

SAR Use Of Helicopters

“Basic Course”



Clark County Sheriff Core Comp Rev. # 2018.1
Basic Helicopter



Objectives:

- Use of Helicopters in Search and Rescue
- General Aviation and Helicopter Safety
- Passenger Procedures and Safety Requirements
- Landing Zone Layout and Safety
- Helicopter Crash Procedures
- Fundamental Helicopter Characteristics

Core Comp Requirement

Requirement	Classroom - Performance Criteria
Through written evaluation the applicant will demonstrate knowledge of the helicopter safety involved in Search and Rescue in the State of Washington.	<ol style="list-style-type: none"><li data-bbox="594 634 1692 683">1. Define the basic requirements for a LZ or heliport.<li data-bbox="594 829 1822 878">2. Define five (5) basic general helicopter safety elements.<li data-bbox="594 1024 1703 1138">3. When and how to properly approach and depart a helicopter.



Use Of Helicopters In SAR

The type of the mission and ships involved will play a factor in how and when helicopters are used.

Helicopters three primary functions on search and rescue missions include:

- Air Search
- Transportation of Teams
- Evacuation of Subjects

Helicopter Terminology

⇒ **Landing Zone (LZ)**

⇒ **Helibase**

⇒ **Helispot**

⇒ **Pick-Up Zone (PZ)**

⇒ **Landing Pad**

⇒ **Heli. Operations**

⇒ **Training Event**

⇒ **Helirescue**

⇒ **Static Helicopter**

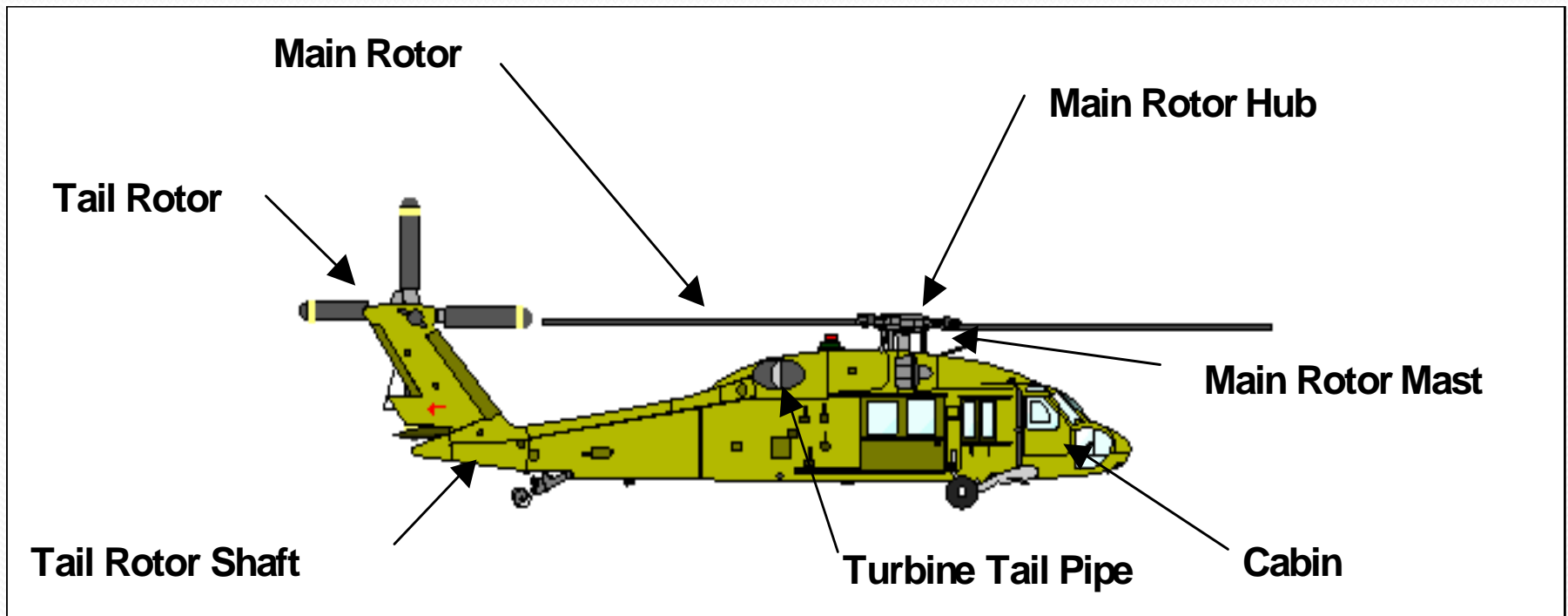
⇒ **Working Helicopter**



Helicopter Personnel

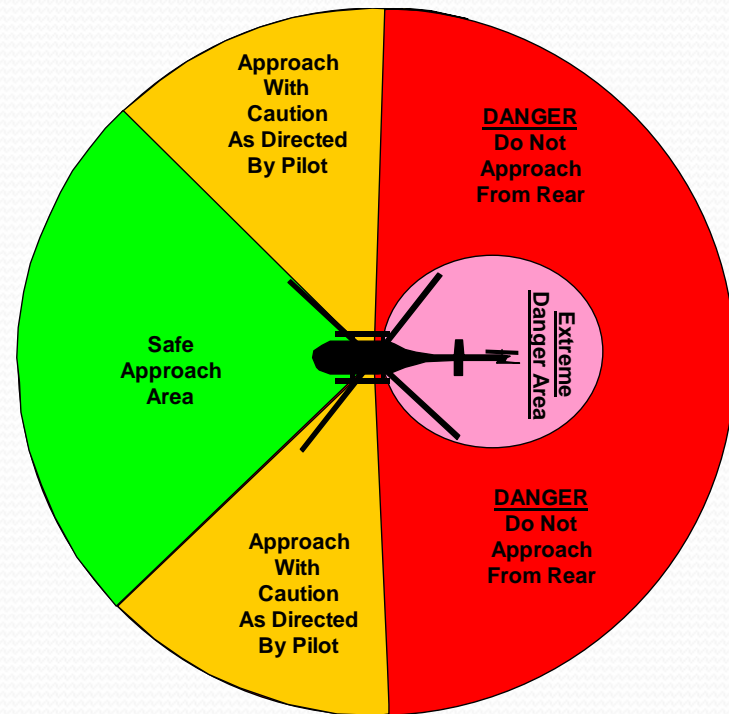
- **Pilot**: is the person who flies and is in charge of all activities on the aircraft.
- **Copilot**: generally assists with identification of hazards, navigation, monitoring of instruments, and crew management.
- **Crew Chief**: is in charge of any flight crewmembers or rescue personnel that perform duties relating to the maintenance and operation of the helicopter on a mission.
- **Observer**: the observer usually helps with identification of hazards and may serve as a searcher, leaving the pilot free to concentrate on flying the aircraft.

Important Parts of a Helicopter



General Helicopter Safety

- Stay at least 100 feet away from helicopter when rotors are in motion.
- Always approach & depart the helicopter from the front where the pilot can see you.
- Note: Follow helicopter crew instructions for boarding any helicopter.





