

COX

AIR CARE

1-800-333-LCOX

or (5269)

1-417-269-3773

**SAFETY
INFORMATION**

CoxHealth

COX

AIR CARE

HELICOPTER SAFETY MANUAL

**Call 1-800-333-LCOX or 1-800-333-5269
417/269-3773**

Request for helicopter transport of a patient may be made by family, lay persons, EMS providers, law officers, physicians or hospitals.

COX AIR CARE can be put on stand-by status if you think the need for air transport will be needed, just call our 1-800 emergency number.

A patient follow-up will be done immediately following the flight as time permits.

It is COX AIR CARE's policy not to transport people who are violent or potentially violent or those requiring security attendants including prisoners and patients with overt personality disorders.

As always, ground transportation will be offered for these patients.

When To Use COX AIR CARE Helicopter

The following are general guidelines that may assist you when considering helicopter transport for trauma patients as recommended by the American College of Emergency Physicians.

- MVA with structural intrusion into victim's space
- MVA with prolonged extrication time
- Any vehicle/pedestrian accident
- MVA with patient ejected from vehicle
- Advanced Life Support required during transport
- Smooth, rapid transport required
- MVA with associated fatalities
- Falls > 15 feet
- Trauma Score < 12
- Glasgow Coma Score < 10

In addition to the above recommendations, the COX AIR CARE crew advises consideration for helicopter transport for the following types of patients:

- Acute cardiac/respiratory emergency
- High-risk obstetrical patients
- Pediatric emergencies
- Neonatal emergencies
- Burns
- Environmental emergencies
- Partial/complete amputations
- Vascular emergencies

Helicopter Operations: Authority and Responsibility

In accordance with both Federal Aviation Regulations and COX AIR CARE Operations Policy, the Pilot in Command holds final authority and responsibility for decisions or actions which will affect safety of flight. These include final selection and acceptance of the landing zone, continuing or canceling any mission due to weather, all loading and unloading of equipment, patients, medical supplies or anything directly related to the safe operations of the helicopter.

In the Aero-Medical Environment: Safety Must Be Our First Concern

The care, comfort and safety of the patient is of primary concern. The safety of any mission depends upon the conscious and cooperative efforts of numerous people, especially those we work with in the field during an emergency situation.

Bringing a helicopter into the environment of an emergency situation also brings the potential for danger to persons unfamiliar with the aircraft and its operation. This booklet provides the necessary information to help you function effectively and efficiently with the COX AIR CARE team.

The following pages of this booklet will cover some of the general guidelines to follow when working with the COX AIR CARE aircraft at a scene or at a hospital location.

The Helipad

The helipad is an area intended for the purpose of landing or taking off in the helicopter. This can be a parking lot, highway, open field, rooftop structure, etc. It is also called a landing zone, LZ, landing site or helistop. In selecting a helipad or landing site for COX AIR CARE, consider the following:

- 1) **AREA**—Should be at least 60 feet by 60 feet during the daylight hours, free of wires, trees, buildings and other vertical obstructions. Night area—Should be at least 100 feet by 100 feet with the same considerations.
- 2) **GROUND SURFACES**—Should be firm, smooth (no tall shrubs, brush, grass, weeds, etc., higher than 18 inches), and have a slope no greater than 5 degrees. (SEE FIG-1) Although some portions of the landing site may have a steeper gradient, the touchdown point cannot exceed this limit.
- 3) **ROTORWASH**—The main rotor downwash of the BO-105 helicopter can generate horizontal winds as high as 35 mph at the landing site. Flying dirt, dust and gravel can become a hazard during landing and take-off. If possible, the area should be wet down just prior to the arrival

4) NIGHT LANDINGS—Some special considerations need to be followed at night. The landing area should be designated with some sort of lighting device. This can be done with several different types of devices. Chemical light sticks are a good safe item to use, the cost is low and the safety of not having a fire hazard from using a flare is indispensable. Flashing battery lights are another good item. If these are not available, headlights from the rescue cars will work if pointed at the landing site. (See Fig. 5)

NOTE:

Ground personnel on the landing site should wear goggles or a face visor to protect their eyes from blowing debris. If these are not available, they should turn their backs to the helicopter until the rotorwash diminishes. Ground guides are not required to land COX AIR CARE. It is our policy to have radio contact with someone at the landing site before we land. If it is the policy of the requesting agency, a ground guide may be used.

