

Operating Guideline # 1104

Orange Air Operations

May 9, 2020



PURPOSE:

The purpose of this Operating Guideline (OG) is to describe the hazards associated to operating around the ORNGE air ambulance (helicopter); to set out the minimum PPE to be worn when working in the vicinity of an air ambulance; and the procedures to be followed when setting up a landing zone for the air ambulance.

ISSUE/RATIONALE:

Firefighters may be required to locate and set-up air ambulance landing zones and work in close proximity with air ambulances performing scene responses. Hazards associated with working around helicopters include noise, rotor contact and moving debris as a result of rotor spin.

GUIDELINE:

General Safety Considerations

1. Please refer to the "Helicopter Safety" briefing sheet attached as Appendix "A" to this OG for general safety precautions. Also please watch the safety video [Orange Air Safety Briefing](https://youtu.be/dN5Sax-DVCU) at <https://youtu.be/dN5Sax-DVCU>.

Personal Protective Equipment/Clothing

2. Fire department personnel working at an incident involving an air ambulance shall wear PPE appropriate to the primary emergency. In addition, eye protection in the form of safety goggles shall be worn whenever the air ambulance is within sight of crews operating at the scene. PPE shall also be augmented with hearing protection any time crews experience elevated noise levels from the helicopter.

Landing Zone Requirements

3. Generally, the selection of a landing zone should be left to an ambulance supervisor, however on occasion this task has been requested of fire department personnel. When selecting a landing zone, please ensure:

- a) the landing zone is not boxed in by emergency vehicles (unless there are no alternatives);
- b) the landing zone is clear of obstacles such as wires, trees, stumps, vehicles or loose debris. **Please communicate any obstacles within a 360 degree radius to the flight crew prior to landing.**
- c) the landing zone is on a stable surface such as concrete, asphalt, packed gravel or grass;
- d) the landing zone is as flat as possible
- e) you do not use flares or other objects to outline the landing zone
- f) stretchers are left in the ambulance and/or all loose articles are secured until directed by a member of the flight crew; and
- g) any hose lines that have been laid are charged.

NOTE: All fire department communications to ORNGE should be made via our communications services (Orillia Fire Dispatch) to the appropriate CACC.

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Securing the Landing Zone

4. When securing a landing zone, please:

- a) place a minimum of two vehicles, beyond each end of the designated landing zone, perpendicular to the intended landing zone to prevent access by other vehicles;
- b) hose down any dusty areas to prevent a zero visibility situation upon landing or departure;
- c) pack down fresh snow to prevent whiteout conditions or warn the flight crew of loose or powder snow conditions;
- d) ensure vehicles and personnel are clear from the landing zone (radius of 150') from a minimum of 3 minutes prior to the estimated time of arrival or a positive indication from the flight crew that it is safe to enter the landing zone;
- e) ensure vehicles and personnel are clear from the landing zone at any time after an indication, verbal or physical, from the flight crew that they are ready to start engines.

Landing Zone Coordinator

5. Normally a paramedic services person is selected as a Landing Zone Coordinator (LZC), but on occasion this task may fall to fire department personnel. The LZC should be someone who is not involved in scene operations or patient care.

6. The LZC is responsible for selecting, setting up, securing and maintaining an area for the helicopter, throughout the entire transport operation. The Pilot-in-Command has the final decision on whether or not to land, and is responsible for utilizing the selected landing zone or choosing a more appropriate, safe alternative.

Communications

7. When an air ambulance has been requested to attend an incident, it is important to provide an accurate description of the landing zone in relation to the scene location. All scene and landing zone location information should be relayed to the CACC so it can be communicated to the ORNGE Operations Control Centre and the flight crew. Helpful information includes:

- a) GPS coordinates (preferred method of identifying the site) and should be used with the methods below;
- b) highway numbers and distances to nearby towns;
- c) directional (compass readings) headings to the scene from the landmarks

Wind

8. All take-offs and landings will be made into the wind wherever possible. Wind direction should be considered when selecting a landing zone.

Hazardous Materials

9. Never assume the flight crew is aware of a HAZMAT danger. Always ensure the flight crew is notified as to the nature of any such dangers as soon as possible prior to landing. When hazardous materials are present, the landing zone should be located **UPWIND** of the

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incident and outside of the “hot zone”. Rotor downwash could spread hazardous materials over 100 metres. Please avoid choosing low lying areas for landing zones as vapours collect in low terrain.

