

# The Gliding Federation of Australia Inc

(ABN 82 433 264 489)

## Gliding Related Accident Procedures



Issued: August 2016

# **THE GLIDING FEDERATION OF AUSTRALIA INC**

(ABN 82 433 264 489)

C4/1-13 The Gateway, Broadmeadows Victoria 3047

Phone: (03) 9359 1613; Fax: (03) 9359 9865



## **GLIDING RELATED ACCIDENT PROCEDURES**

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UNCONTROLLED WHEN PRINTED

## Foreword

The first people to arrive at an aircraft accident site can significantly help minimise injury and loss of life, reduce property loss through damage and fire, and prevent loss of clues and evidence as to the factors that contributed to the accident.

To preserve evidence for an effective investigation, it is essential to appropriately manage and control the accident site.

Often, emergency services (Police, fire brigades and ambulance) are the first trained personnel at aircraft accident sites.

This document provides guidance to gliding club members dealing with an aircraft accident at their gliding site, and it should be read in conjunction with the Club's Risk Management Plan and Emergency Response Plan. The guidance herein should help members undertake essential actions as safely as possible.

Gliding accidents must be reported within 24 hours. The contact details are:

**ATSB:** 1800 011 034

**GFA:** 0414 476 151

## Contents

Foreword .....	1
Revision History.....	3
Regulatory framework .....	4
Responsibility for the investigation of gliding related accidents in Australia .....	4
Accident reporting .....	4
About these guidelines .....	5
Reporting an Aviation Accident.....	5
Who must report a gliding related accident? .....	6
What the ATSB and GFA need to know .....	6
Are all gliding related accidents investigated?.....	7
Accident site coordination and security.....	7
Rescue of persons from crashed aircraft .....	8
Protection of aircraft wreckage.....	9
Fatal accidents.....	9
Recovery and salvage of the wreckage .....	9
Preventing further damage to wreckage .....	10
How to prevent unauthorised access .....	10
Eyewitnesses to an accident.....	10
Dealing with the Media.....	11
Post-mortem matters .....	11
Dangerous materials.....	12
Dangers associated with accidents involving aircraft fitted with rocket-deployed emergency recovery parachutes .....	13
Fuel hazards .....	14
Structural hazards.....	14
Working with hazardous materials .....	15
Protective Equipment .....	16
Respiratory Protection .....	16
Skin Protection.....	16
Personal Hygiene .....	16
Tools and Equipment.....	16
Post-Traumatic Stress Disorder (PTSD) .....	16

## Revision History

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## Regulatory framework

Gliding in Australia is subject to the Civil Aviation Act [1988](#), Civil Aviation Regulations [1988](#), Civil Aviation Safety Regulations [1998](#) and other relevant Legislation as amended from time to time. Certain exemptions from the provisions of the Civil Aviation Regulations 1988 have been granted to members of the GFA by way of Civil Aviation Orders [95.4](#) and [95.4.1](#). Where exemptions exist, the practices adopted by GFA are outlined in the GFA Operational Regulations approved by CASA.

The Gliding Federation of Australia Inc (GFA), operating under a Deed of Agreement with the Civil Aviation Safety Authority (CASA), is the Recreation Aviation Administration Organisation responsible for the administration of sport and recreational gliding and sailplane activities in Australia.

## Responsibility for the investigation of gliding related accidents in Australia

The Australian Transport Safety Bureau (ATSB) is Australia's prime agency for transport-safety investigations, which it undertakes in accordance with the Australian Government Transport Safety Investigation Act 2003 and in conformity with international agreements. While the ATSB is responsible for investigating civil aviation accidents and incidents, it generally does not investigate sports aviation accidents or those involving amateur built or experimental category aircraft. In serious accidents, the ATSB will usually inform the Gliding Federation of Australia and the Police that the ATSB is not investigating.