Operational Safety Procedures

When COX AIR CARE becomes involved in an emergency situation, whether in a hospital-to-hospital transfer or at the scene of an accident, there are four separate phases of our operation which require special attention from a safety viewpoint.

- 1) PRE-ARRIVAL
- 2) LANDING — SHUTDOWN
- 3) PRE-DEPARTURE
- 4) ENGINE START — TAKEOFF

Pre-Arrival

Prior to the arrival of the helicopter, certain objectives must be accomplished. Having selected the landing site and prepared it as necessary, consider:

- 1) Radio contact—Has the helicopter service been given a radio frequency to contact the ground units on the scene or at the requesting agency?
- 2) Patient(s)—If at the scene of an accident, the patient(s) should be protected from the rotorwash during landing. Emergency vehicles make a good wind break if parked between the helicopter and the patient(s).
NOTE: The primary care attendant at the scene should counsel the patient(s) with regard to being flown by helicopter. Calm their apprehensions. A hysterical, combative patient is a safety hazard in flight.
- 3) Equipment—Secure loose gear, medic cases, open doors, coats, helmets, hats, etc., to prevent articles from being blown away or blown into the rotor system of the aircraft.
- 4) Crowd control—No one should be permitted closer than 100 feet to the landing site during flight operations. A landing site manager should be designated and used to insure the landing site is secured at all times during the emergency situation.
- 5) Night lighting—Do not allow spotlights or vehicle headlights to shine directly at the helicopter during its final approach and landing. The resulting glare can temporarily blind the pilot, destroying night vision. If vehicle lights are used to mark the landing site, turn them off before the aircraft is on short final approach.

NOTE: In view of possible press coverage, no flash photography, flood lights or other artificial lighting is to be permitted while filming the helicopter during the landing.

Landing — Shutdown

As a normal operating procedure, once on the ground, the engine is shut down and the rotor system is stopped with the rotor brake. This eliminates the greatest hazard around any helicopter, the rotating blades of the main and tail rotor. In some cases the patient(s) will be loaded with the aircraft running (HOT LOADING OR UNLOADING). In such a case, extreme caution should be used and all directions taken from the pilot or flight crew.

The following rules should be strictly adhered to by all concerned:

Approaching the helicopter—

No one is allowed on the helipad when the blades are in motion unless directed by the pilot.

Never, at any time or for any reason, is anyone permitted rearward of the horizontal stabilizer on the tail boom of the aircraft. (SEE FIG-2) “REMAIN CLEAR OF THE TAIL ROTOR SYSTEM”

Always approach the helicopter from the front, well within the pilot's field of vision, and only when eye to eye contact with the pilot is made.

Gurneys should not have mattress pads, IV poles, sheets, blankets, or other loose articles on them when brought near the helicopter to load or unload a patient. Ball caps should be removed prior to approaching the helicopter.

Sloping terrain—Always approach and depart the helicopter from the downhill side of a slope.

Helipad activity:

No vehicles (police cars, fire trucks, rescue units, ambulances, etc.) are to be driven on the helipad or within 30 feet of the blade diameter of the helicopter.

Due to the presence of oxygen aboard the helicopter and the possibility of flammable liquids in the vicinity of an accident scene, there will be no smoking within 50 feet of the aircraft.

While on the helipad, never run or chase after an item that has dropped from the aircraft or your hand. No running or horseplay within 50 feet.

Never lift any object higher than your head; a rotor strike is a very expensive accident.