Hazards

10. When the engine is turned on and the blades of the helicopter are in motion, please be aware that:

- a) the main rotor blade tips are almost invisible when spinning;
- b) the tail rotor blades are almost invisible when spinning;
- c) rotor downwash concerns include
 - o high winds (It is essential to examine the landing zone for any loose objects or debris, as this may be picked up by rotor downwash and ingested through an engine intake.)
 - o debris (common debris includes unsecured items such as pillows, blankets, tarps, loose clothing, sticks, plywood, paper and plastic bags.)
 - o wind speed/rotor downwash is capable of reaching speeds of up to 100 miles per hour. (personnel should take cover inside or behind vehicles while a helicopter is arriving or departing, vehicle doors, windows and access compartments should be closed, extreme caution should be exercised when a helicopter is operating in the vicinity.)

Night Landings

11. ORNGE helicopters will only respond to heliports, airports and company approved landing sites at night.

RESPONSIBILITY:

It is the responsibility of all staff to comply with the provisions of this Operating Guideline.

DEFINITIONS:

“CACC” means Central Ambulance Communications Centre.

REFERENCES:

- Section 21 Committee DRAFT Guidance Note – Air Ambulance Response
- MLFD OG 101 – Turnout Gear
- MLFD OG 903 – Vehicle Extrication Scene Safety

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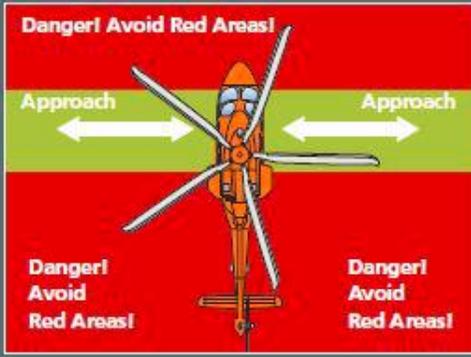


Appendix A



Helicopter Safety

APPROACHING OR LEAVING A HELICOPTER



Danger! Avoid Red Areas!

Approach ← → Approach

Danger! Avoid Red Areas!

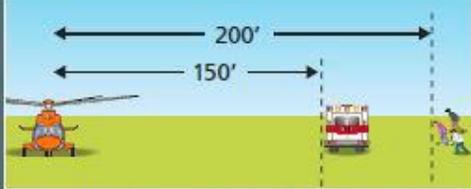
Danger! Avoid Red Areas!



DO NOT APPROACH THE HELICOPTER unless escorted by the pilot or crew members.



IF ON UNEVEN GROUND, approach or depart from the downhill side for maximum rotor clearance. **DO NOT RAISE ANYTHING ABOVE THE HEAD** and crouch while walking in the vicinity of the helicopter.



200'
150'

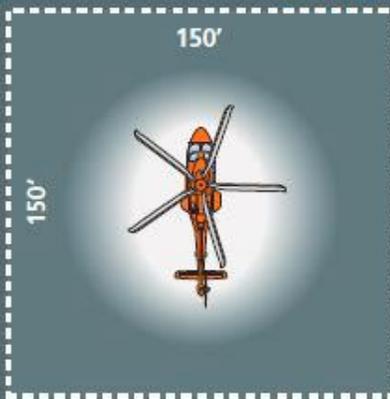
SPECTATORS must remain 200 feet clear of the helicopter. **EMERGENCY VEHICLES** must remain 150 feet away until instructed by the pilot or crew members. **NO VEHICLES OR PERSONNEL** are allowed within the landing zone during landing and take-off.



BEWARE OF ROTOR DOWNWASH

PROTECT EYES with safety goggles or turn head when helicopter is landing and departing.

LANDING ZONE - 150 ft. x 150 ft.



150'
150'

- The helicopter's pilot-in-command is responsible for selecting the landing zone and has the final decision on whether or not to land.
- Surface should be flat as possible.
- No loose debris should be within the landing zone.
- Vehicle doors, windows and access compartments should be closed.
- Stretchers should be left in the ambulance and all loose articles secured until directed by pilot or crew members.
- Do not use flares or other objects to outline the landing zone.
- Fire fighters should not lay out hose, any hoses that have been laid must be charged.



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This information is applicable to Ornge helicopters only.