Among the functions performed by the GFA pursuant to the aforementioned Deed of Agreement to assist CASA set and monitor the standards for sailplanes, powered sailplanes and power-assisted sailplanes are the following:

1. Examine the results of sailplane, powered sailplane and power-assisted sailplane incident and accident investigations to ensure that standards have been complied with;
2. Examine the results of incident and accident investigations to ensure that standards are appropriate; and
3. Provide guidance to members in the form of advice and information to assist in the maintenance of safety in the operation of sailplanes, powered sailplanes and power-assisted sailplanes.

The GFA's Executive Manager, Operations (EM/O) has the authority of the GFA Board to conduct an investigation into any accident or incident on behalf of the GFA. Where such authority is exercised, the EM/O will either conduct the investigation personally or delegate the role of investigator to a suitable person. Alternatively, the Club's Chief Flying Instructor (CFI) or delegate will be responsible for conducting the investigation. Clubs and members are required to provide their full co-operation to the GFA's nominated investigator.

In the case of fatal accidents or those occasioning serious injury, the local Police will coordinate the investigation. The Police may wish to utilise the expertise of the GFA to assist their investigation. The GFA contacts are the EM/O, the Chairman of the GFA Operations Panel, and the local Regional Manager, Operations. Contact details are available from the [GFA website](#).

## Accident reporting

The ATSB and GFA operate contact numbers to enable reporting of accidents and incidents.



Notify the ATSB by telephone toll-free

**1800 011 034**

Notify the GFA by telephone

**0414 476 151**

ATSB Duty Officer: 1800 011 034; GFA Executive Manager, Operations: 0414 476 151

**NOTE:** The GFA's Executive Manager, Operations is responsible for coordinating all GFA accident investigations and is the point of contact for Police, ATSB and CASA.

## About these guidelines

These guidelines are intended to assist members respond to a glider or tow aircraft crash at their site. The information was collated from a variety of sources and the action recommendations herein should be considered as suggestions only. Specific circumstances at the scene of an incident as well as the number and training of first responders will dictate what actions are actually appropriate.

## Reporting an Aviation Accident

It is possible that by the time you are advised of an accident, someone else may have already reported it to the Emergency Services and/or ATSB. You should still contact Emergency Services by telephoning Triple Zero (000)<sup>1</sup>, which is the service used to contact Police, Fire or Ambulance services in life threatening or emergency situations.

When you phone Triple Zero (000) your call is connected to the Emergency Call Service (ECS). When your call is answered by the ECS, request the service which is most urgently needed in terms of threat to life (e.g. ambulance). That service will organise for other emergency services to attend, if needed. If you call on a mobile telephone, ECS will ask for the city and state you are in. Respond with the service/location you require and ECS will connect you to the emergency service you require.



Once you have contacted the ECS, you should next telephone the ATSB and GFA as quickly as possible with your appraisal of the situation and provide as much information as possible.

Australia's Triple Zero Awareness Working Group has developed a smartphone app for iOS, Android and Windows devices to:

- provide the caller with information about when to call Triple Zero
- provide the caller with information about who to call in various non-emergency situations
  - State Emergency Service (SES) (132 500)
  - Police Assistance Line (131 444)
  - Crime Stoppers (1800 333 000)
  - Health Direct Australia (1800 022 222)
  - [National Relay Service](#)
- assist the caller to dial the relevant number
- display the GPS coordinates of the phone's location that the caller can read out to the emergency operator.



The app is free of charge and available for download from iTunes, Google Play and Windows Stores.

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<sup>1</sup> 112 is a secondary emergency number that can be dialled from mobile phones in Australia. Special capabilities, including roaming, once only existed when dialling 112, however mobile phones manufactured since January 2002 also provide these capabilities when dialling Triple Zero (000) to access the Emergency Call Service. There is a misconception that 112 calls will be carried by satellite if there is no mobile coverage. Satellite phones use a different technology and your mobile phone cannot access a satellite network. **Important** – if there is no mobile coverage on any network, you will not be able to reach the Emergency Call Service via a mobile phone, regardless of which number you dialled.