General Helicopter Safety

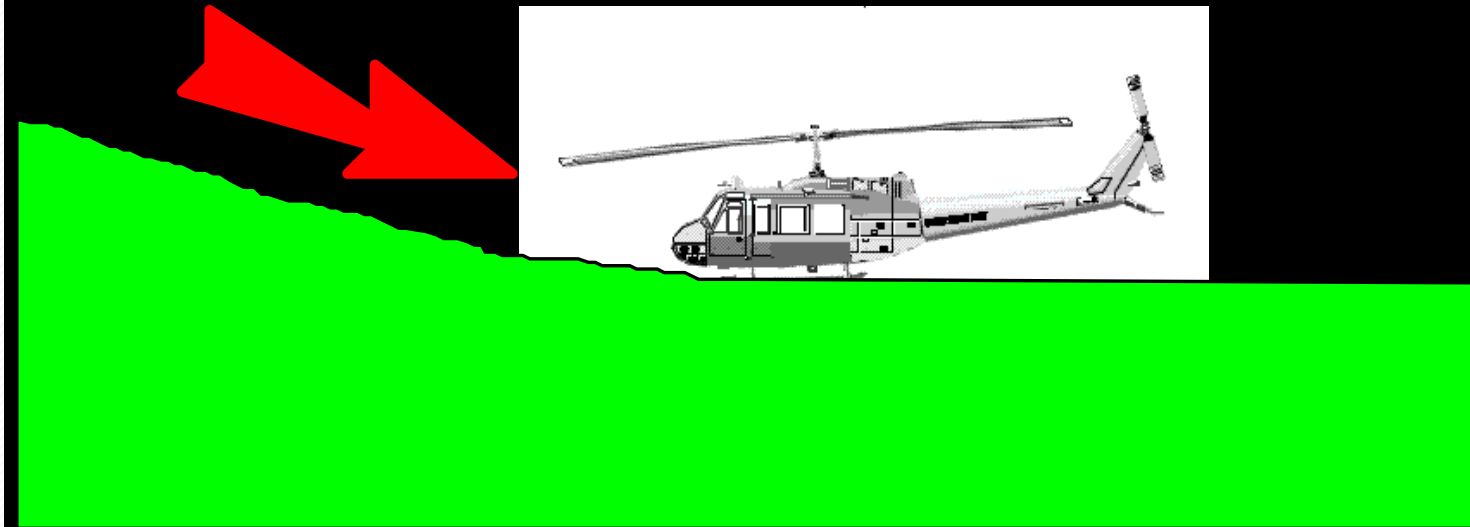
- Keep all items in the helicopter zone secured.
- Keep your head down at all times when approaching or departing the aircraft.
- Never approach or leave a helicopter from any side where the ground is higher than where the helicopter is standing.

General Helicopter Safety

Avoid Approaching From The Uphill Side

DANGER

**Low Blade Clearance Due To
Hill In Front Of Ship**



General Helicopter Safety

- Load and unload under the crew chief's supervision.
 - (Most of the larger ships will have a crew chief)
- Do not approach the ship without the pilot or crew chief's permission.
- Do not exit until the pilot or crew chief says it is okay.

General Helicopter Safety

- Never stand under a helicopter or in its takeoff zone.
- Safety equipment while in the vicinity of a working helicopter includes:
 - Hardhat/helmet with chin strap
 - Eye Protection (goggles or safety glasses with side-shields)
 - Hearing protection
 - Gloves and boots
 - Full length long sleeve shirt and pants
 - Bright clothing for visibility

General Helicopter Safety

- Secure all items that will be carried aboard a helicopter. Assure that you are low as you approach.





Passenger Procedures & Safety

Loading Procedures

- The team leader is in charge of making the initial contact with the helicopter crew.
- Team leader asks permission to approach the helicopter using a thumbs-up signal.
- Once approved by pilot, the team leader should approach from downhill, front side of the helicopter.
- When the helicopter pilot is ready to receive the rest of the team, the team leader will signal the rest of the crew.



Passenger Procedures & Safety

Loading Procedures

- Each team member should approach the helicopter in the same direction as the team leader.
- Follow pilot's instructions relating to stowing equipment and seating. Be sure seat belt is properly buckled.



Passenger Procedures & Safety

Unloading Procedures:

- Remain in the helicopter until the pilot or crew member instructs the team to unload.
- Step from the helicopter, take your pack in your arms, and depart in a forward, downhill direction. Keep your head down and gear secure.
- The team leader should be the last to leave making sure that all team members and equipment have been off-loaded.



