

# HELICOPTER WATER RESCUE AWARENESS





# Objectives

- Identify the various agencies and types of rescue systems used
- Understand the CAL FIRE Air Rescue Program
- Recognize communication procedures for working with helicopters
- Identify the hazards associated when working with helicopters

# Types of Rescue Systems

- Static Short Haul ~  
CHP, Sheriff, Other Local  
Agencies
  - Rescuer is outside the  
aircraft, on the ground,  
connected to a long line  
attached to the belly of the  
helicopter. The helicopter  
lifts until the rope is taught  
and the rescuer is lifted  
and flying at a safe altitude  
to the target.





# Types of Rescue Systems (cont.)

- Dynamic Short Haul ~ CAL FIRE, Other Local Agencies
  - Rescuer starts inside the aircraft. Aircraft flies to the target and the rescuer is lowered from the aircraft to the victim.





# Types of Rescue Systems (cont.)

- Hoist ~ CAL FIRE (C301), CHP, USCG, Sheriff, Other Local Agencies
  - Aircraft arrives over target and uses a hoist system, consisting of a cable/winch attachment to the aircraft, to raise and lower victim/rescuer.





# CAL FIRE Air Rescue Program

- Program implemented in 1998 to rescue our own personnel
- The rescue program consists of dynamic deployment of a rescuer over land or water
  - Rescuer is lowered out of the aircraft.
    - Land Based ~ Cliffs/Trees/Canyons/Etc.
    - Water Based ~ Static Water/Swift Water/Ocean/Surf



# Rescuer and Victim



Example of a Dynamic Short Haul.

Rescuer is lowered out of the aircraft to the victim.



# Heli-casting



Heli-Casting inserts a “swimmer” into the water to capture a victim and ready them for rescue.





# How can you help?

- Know the risks and dangers associated when working with a helicopter
- Know basic helicopter safety
- Maintain situational awareness
- Maintain landing zone/helispot security

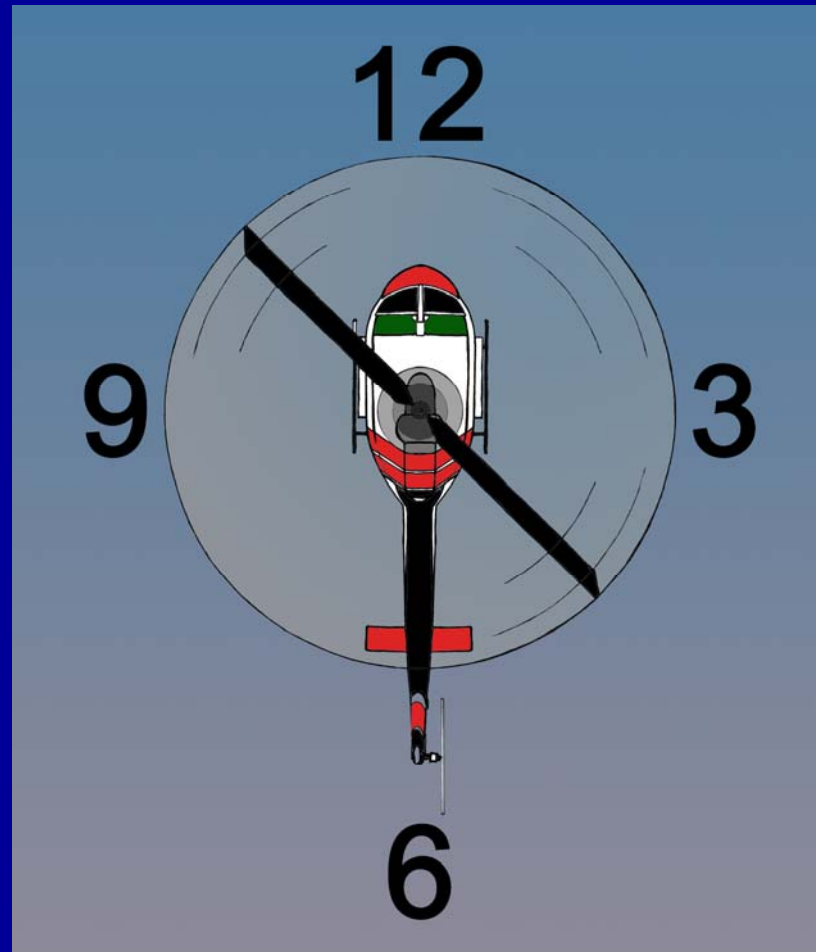


# Communications

- Calcord ~ common tactical communications
- Command and tactical frequencies will be assigned and used
- Clock System Orientation
  - This orientation is based on the idea that you are placing a clock system around the helicopter as you look down on it from above. Right side is 3 O'clock, left side is 9 O'clock