To prevent unwanted interference and to provide helipad security, no one other than emergency rescue personnel are allowed within 100 feet of the aircraft. Emergency crew should not be within 20 feet while the blades

are in motion unless directed by the pilot or flight crew.

The flight crew will close all doors on the helicopter and will get any equipment out of the helicopter as needed. Please do not touch any moving components or the Plexiglas canopy on the aircraft. THANK YOU!

Pre-Departure

Certain objectives must be met in order to assure patient safety, helicopter safety, and to minimize any hazards to those in the vicinity of the landing zone during the takeoff.

Readying the Patient

The flight nurse will counsel the patient with regards to being flown in the helicopter.

All patients will be restrained to their stretchers by the safety belts provided. In addition, the following types of patients will be restrained with leg and arm or chest restraints:

- All patients with known seizure disorders, intoxicated patients, those under the influence of psychotropic agents, overdose patients, or any patient who, in the opinion of the pilot or flight crew, might represent a danger to the aircraft, the crew or to himself/herself.
- The pilot and the flight crew will supervise both the loading and unloading of the patient.
- The landing site manager should insure the tail of the aircraft is clear and the landing site as a whole is clear for the aircraft to depart the area. All bystanders are to be kept clear of the landing area.

NOTE: Cardiac defibrillation aboard the helicopter is a safe procedure, the only requirement being to remain clear of both the patient and the stretcher.

Engine Start — Takeoff

Once the patient is loaded and the engine is started, it is important to keep the landing zone clear of bystanders and other personnel.

From the time the engine is started it takes about 90 seconds to run up and lift off. The noise and blowing dust can cause extreme hazards, cover your

eyes and protect your hearing from the noise.

No one is allowed within 100 feet of the helicopter during the departure of the helicopter.

If at night, no spotlights or vehicle headlights are to be aimed at the aircraft during the departure. Again, if a spotlight is to be used, shine it on the obstructions overhead and out of the departure path of the helicopter.

Without the help and assistance of the people in the field, there is no medical transport program that can function effectively and in a safe productive environment. We at COX AIR CARE want to keep all of the transports safe and all of you safe. With your help, we believe that we can do just that. If you have any questions that we can answer, don't hesitate to call us at 417/269-4040.