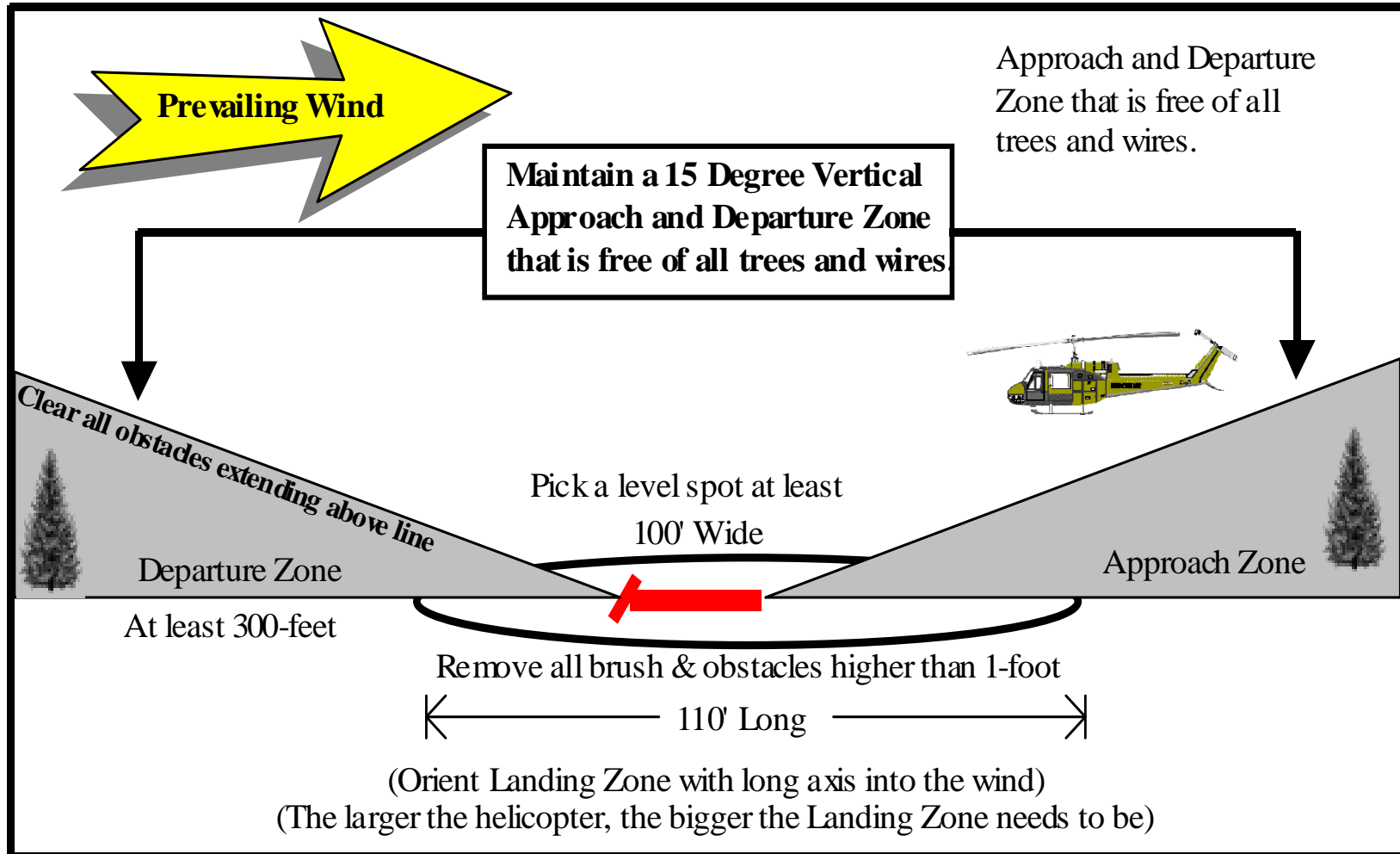
Passenger Procedures & Safety Subject Evacuation Procedures

- Inform the subject that they are going to be evacuated by helicopter and that they will be attended to by medical staff.
- Brief the crew chief or medic (or give them assessment notes) including the subject's name, medical history, and the type of treatment given.