## Who must report a gliding related accident?

Under the Transport Safety Investigation Act 2003 and regulations, the owner, operator or crew of the aircraft must report the accident immediately to the ATSB. However, sometimes the owner and/or operator may not learn of the accident until sometime after the event. The crew may also be unable to notify the ATSB due to personal injuries. Therefore, anyone learning of an accident involving gliders, powered gliders or tow planes should report the accident to the ATSB and GFA immediately, as well as alerting emergency services as required.

While the ATSB does not investigate all accidents and incidents, you should still notify the ATSB of all accidents and serious incidents involving gliders. In all cases the GFA must be notified.

## What the ATSB and GFA need to know

You should immediately report the following details where possible:

1. Aircraft type and its registration letters. The registration may appear on the side of the fuselage (main body), the fin/rudder combination and the wings.
2. Name of the owner or operator.
3. Names of the pilot/crew and any other people on board.
4. Date and time of the accident.
5. Aircraft's last departure point and its destination.
6. Location of the accident, including directions on how to reach the scene.
7. Extent of any injuries to the occupant(s) or others.
8. Nature of the accident. (Phase of flight and description of occurrence.)
9. Extent of damage to the aircraft.
10. Action taken to prevent disturbance of the wreckage until either a GFA investigator or authorised personnel arrive.
11. Name and telephone number of the originator of the advice.

## Are all gliding related accidents investigated?

As previously noted, the ATSB won't investigate sports aviation accidents and will inform the GFA and the Police that they are not investigating. The Police will normally coordinate the investigation of fatal accidents or those occasioning serious injury, and may wish to utilise the expertise of the GFA to assist. In all other cases, the GFA Investigator or the Club's Chief Flying Instructor will conduct an investigation.

## Accident site coordination and security

If an accident happens at the local airfield, Club members should action their Emergency Response Plan (ERP) and designate a person to the role of 'On Scene Commander'. The 'On Scene Commander' will form an incident team of approximately four people whose roles will include site protection, crowd control, media liaison and witness coordination. In the case of a fatal accident or one occasioning serious injury, the 'On Scene Commander' will also dispatch a member to wait for and provide direction to emergency services.



Members involved in the rescue of the aircraft occupants should be careful to avoid becoming casualties themselves. In the heat of the moment and the desire to alleviate suffering and minimise casualties, individuals sometimes place themselves at considerable personal risk of injury or death.

By being cautious and aware of the hazards at aircraft accident sites, you will be better prepared for the tasks at hand. It is vital that any hazards are detected and secured. Standard HAZMAT procedures should be followed (refer to the Dangerous materials section).

All accident sites must be secured to prevent unauthorised persons from entering the area. The secure area should normally extend to at least 50 m from the edge of the wreckage.

It is important to prevent unauthorised people from entering an accident site due to:

- respect for casualties;
- protection of valuable and important equipment;
- preservation of evidence to establish the factors that contributed to the accident; and
- prevention of exposure to hazards.

When the Police arrive on site they will coordinate with the 'On Scene Commander' to take control of the site which means:

- only authorised personnel will be admitted to the accident site; and
- bystanders will be kept outside the established zone of safety.

## Rescue of persons from crashed aircraft

Without endangering yourself, rescue and care of survivors are the priorities at an aircraft accident site. If you see survivors in the aircraft and rescue seems possible, you should consider the following issues:

1. Be careful when approaching the wreckage by vehicle, particularly if the approach is along the crash path, as survivors may have been ejected from the aircraft. If you are the first on the scene you may find no one else present. This could be because: the occupants have parachuted to safety or have survived and left the scene, to seek assistance.
2. If there is a fire, approach the site from upwind (with the wind at your back) and downhill if possible to avoid inhalation of burning materials, some of which are toxic, others of which can be very irritating to the breathing tract. Look around the crash site, along the crash path, and maintain a clear observation of the accident site and associated hazards.
3. Wear appropriate Personal Protective Equipment, including class P2<sup>2</sup> breathing protection. The aircraft may be made from composite fibre material, which will splinter if fractured. If burning has taken place the composite fibre and dust will present a toxic hazard (Refer section on Protective Equipment).
4. Render first aid and care to survivors until medical personnel arrive.
5. Attempt to account for all occupants. If the aircraft disintegrated in flight, the wreckage, survivors and casualties may be scattered over a large area.
6. Summon medical assistance if required and verify that this assistance has been sought. Consider shelter for casualties if the accident site poses potential hazards.
7. If you see evidence of a spreading post-accident fire or possible explosion from fuels, move survivors a safe distance from the scene. Only remove survivors from the scene if necessary.
8. Stay clear from oxygen bottles, particularly if fire is present.
9. To minimise the risk of fire or further fires, establish a no smoking zone around the accident site. Volatile/flammable materials may have been scattered over a wide area.
10. To prevent the ingestion of harmful materials, including biological hazards, establish a no eating zone around the accident site.
11. Keep bystanders well clear of the accident site and wreckage, and upwind if possible.

**CAUTION:** Common dangers with crashed gliders and powered gliders include hazards associated with fuel, oxygen systems and batteries. These aircraft will also invariably be constructed of toxic or extremely irritating composite fibre material. If in doubt, remain clear of wreckage.

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<sup>2</sup> Particulate filters have a prefix 'P' and a number indicating a class corresponding to filtration efficiency against a laboratory challenge aerosol of sodium chloride. A P2 respirator is used for mechanically and thermally generated particles. This class of filters has a higher capture efficiency to be able to deal effectively with smaller, thermally generated particles like sub-micron sized fumes.

## Protection of aircraft wreckage

The ATSB and GFA understand that the first respondents, Police and emergency services personnel need to take immediate action when arriving at the scene. However, it is important that wreckage, ground scars and the accident site are disturbed as little as possible. This will ensure that investigators are able to determine the factors that contributed to the accident.

Many gliders and powered sailplanes have computer technology containing information that may be vital to the investigation. It is therefore important to preserve information contained on computer 'chips'. These chips can be sensitive to heat, shock, and electronic fields. If possible, please be careful when moving wreckage to perform any immediate actions required, such as the prevention of danger, preserving life or removing victims.

If possible, please do not move this material until the GFA Investigator can provide technical advice. It is realised, however, that care and respect towards the victims of an accident have immediate priority and this may make it difficult to preserve some evidence.

## Fatal accidents

In a fatal accident the Coroner may request the custody of wreckage and any other item carried on the aircraft at any stage of the investigation. Members must comply with a custody request.

The Coroner's Office should be contacted on all matters relating to an inquest or inquiry. Coronial services can also offer face-to-face assistance and advice, and some coronial jurisdictions provide grief counselling and other support by trained professionals.

If club members are the first on the scene, the following steps should be taken to preserve and record evidence:

- Define the accident site by placing a cordon around all scattered wreckage as well as other evidence such as marks made by the aircraft and ground scars.
- If someone must disturb the wreckage, try to photograph, sketch, or mentally note the original state of the wreckage. The same applies to any safety harnesses undone to remove an individual.
- Do not try to restore the wreckage to its original state unless the Police ask you to do so.
- Carefully record, as soon as possible, the positions in the aircraft-wreckage where any survivors of the accident were assisted. Deceased persons should remain in their original place until a pathologist can examine them.
- Take photographs or sketches beforehand if anything (e.g., removing the bodies, the weather) is likely to obliterate or alter any marks on the ground or on the wreckage before the Police or GFA Investigator arrives.
- Secure the wreckage, including any scattered wreckage away from the main accident site, and any of the aircraft's contents or papers against loss or further damage.
- Note the names, addresses, contact details (particularly telephone numbers), and intended movements of any witnesses.

## Recovery and salvage of the wreckage

Flight recorders (Data Loggers) provide vital, but perishable, evidence of a flight's last moments. Unless authorised by the Police or the GFA Investigator, these units are not to be moved or accessed.