Thank you
COX AIR CARE

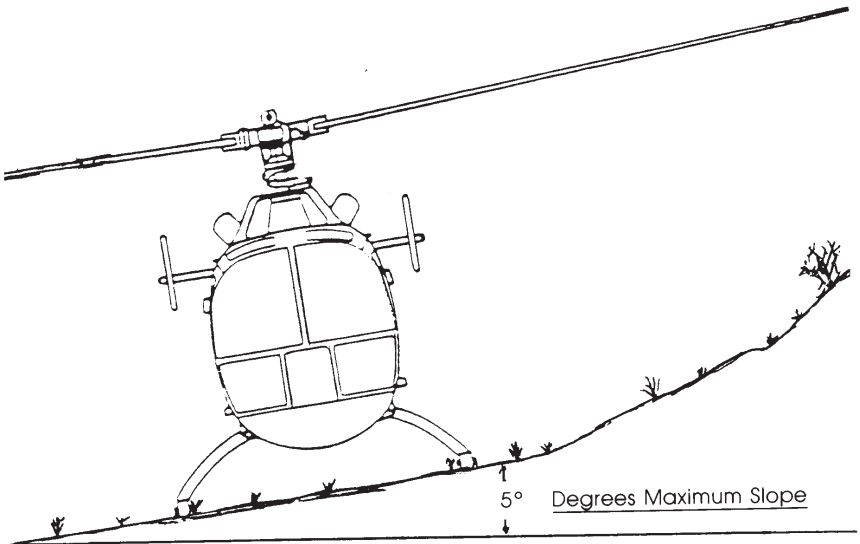


FIG -1

