

TheStar Landing Zone Preparation

Selecting a landing zone (LZ)

First, determine if the area is large enough to land a helicopter safely. The landing surface should be flat, firm and free of debris that would blow up into the rotor system. Loose articles such as trash or construction materials must be secured or removed from the touchdown area prior to the arrival of the aircraft.

Touchdown area: The touchdown area should be a 60 ft. X 60 ft. area during the day and 100 ft. X 100 ft. at night and in windy conditions. There should also be a non-emergency personnel clearance of 200 ft. from the edge of the landing zone.

The landing site should be clear of vehicles and obstructions such as trees, poles, and wires. Keep in mind that wires are extremely difficult to see from the air. The landing site must be free of stumps, brush, posts, and large rocks.

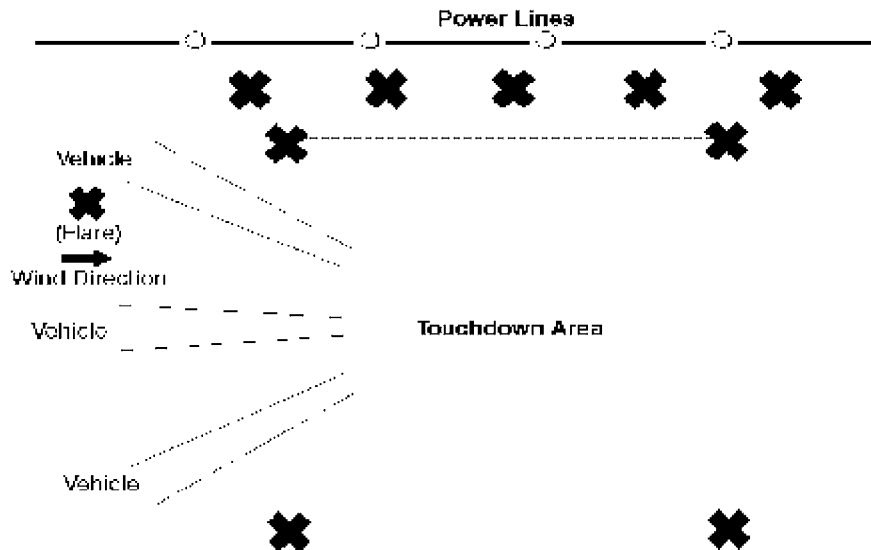
It is preferable, but not mandatory, that the landing zone be set-up on a flat surface such as a paved roadway or parking area free of overhead obstructions. We are not able to land on a slope of >6 degrees.

Landing areas **should not** be marked with material that would blow away in the rotor wash. Material such as police/fire barrier tape or paper products is not acceptable.

Wind Direction and Touchdown Area

Consider the wind direction, when possible. Helicopters land and take off into the wind. In certain cases, a 90 degree cross wind is acceptable. At least one approach and departure path, free of obstructions (wires, poles, antennas, trees), must be available. If there are any obstructions, please tell the helicopter crew on initial radio contact. Obstructions at the edge of LZs in line with Approach/Departure paths should be no higher than 4 feet.

Mark the touchdown area with five lights or road flares (one in each corner and one indicating wind direction). If flares are not available, one vehicle on the upwind side with two vehicles positioned at 45 degree to the landing area on the upwind side can be used to illuminate the landing area with the headlights on **LOW BEAM**. Obstructions, such as power lines adjacent to LZs should be marked with a row of flares 20 feet apart, extending the length of the landing area and placed between the landing area and the obstacle, closest to the obstacle.



Landing Zone Preparation

Personnel Safety and Night Landing

Keep spectators at least 200 feet from the touchdown area. Keep emergency personnel at least 100 feet away. Have fire equipment (if available) standing by. Assure that everyone who will be working near the helicopter wears eye protection. If helmets are worn, chin straps must be securely fastened (no loose hats blowing up through the rotors). Have firefighters wet down the touchdown area if it is extremely dusty. When the helicopter has landed, do not allow anyone to approach the aircraft. The pilot will have radio communication with the ground personnel securing the LZ.

At night, assure that spotlights, floodlights and handlights used to define the area are not pointed toward the helicopter. Turn off non-essential lights. White lights, such as spotlights, flash bulbs, and hi-beam headlights disrupt the pilot's night vision and temporarily blind him. Red lights, however are very helpful in finding accident locations and do not affect the pilot's night vision.