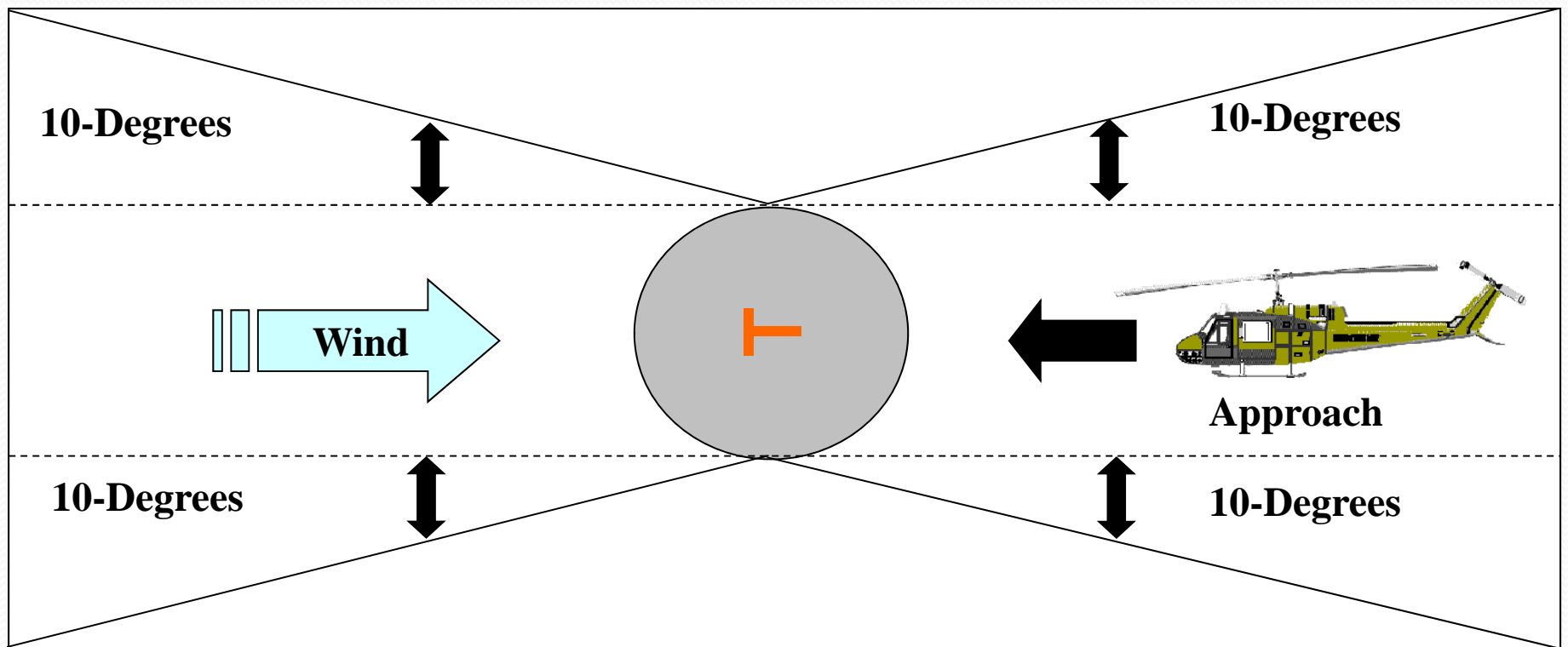
Ordering a Helicopter for Evac.