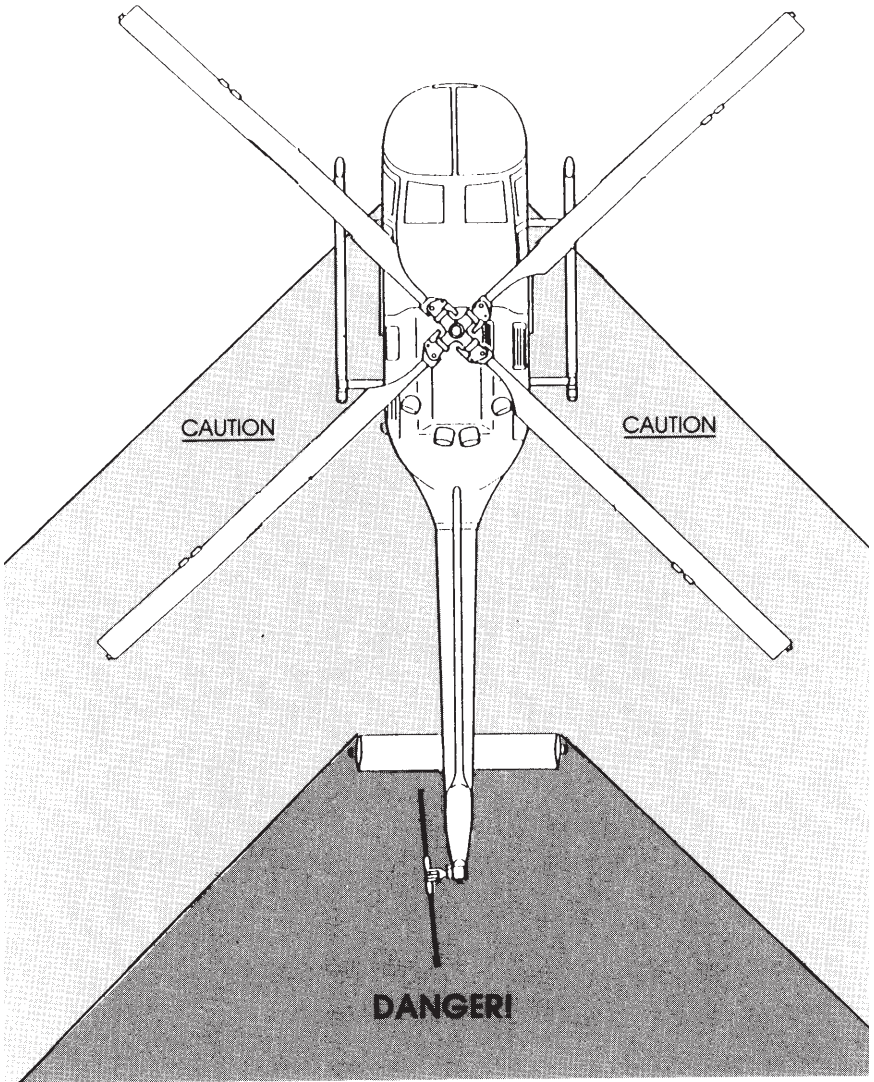
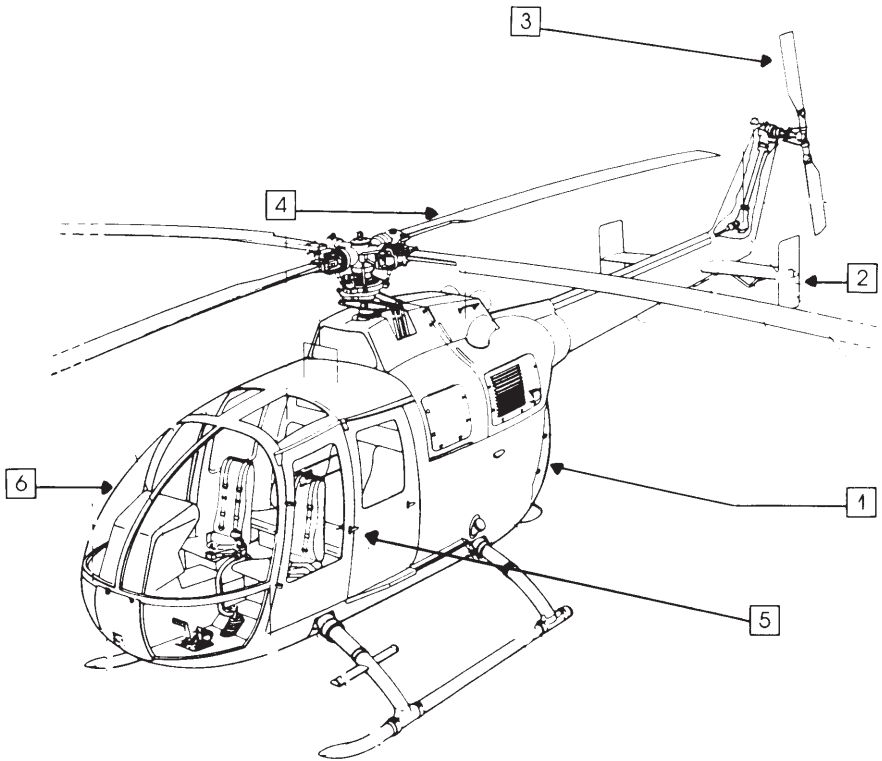