# Clock System



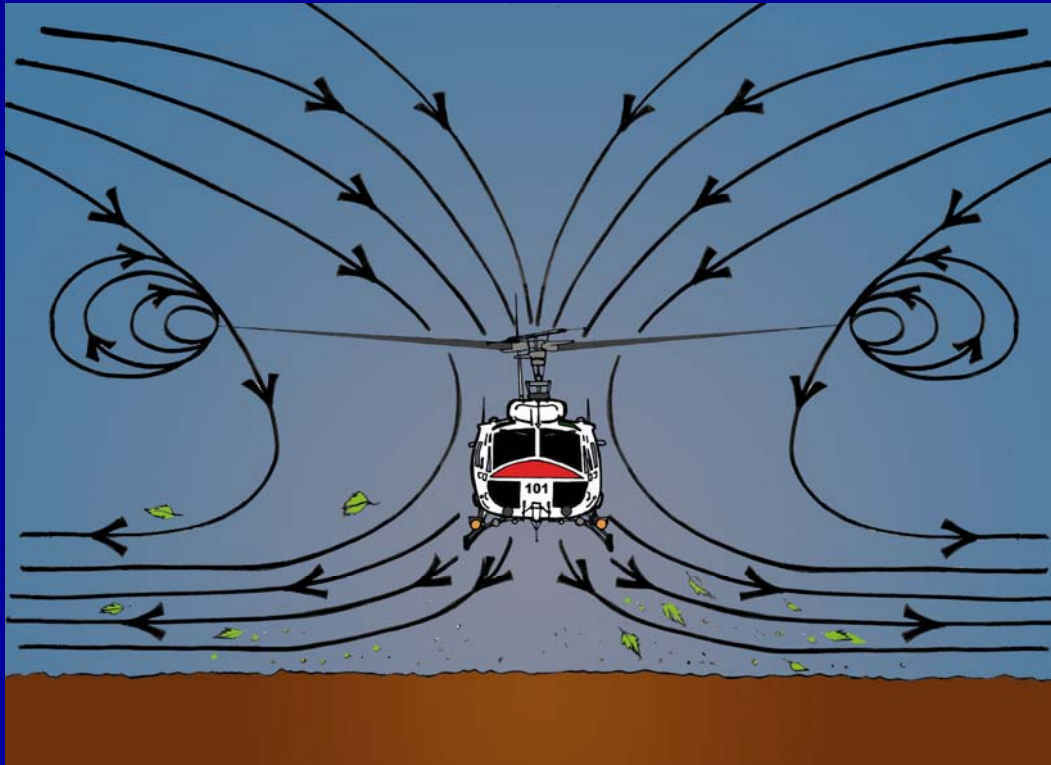


# Landing Zone (LZ)/Helispot Considerations

- Communication ~ Establish positive contact
- Wind Speed and Direction
- Hazards ~ Power lines, cables and other aircraft
- FOD ~ Foreign (flying) Object Debris
- 110' minimum diameter circle
- Clear of personnel ~ Control the public!



# Rotor Wash



FOD will be a problem due to cyclical air movement



# Hazards

- Do not approach a helicopter unless
  - The pilot signals you
  - A helicopter crew member escorts you in
- Never approach a helicopter while you're walking downhill towards it
  - Approaching a helicopter from uphill can kill you
- Do not approach from the rear
- Noisy/Dusty/Downdrafts
  - Use eye, ear, hand and head protection
- All passengers shall receive a pre-flight safety briefing



# Slope



**Do Not Approach from Uphill!**



# Summary

- Helicopters are a great tool for rescuing victims
- There are inherent hazards in working with helicopters
- Minimize the risk factors/hazards
- Know your role
- Maintain a high level of Situational Awareness
- Know your local resource capabilities
- Helicopters are the highest risk option for rescue but sometimes the best option
- **Use caution – maintain control of the resources**