

SOP 9.01 – Helicopter Safety



Section 9 – AMSAR Services

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Electronically Controlled Document

Purpose

Helicopters are used in many emergency situations. It is therefore vital for members to be familiar with safety procedures around these aircraft.

Scope

These procedures apply to all levels of Life Saving Victoria.

Procedures

Introduction

In addition to operations by the Westpac Lifesaver Rescue Helicopter Service, members may be required to assist Ambulance, Defence or Police in their helicopter operations and the following aspects of safety must be known by all members.

The helicopter must be treated with respect at all times, or it can cause serious injury or death.

Main danger areas

Tail Rotor

This is unprotected and very difficult to see due to its high rotational speed. It has an arc of approximately 1.5 metres and reaches down to only one metre above ground level. The tail rotor is the major hazard area. At no time should a member approach the tail rotator of an aircraft whether the engine is running or not.

Main Rotor

The main rotor can tilt to below head height during normal operations. This clearance may be even less when working over uneven or sloping ground, or during gusty wind conditions. Care should be taken after the engine has been shut down until the rotors have completely stopped. While the main rotor is slowing, it can be affected by gusty winds, forcing the rotor blades to tilt close to the ground. At no time should a member approach the aircraft while the rotors are turning unless specifically directed by the pilot or escorted by a qualified crew member.

Radio Antennae

These may be variously located on the top or underside of the fuselage and underneath the tail boom, and are capable of causing radiation injury when operating. They can also be damaged by handling and must not be touched.

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Particle Separator Outlet

This outlet is located above the main fuselage on most aircraft and is capable of throwing out debris with some force, and although it is normally above head level, this danger area should be avoided.

Emergency landing areas

The minimum controlled area required for emergency helicopter landings is 40 metres by 40 metres square, extending back from the water's edge if on the beach. This will allow the helicopter to take a flight path over water while landing and taking off. It is preferable that landings take place on grassed or paved areas wherever possible and safe to do so.

It is required that during helicopter operations, the emergency landing area be secured by club personnel using four (4) members, with one at each corner. Where possible, two signal flags should be held firmly to help identify the emergency area and wind direction, and one of the lifesaving personnel should be in direct communication with the aircraft. No one is permitted to enter the emergency landing area whilst any part of the aircraft is moving, and during take-off and landing. Personnel are only permitted to approach the helicopter while the pilot is in the cabin and only following the signalled permission of the aircraft pilot.

Using Helicopter Crew protocols, the helicopter crew may determine that it is safe to land outside a designated emergency landing area, using trained personnel to take up 'guard positions' so as to ensure safety of public, crew and aircraft is maintained at all times.

Helicopter 'downwash' creates a sandstorm and spectators must be warned to stand well clear during take-off and landing. Patrol members must make sure that no loose objects are left in the emergency area. Helicopter beach landings will not normally be made unless absolutely necessary because of inconvenience to the public and damage caused by operating in a sandy environment.

To avoid eye damage, patrol members and the general public should turn away during take-off and landing.

Helicopter low altitude operations

Whilst the helicopter is performing rescue operations, the Pilot's concentration is focused on the patient in the water, as this is the Pilot's only reference. The Helicopter crew person will also be directing the Pilot to the correct location and preparing for deployment of a rescue swimmer. This means that other rescue craft or personnel entering under the helicopter cannot be easily detected and can affect the concentration of the Pilot and the safety of the operation.

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Therefore, for the safety of all lifesaving personnel, helicopter crew and the general public, at no time are any craft or personnel permitted to enter underneath the rotor wash of a helicopter or within a fifty (50) metre circumference of an aircraft when it is conducting low altitude operations over water unless specifically requested by the pilot or crew person.

If assistance is required, direct communication will be initiated by the Pilot or Crew Person and the Helicopter will move away from the scene. Only at this stage may any craft or personnel enter the scene/rescue/demonstration.

Approaching the helicopter

Permission to Approach

- The aircraft must not be approached without permission at any time when the aircraft pilot is in the cockpit, whether the engine is running or not.
- All approaches to the aircraft must be made in the pilot's field of vision, i.e.. between the ten and two o'clock positions, on the downhill side of any slope.
- To seek approval to move under the rotor disc, signal the pilot by extending one arm out from chest height in the standard "thumbs up" signal. Only when the pilot returns with a "thumbs up" signal can you move under the rotor disc.
- When approaching the aircraft with the pilot's permission, the path of turning rotor blades must be watched to avoid any possible contact.

Slopes

- Approach and leave the helicopter on the downhill side of any sloping landing point to avoid the main rotor.
- If this involves walking around the helicopter to avoid the area of lowest rotor clearance, the only path is around the front of the aircraft, **never the rear.**

Equipment

- When carrying equipment to or from the helicopter, hold it horizontal and below waist level, never vertical.
- Any long object should be carried between two people (one at each end) to avoid inadvertent contact with the rotor.

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Blinding

If blinded by dust or a blowing object when the helicopter is landing, taking off, or before the rotors have stopped, immediately stop and sit down. Never grope your way towards or away from the helicopter.

- Protect your eyes by shielding them with your hand or by squinting.
- Warn spectators to protect their eyes against blown dust or sand.

Loose Objects

- Hold on firmly to loose objects.
- Never reach up for or chase after an object that has blown away.
- Never remove or put on any clothing while under the rotor disc in case your arms accidentally stray upwards.
- Caps or hats should not be worn under the rotor disc unless they are tied by a chin strap.

Vehicles

- No vehicle is to approach the helicopter while the rotors are turning.
- In the unlikely event that a vehicle needs to approach a stationary helicopter, this must happen only under the specific direction of the Pilot.

Smoking

Smoking is not allowed:

- Within 15 metres of the helicopter
- Within 30 metres of any fuel installation or fuel drum.
- Within the helicopter.
- When medical gases are being used.