When an accident occurs, the aircraft is deemed to have come into the custody of the Executive Director of Transport Safety Investigation and it must not be moved except with the permission of the Executive Director or authorised representative. However, where the ATSB has informed the GFA that it is not investigating, Police authority is required to remove the wreckage if they are investigating.

## Preventing further damage to wreckage

You rarely need to disturb the aircraft wreckage once survivors or bodies have been removed. The pilot, crew, owner(s), media and insurance representatives will not have access to the wreckage unless the ATSB or Police investigator approves it.

## How to prevent unauthorised access

The aircraft and any of its wreckage at an accident site should be treated as if it were the property of the ATSB or Coroner. You should, therefore, prevent souvenir hunting. Heavy trampling of the site may also obscure ground scars that are important to the investigation. In inclement weather, you can protect and preserve vital areas such as the cockpit, lighter pieces of wreckage and ground scars by covering them with a tarpaulin. If coverings are not available, you can use news media photographers to record perishable evidence.

In the case of a fatal accident, once the emergency services, and those assisting a coroner to identify and remove the deceased, have completed their activities, the Police may arrange to secure the accident site pending the arrival of the GFA investigator. If this security is in place, no one can enter or remain on the accident site without the permission of the Police.

## Eyewitnesses to an accident

Eyewitnesses are extremely important in helping determine the factors that contributed to the accident. The names and addresses of witnesses should be noted and the list given to the GFA Investigator or Police when they arrive at the accident site.



Preliminary eyewitness recollections detailing first reactions can be valuable to investigators. They will normally be untainted by reflection, rumour or exposure to the news media. These recollections should include:

- eyewitness names, addresses (telephone numbers)
- position from which the eyewitness observed the event
- time of accident
- weather conditions at time of accident
- direction aircraft was heading and what it appeared to be doing
- estimate of aircraft's height (estimate of angle above surrounding terrain from observer's position using trees and buildings as a reference where appropriate)
- if the aircraft was on fire in flight
- what sounds were heard
- what the impact angle of the aircraft was
- if any objects fell from the aircraft before impact
- if objects did fall from the aircraft, what the flight path of the Aircraft was at the time (i.e. level, climbing, diving).

A club member should be tasked to collect witness statements. Witnesses should be provided with pen and paper and asked to go to a quiet area and write down everything they have observed as detailed as possible. To ensure candour, witnesses should be isolated from each other while making individual statements. Upon completion of their statement, witnesses should include their name, address, phone number, date and signature in their statement.

## Dealing with the Media

The media have a job to do and deserve access to certain information in order to do that job. However, for their own safety they must remain outside the secured area. Names of casualties are not to be given to the news media. This information will be released by the appropriate authorities and this will happen only after next of kin have been informed. Investigators will not provide access to the media to photograph survivors or deceased persons. Care should be exercised in the use of mobile telephones or radios to discuss the accident or the personnel involved as the media may be capable of monitoring communications frequencies.

## Post-mortem matters

In the event of an aircraft accident, particularly one involving fatalities, the Police on behalf of the State or Territory coroner have jurisdiction (even on Australian Government property). The GFA's Investigator will usually work closely with Police and coronial authorities.

Deceased persons should not be moved until a specialist doctor (or other medical authority with aviation medical experience) has examined them. They should only be moved under Police supervision.

Clothing or safety equipment should not be removed from the deceased before specialist medical examination and recording. To prevent the spread of contaminants, whenever practical all items should be decontaminated of hazardous materials before they are removed from the accident site. Human remains must be handled and transported in accordance with standard coronial procedures.

Crew and passengers killed in any aircraft accident receive a post-mortem examination by the relevant coronial authorities.

The aim is to:

1. identify the deceased
2. determine either a pre-existing disease or the nature of the injury in the case of crewmembers
3. clarify any injury mechanisms (to help prevent future accident injuries).

Ideally, the pathologist responsible for a post-mortem involving aircraft accident-related deaths should have some knowledge of aviation-related injuries or be provided with guidance about aviation medical aspects.

In some areas, the pathologist will travel to the accident site with the coroner's investigating officer and use the local morgue. In some states, bodies may be transported to the State capital for post-mortem examination.