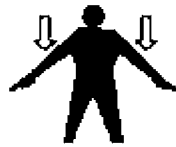
Ground Guide

When you see the helicopter, one person should help guide the aircraft to a safe landing. That person must wear eye protection. He should stand with his **back to the wind** and with his arms raised over his head to indicate the landing direction. As the helicopter turns into the wind and begins a descent, the ground guide should begin directing the approach using hand signals. The ground guide should be far enough from the touchdown area that he can maintain eye to eye contact with the pilot. Make certain hand signals are deliberate, using both arms. This will enable the pilot to see the movements from the air.

Approved Hand Signals



LZ Unsafe



Go Down



Go Up



Night Operation



Move Right



Move Left



Move Back



Move Forward

Make certain movements are deliberate
and exaggerated!

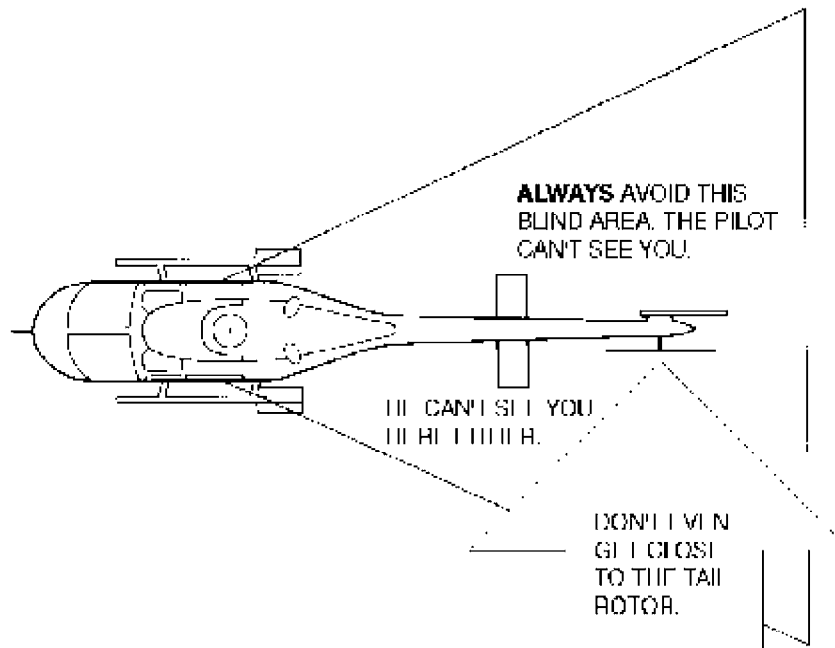
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Assisting the Crew

Once the helicopter has landed, **do not** approach. The crew will approach you when it is safe to do so.

Please be prepared to assist the crew by providing security for the helicopter. If asked to provide security, do not allow **anyone but the crew** to approach the helicopter.

Once the patient is packaged and ready to load, allow the crew to select two or three personnel to assist loading. When approaching or departing the helicopter always do so via the front of the aircraft, remaining in the pilots view at all times. Always be aware of the **tail rotor** and follow the crew's directions for your safety.



After ThedaStar Leaves the Scene

Once ThedaStar has lifted off from the scene ground personnel should maintain the landing zone until the helicopter is out of sight. This will help to insure that we have a safe landing area if for any reason we would need to return to the scene, make an emergency landing immediately after takeoff, or experience trouble with our lift-off procedure.

Hazardous Material LZ's

Helicopter landing zones must be selected to avoid all possibility of compromising the safety of the helicopter and its crew.

When explosives, poisonous gases/vapors, or chemicals in danger of exploding and burning are on site, helicopter landing zones must be prepared **upwind**, at least **one mile** from the hazardous materials accident site and never in low-lying areas. The toxic gases or vapors may be heavier than air and gather in these low-lying areas.

For hazardous material accidents involving radioactive materials, the helicopter landing zone must be prepared **upwind**, at least **one quarter mile** from the accident, unless there are **radioactive gases** (steam or smoke), and in that case, the landing zone must be at least **one mile** upwind of the accident site.

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A Final Note

ThedaStar can only serve you if we arrive safely. Our safety and the safety of the people on the ground depends on you, the professionals on the scene.

For more detailed information, or for a Landing Zone Preparation pamphlet contact ThedaStar Air Medical at (920)729-2114 or e-mail us at thedastar@thedacare.org