughout the first night will place you in a better position to evaluate the situation, and allow you to decide what your actions should be.

You can significantly improve everyone's survival chances, particularly those who have injuries, by adhering to the following five basic principles of survival.

These are:

1. Shelter
2. Location
3. Water
4. Food
5. Will to Survive

Shelter

Protection from the elements takes top priority. Guard against hypothermia by keeping warm. Seek any natural shelter that the surrounding terrain might offer (this could include the aircraft wreckage if it is safe), and erect some kind of wind-break, preferably one that will also provide some protection if it rains. Use whatever materials are at hand. Make use of items such as: aircraft parts, pickets, seats, cockpit covers, and thermal survival blankets.

Maintaining body heat is extremely important, so utilise whatever extra clothing you have. Huddle together if necessary, and use plant foliage as insulation.

Making it comfortably through the first night will place you in a better position to decide what your actions should be the next day.

Location

Think how you might be able to attract attention. Has the ELT activated? Can the aircraft radio be used? How can I attract the attention of an aircraft searching overhead (flares, smoke, flashing lights, etc)?

Water

Water is far more important than food in a survival situation. Without it you will only survive a matter of days. It is worth expending energy to locate a supply of water before dehydration becomes a problem, because you will have no way of knowing how long it may take before you are rescued. If water is limited, it should be rationed to less than one litre per person per day.

Food

Any food carried on board the aircraft should also be carefully rationed, as you don't know how long it will be before you are rescued. Utilise natural sources of food that might be

nearby, but be careful not to expend too much energy gathering it. Every cross-country flight in New Zealand should be conducted with some snack food and water on board.

Will to Survive

The will to survive has been shown to be a key factor in many successful survival stories. By remaining focused, positive, and motivated (this includes keeping your passengers motivated), you will undoubtedly improve everyone's chances of survival.

Suggested Survival Kit

Every aircraft should have a well-equipped survival kit, and the contents need to be checked regularly. The survival equipment that you carry should be suitable for the terrain that you fly over.

The following list is a basic guide only as to what a survival kit should contain, and it assumes you already have a first-aid kit on board. You might like to make alterations or include additional items:

- | | |
|-----------------|---|
| Shelter | Lightweight rope, plastic sheeting (also doubles for collecting water), and a knife are all useful for constructing a shelter. Matches (must be waterproof), firelighters are important for starting a fire, and most importantly, a thermal survival blanket for insulation. |
| Location | A cellphone, personal locator beacon, compass, whistle, flares, mirror and torch. |
| Water | A watertight container with a wide opening neck, so that you can fill it with snow to melt and drink. |

Food

Emergency rations (eg, sweets, chocolate, packet soup, dried fruit, and freeze-dried packet meals), a fishing line (plus spare hooks), and a knife. Powdered drink crystals can be eaten, drunk or even used to mark the snow to indicate your location.

Will to Survive

A pocket radio, a small survival handbook, and perhaps something like a pack of playing cards.

Summary

As the pilot-in-command, you can never be too well prepared to deal with an accident. Your responsibility to ensure the safety of all your passengers doesn't end once you are on the ground. A well-prepared pilot will have adequate skills to deal with the possibility of the passengers having moderate injuries, and for surviving for several days out in the open. The last thing that you want, is to have a passenger die after surviving an accident, because you didn't know how to administer accident first aid, or know the basic principles of survival. Although each accident situation is different, following the basics that have been outlined in this article will improve the chances of survival for you and your passengers.

Take the time to read more on first-aid and survival techniques, and attend courses in each. Familiarise yourself with the contents of your aircraft's first-aid kit, and ensure the aircraft is also equipped with a survival kit. Always carry extra food, water, and plenty of warm clothing on a cross-country flight – no matter how short it is, or what type of terrain you will be crossing, or what time of year it is.

Plan ahead by spending a few moments thinking about how you would handle such a situation if it were to happen to you. ■

Aviation Safety Coordinator Course

Auckland

11 and 12 October 2007

Jet Park Hotel & Conference Centre

63 Westney Road (close to Auckland International Airport)

The Safety Coordinator's role is to maintain and promote safe practices by managing risks and raising safety awareness within their organisation. Our course is designed to train the coordinator in implementing and maintaining a safety programme in an organisation.

Further information, including enrolment details, will be available on the CAA web site, and in the next issue of *Vector*.

New Products

Safety Around Helicopters Poster

This has been redesigned and updated. One major change to note is that the 'Preferred' and 'Acceptable' areas for approaching a helicopter have been revised.

To obtain copies of this poster contact your local Field Safety Adviser, see page 23, or email: info@caa.govt.nz.

Rules Poster Update

Enclosed in this issue of *Vector* is an updated *Civil Aviation Rules and Advisory Circulars* poster. The most up-to-date information on Rules will always be on the CAA web site, but this poster is useful to have on the office or briefing room wall. Make sure you replace old versions with this updated one – the colour is different to make updating easier.