The GFA will always assist, when requested, in a coronial inquiry relating to a gliding related aviation accident. GFA Investigators will attempt to contact the coroner through the attending Police officer or state coronial support unit during the early stages of the investigation.

Police officers preparing material for a coronial inquiry should be made aware that it may be some time before the GFA complete its investigations and the findings of the investigation.



## Dangerous materials

Damage to gliders and powered sailplanes can result in the release of dangerous materials at an accident site, for example:

- airborne synthetic products like glass or carbon fibres;
- toxic materials that may inadvertently be inhaled or affect the skin, including battery electrolytes;
- potentially explosive devices such as oxygen bottles and rocket deployed parachute systems; and
- pathogenic (body) products.

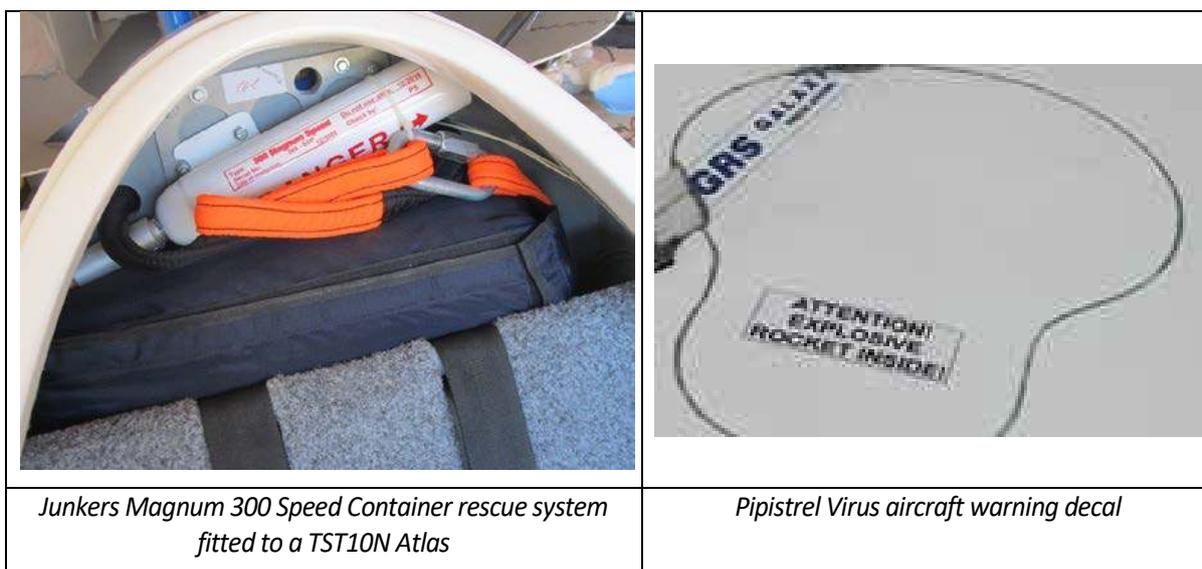
Only those personnel essential to perform immediate actions to extricate survivors, for the protection of the wreckage from destruction by fire or other causes, and the prevention of danger to the public should enter an accident site.

*Dangers associated with accidents involving aircraft fitted with rocket-deployed emergency recovery parachutes*

While not many glider types are fitted with rocket-deployed emergency recovery parachute systems, a number of manufacturers are now providing this option for new gliders being imported into Australia. These parachute systems are designed to recover the aircraft and passengers to the ground if a serious in-flight emergency arises.

The parachute rocket units contain explosives and are a hazard at an accident site if the system has not been activated. Systems currently used are mainly from the manufacturers Ballistic Recovery Systems and Galaxy Recovery Systems. However, there are also parachute systems from other manufacturers installed in gliders in Australia.

Glider types that may be fitted with rocket-deployed emergency recovery parachute systems in Australia include the composite structured Pipistrel Virus and Sinus, and the TST-10M Atlas.