- Go through proper ICS channels. If helicopter evacuation is warranted, provide the following information:
 - Good location and description of the landing zone with a decimal minutes Lat/Long (ddd° mm.mmm) and the datum being used.
 - Number of and condition of subject(s).
 - Special medical equipment needed.
 - Order a cable hoist if it is needed.

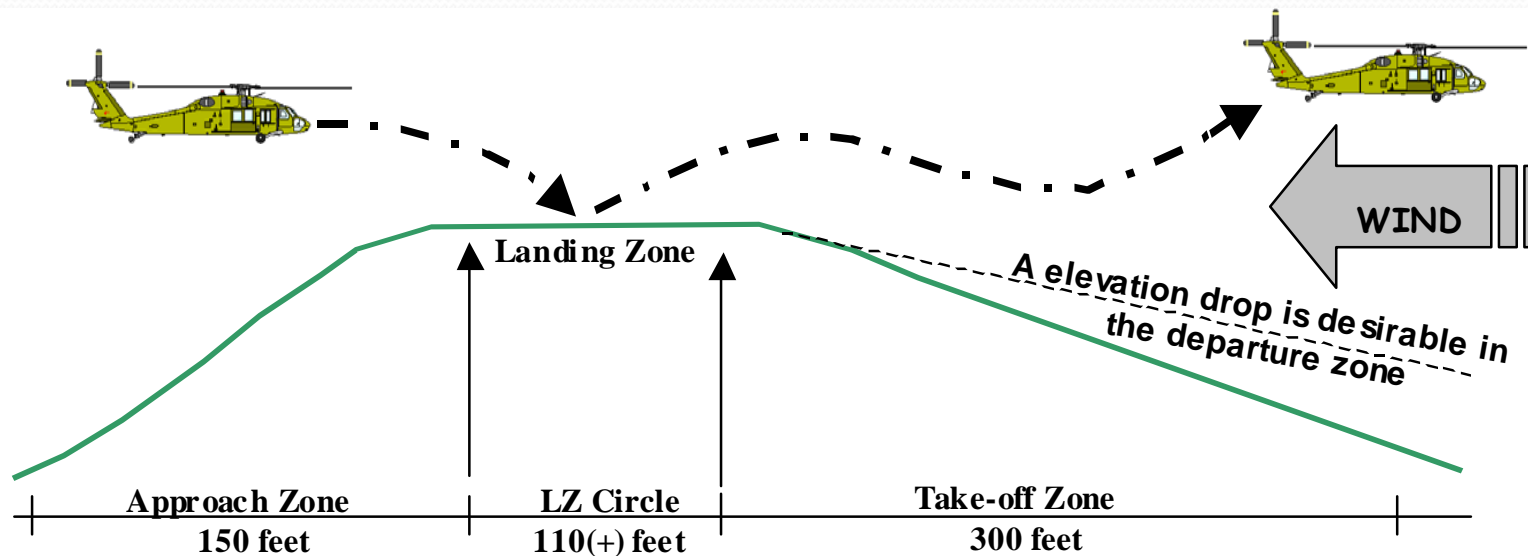
Landing Zone Layout and Safety



More LZ Layout and Safety

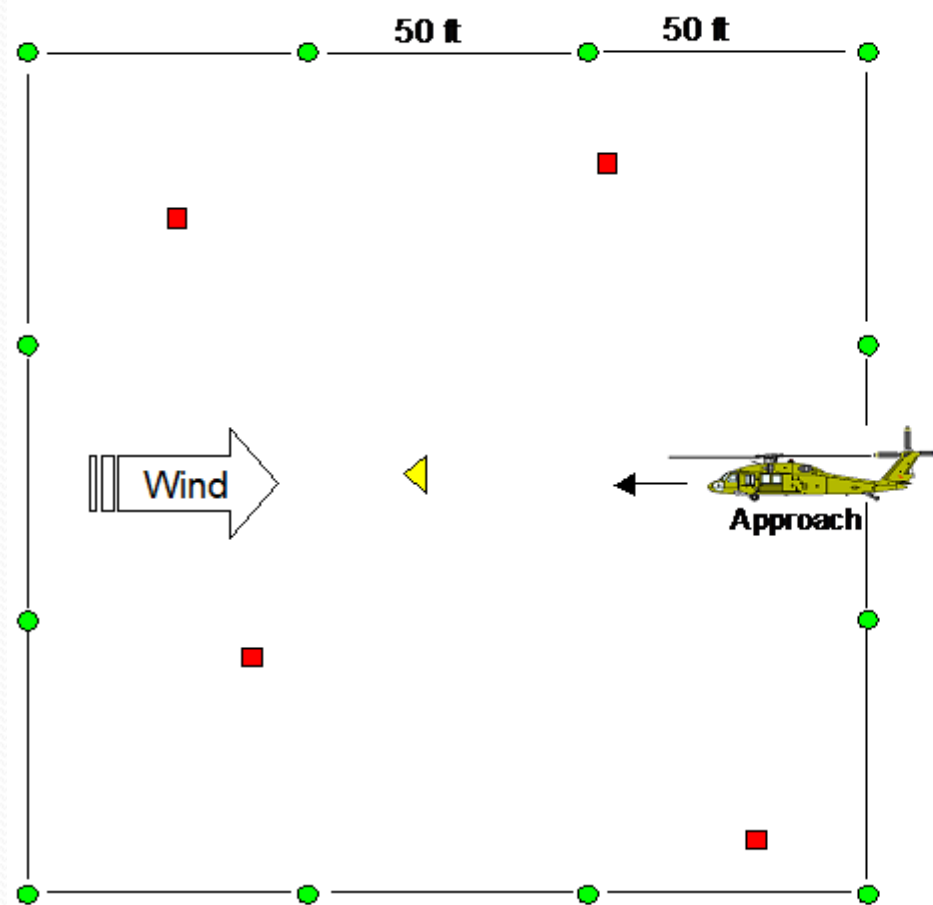


More LZ Layout and Safety



- **Rounded ridges and hill tops make good LZs.**
- **Choose a spot with a drop-off for takeoffs.**
- **Wide flat valleys are also good locations.**
- **All helicopters do not require the same size of a landing zone**
- **Straight vertical take offs are not considered to be ok when laying out a landing zone**

Considerations for Night Landings: Chem-Lights Only



◀ Yellow Chem-lights mark the skid box

■ Mark hazards within the landing zone with red Chem-lights.

● Mark the outer edge of the landing zone with green Chem-lights.

All Chem-lights should be firmly staked to the ground with spikes.

The team leader or contact person on the ground should wear a Chem-light so it is easier for the helicopter crew to know who to contact.

The team leader requests permission to approach a helicopter (a thumbs up signal for military aircraft) Once the team leader receives a returned signal from the pilot, he or she can approach the ship. The team leader will signal the rest of the crew when the pilot says it is okay for them to approach.



On-Board Passenger Protocol

- Receive and pay attention to crew safety briefing.
- Keep PPE in place while on board.
- Stow equipment as directed by crew chief or pilot.
- Follow loading and seating instructions and wear safety belt.
 - Ask for assistance if you have trouble fastening seat belt.
 - Use headphone and helmet if one is provided.
- Stay in seat and buckled in until directed to disembark by crew.

Helicopter Crash Procedures

- Keep safety belt tight at all times.
- Keep hardhat on and chin strap fastened.
- Remain seated with the seat belt on until the rotors stop.
- Do not leave the aircraft until instructed to do so by the pilot unless there is a fire.
- Remain well clear of the aircraft after exiting.



Other Information

- The basic course is generally meant for general background for working around a helicopter.
- It is important to note that if you do not have a purpose for interacting with a helicopter, stay away from it.



Questions??