FIG -2



1 Rear Doors

1 Patient Loading

2 Horizontal Stabilizer

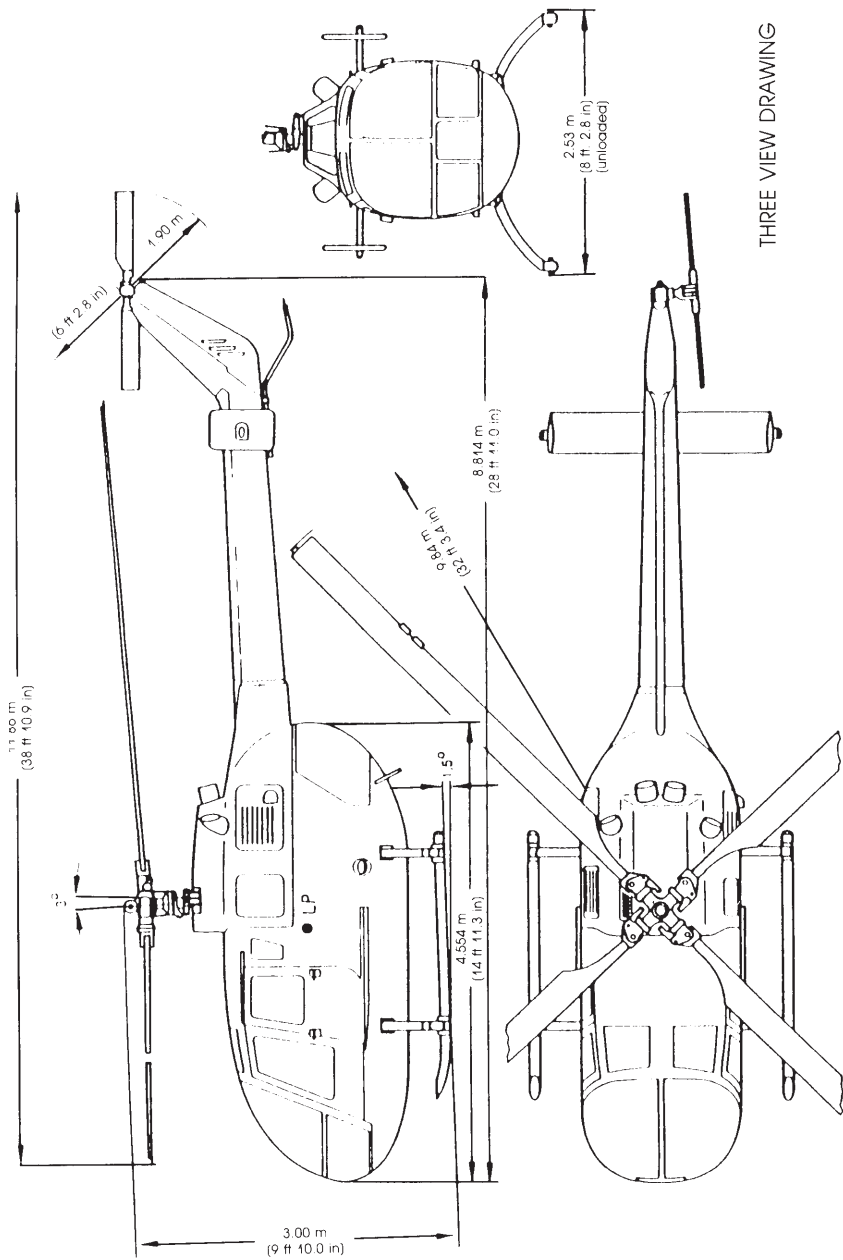
3 Tail Rotor Blade

4 Main Rotor Blade

5 Crew Doors

6 Plexiglas Canopy

FIG -3

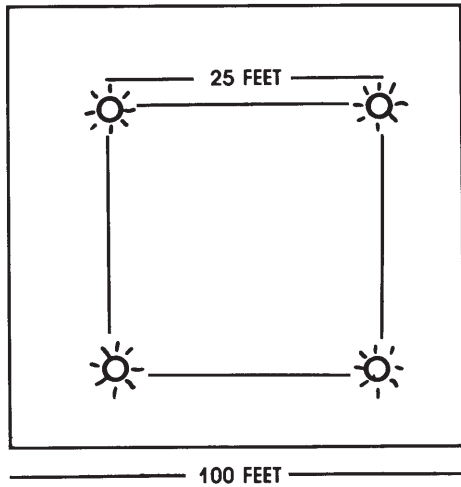


THREE VIEW DRAWING

FIG -4

EX. A

An area of 100 feet by 100 feet with landing zone marked with lights on all four corners.



EX. B

Automobiles parked with lights aimed at landing zone. Turn lights off on final approach!

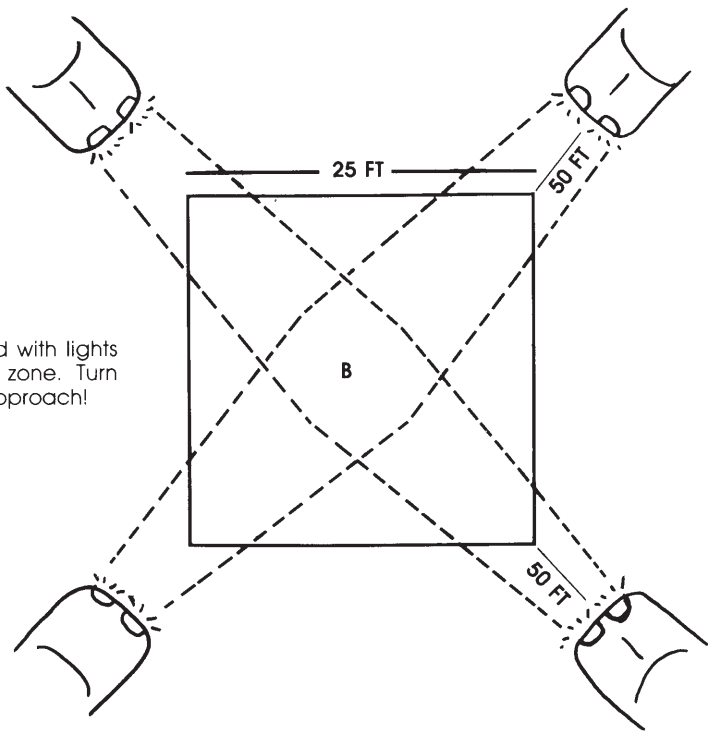


FIG -5
NIGHT LANDING ZONE MARKING