The rocket-deployed emergency recovery parachute systems are often cable activated by the pilot via a red handle.

If the parachute has not been deployed during an accident the deformed fuselage can put the activation cable under abnormally high tension. This results in the activation device ready to be triggered by any further movement of the wreckage.

A parachute's rocket will accelerate to well over 160 kph in the first one tenth of a second following activation. Rocket ignition temperatures are in excess of 260° C.

Ballistic Recovery Systems has information for first responders and emergency personnel on their [website](#).

Aircraft accident sites may be contaminated with flammable materials and with flammable liquids such as petroleum products due to the destruction of aircraft integral fuel tanks in wings and fuselages.

Personnel attending to the scene of an accident need to be vigilant about the type of equipment used on site, including the use of mobile telephones and torches, as they could cause a fire. Any inadvertent activation of a ballistic parachute rocket could present a direct ignition source for these materials and liquids, and could be hazardous for on-site personnel and accident survivors.

Personnel attending an accident involving an aircraft fitted with a rocket-deployed emergency recovery parachute system fitted to it should always take appropriate measures to ensure their own safety. This may mean leaving the aircraft on site and cordoning it off until appropriate personnel arrive.

### *Fuel hazards*

Aircraft fuels are a primary hazard in a post-crash aircraft fire. If ignited they pose danger to survivors, rescue personnel, fire services personnel, etc. Fuel used by powered sailplanes and tow planes will come from one of the following groups:

**Mogas** (petrol) is used primarily as a fuel in internal combustion engines and is the fuel commonly used in motor vehicles. Petrol has the dangerous combination of a low flash point combined with a high vapour density and is highly flammable/volatile.

**Avgas** is a high octane aviation petrol suited for piston-engined aircraft. It has the same flash point as petrol and, therefore, is highly flammable/volatile.

**Avtur** is the kerosene-type fuel used in jet powered sailplanes and does not possess the low flash-point qualities of Avgas. However, when heated its flash point is reduced significantly. This fuel burns longer and more intensely than Avgas.



### *Structural hazards*

Materials used in aircraft construction, if subjected to intense heat, can produce hazardous situations or develop toxic side effects:

**Magnesium and aluminium metals** in various mixtures are used extensively as structural components, particularly where lightweight framing is used. In some aircraft magnesium is used in wheel assemblies. It burns with intense heat and radiates powerful light. Water should not be applied as an extinguishing agent to burning magnesium as an explosion may occur.

**Composite materials** such as carbon fibre in an epoxy resin are used extensively in gliders and powered sailplanes. When involved in a fire, these materials may give off toxic fumes and loose fibres may be released in the smoke plume. It is possible, but not highly probable, that loose fibres may cause short circuiting of electronics and electrical equipment. The major hazard, however, is from inhalation and ingestion of free fibres and associated

burning resin products. Only personnel equipped with self-contained breathing apparatus or full-face canister respirators with appropriate cartridges should enter the accident site until all fires are extinguished and loose composite fibres are suppressed (e.g., bonded with spray-on floor polish or similar product sprayed over the fibres).

**Toxic gases** are also given off when some plastics and adhesives are burnt. After the fires have been extinguished, loose fibres should be avoided.

Bear in mind that some materials used in aircraft construction may be rendered harmful after heating in a fire and then being extinguished with water. Their products may be strongly acidic (e.g. fluoro polymers which yield hydrofluoric acid), or dangerous to ingest (e.g. some magnesium alloys which corrodes very rapidly in the presence of water). It is imperative that all personnel at the accident site wash all exposed areas of skin before eating, drinking or smoking. Should personnel at the site exhibit respiratory distress or skin irritation, they should evacuate the site and institute HAZMAT (hazardous material) procedures for liquid hazards.

**High-pressure containers** are used in some gliders. These containers when subjected to heat may be the source of secondary explosions. Pressurised containers likely to be encountered may consist of oxygen and fire extinguisher bottles (fixed and hand-held).

## Working with hazardous materials

- Have a first aid kit available.
- Wash hands thoroughly with undiluted disinfectant or antiseptic soap after contact with contaminated material, even if gloves were worn.
- Plan contamination first-aid, flushing and irrigation procedures and facilities and ensure their availability on-site.
- Wear disposable impermeable (latex) surgical rubber gloves even when only incidental exposure to body fluids is involved. The surgical gloves should be worn under leather or canvas work gloves.
- Dispose of surgical gloves properly.
- Wash hands immediately after removing gloves at each glove change. If normal washing facilities are not available, a waterless disinfectant hand cleaner or alcohol towelettes are acceptable.
- Wear disposable coveralls to protect against sharp aircraft structures, protective masks and non-vented goggles (or a complete face shield) when dried fluid is being removed from components or where there is a risk of body fluids being splashed or otherwise distributed.
- Clothing which is known to be soiled with body fluids should be kept separate until laundered at a designated facility. Do not take contaminated personal laundry home.
- Used disposable gloves, coveralls, and other potentially contaminated material should be properly disposed of via local medical authorities.
- Shoes/boots and tools, etc. should be brush-scrubbed with antiseptic soap and water or a 10% solution of household bleach. The bleach solution should be allowed to air dry or remain on the surface for 10 minutes minimum.
- If a person receives an injury which opens the skin, the person should vacate the occurrence site and follow usual de-contamination procedures. Once clear of the site, the wound should be cleaned and dressed according to standard first aid procedures.
- In the event of any wound or body fluid contact on an unprotected part of the skin (even if injuries are not involved) seek immediate medical attention.

## Protective Equipment

The following protective equipment should be worn by personnel.

### *Respiratory Protection*

Effective protection against carbon fibre hazard requires a well-fitted dust and mist respirator, capable of filtering particles less than 3 microns. The filter should be replaced regularly, on an 'as required' basis.

To ensure eye protection, full-face respirators should be used. The respirator should be fitted first so that on removal of personal protective equipment the respirator will be removed last.

### *Skin Protection*

- **Coveralls.** Hooded Tyvek coveralls should be used. The coveralls should have a zipper front, elastic cuffs to sleeves, and legs; and a drawstring hood. Any openings or attachment points, especially at the ankles and wrists, should be sealed with duct-tape to keep out particles.
- **Gloves.** Puncture-resistant leather or canvas gloves should be used. These should be worn over latex surgical gloves as an insert to protect against blood-borne pathogens, solvent residue, and fuel spills.
- **Boots.** Steel-toed boots should be worn.
- Any fibre deposits on the skin may cause local skin irritation which may, in extreme cases, lead to dermatitis. As the fibres are extremely fragile, no attempt should be made to remove splinters by tweezers. Medical attention should be sought.
- To minimise the risk of exposure only essential persons wearing adequate personal protection equipment should be permitted on site.

### *Personal Hygiene*

Observe these precautions:

- Wash your hands every time you remove your gloves.
- Keep food well away from the site and protect it from contamination.
- Shower before removing coveralls, then after as well, to remove any fibres in contact with the skin. Launder non-disposable clothing separately from uncontaminated clothing.
- Place all used disposable equipment in plastic bags marked 'CONTAMINATED'.

### *Tools and Equipment*

- Only tools specific for the task should be brought on to the site.
- Do not take writing pads, tool kits and other equipment that cannot be easily decontaminated on site.

## Post-Traumatic Stress Disorder (PTSD)

This may occur not only in flight crew associated with the Accident/Incident, but witnesses, relatives, friends and club members. It has been noted that Clubs have been deeply affected after such occurrences, in some cases straining the viability of the organisation. This also applies to accident investigators; a high level of emotional resilience, self-awareness and empathy is required. The following resources are listed for the information of Clubs, Instructors and members wishing to find out more about PTSD as part of their risk management:

- [Post-Traumatic Stress Disorder](#)
- [Coping with a critical incident](#)

Support for Clubs and members affected by PTSD can be found at the [Lifeline Service Finder](#).