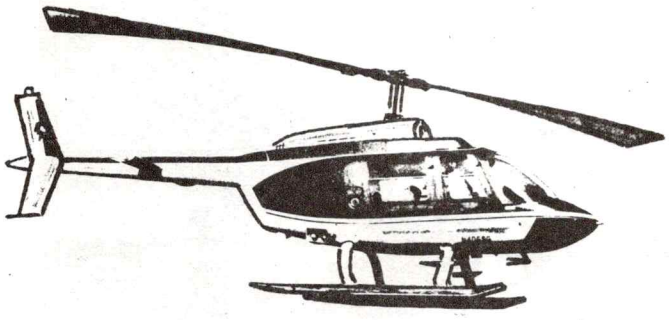

MARYLAND STATE POLICE HELICOPTER OPERATIONS

by the Aviation Div., Maryland State Police

The Maryland State Police Aviation Division operates a fleet of Bell 206B Jet Ranger five passenger (two litter patient) helicopters throughout the state. These helicopters have a range of 400 miles with speeds up to 140 MPH. Their basic mission is to provide aerial support to ground patrol units in both traffic safety and crime suppression activities. However, one of the most important functions of these aircraft is the evacuation of desperately ill or critically injured persons from accident scenes to specialty referral centers. The central control point for these centers is the Maryland Institute for Emergency Medicine (formerly the University of Maryland Center for the Study of Trauma) and was created under the Emergency Medical Services System by Governor Marvin Mandel in 1973. This institute is where the majority of all adult patients transported by our Med-Evac helicopters are taken. Here each patient is afforded the most advanced innovative medical procedures designed to keep the patient alive and reduce permanent injury to the body.

CREWS AND EQUIPMENT

Each of the helicopters has a crew consisting of a Maryland State Police pilot and an EMT-certified Maryland State Police observer/medic. The observer/medic's duties are to coordinate the missions of the helicopters and to, most importantly, care for the patient once the Med-Evac transport has been initiated. Each helicopter is equipped with basic first aid supplies, oxygen bottle, Laerdal suction unit, cardiac monitor beeper, etc. Each of the helicopters are equipped with State Police FM type radios and a portable radio that is used to talk on the fire departments' mutual aid frequency. The helicopters also carry a 3.9 million candlepower searchlight that can illuminate a large area.

LOCATIONS AND FLIGHT REQUESTS

The helicopters are strategically located throughout the state at Martins Field outside of Baltimore, Andrews Air Force Base in Prince George's County and at the Frederick Airport. A thirty mile radius from an operational base is the primary response zone for each helicopter. A total of seven helicopters are eventually planned to give the entire state this type of complete coverage. Requesting the service of a helicopter is simple. Contact the closest Maryland State Police barrack or installation. For routine requests or matters in which time is not of the essence, the number to call for the Aviation Division office in Pikesville is 486-3101, extension 235 or 236, or 486-8446.

MISSIONS

Helicopters are dispatched according to their need and top priority is given to life-saving missions. The helicopters also participate in inter-hospital transports of critically ill or injured patients at the direction of the Maryland Institute for Emergency Medicine. The aircraft transport premature and neonatal babies from outlying hospitals to the City Hospitals Regional Intensive Care Nursery Unit. Seriously burned patients are transported to the City Hospitals Intensive Care Burn Unit. Traffic patrol, criminal searches, search and rescue missions for lost or missing persons, fire fighting liaison and surveillance are just a few of the other missions performed by the helicopter crews.

WEATHER RESTRICTIONS

Generally speaking, the helicopters fly in most types of weather. However, thunderstorms, heavy snow, hail storms, thick fog and severe high winds preclude safe flight and the helicopters may be delayed. The flight minimums established for the helicopters are guided by FAA regulations and are based on VFR (visual flight rules). The minimums are:

Daytime flights—600 feet AGL (above ground level) with one (1) mile forward visibility

Nighttime flights—800 feet AGL with two (2) miles visibility

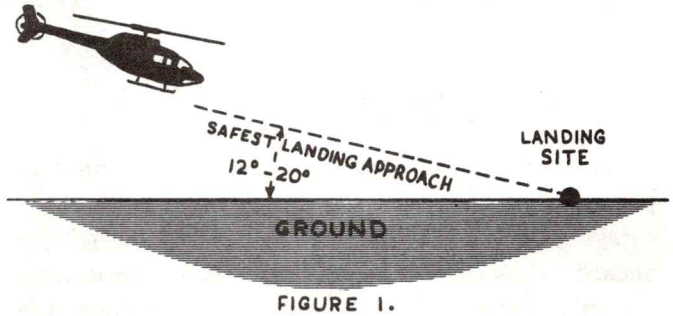

FIGURE 1.

(Over)

LANDING AREAS

Safety requirements for helicopter landings is primary for the completion of our missions. Ground personnel, whether policemen or firemen, who have radio contact with the helicopter must advise the crew of the most desirable landing zone nearest the scene. Ground personnel must check the entire landing zone for obstructions or obstacles such as trees, poles, ditches, signs, wires, etc., and advise the helicopter crew of these obstacles prior to the landing. Although a helicopter can hover straight up and down, this type of landing is the most dangerous configuration for the aircraft. A helicopter landing or take-off can be accomplished safer if it can be done similar to fixed wing aircraft, i.e. coming down at a slight angle to the ground while maintaining forward airspeed up to the touch down site.

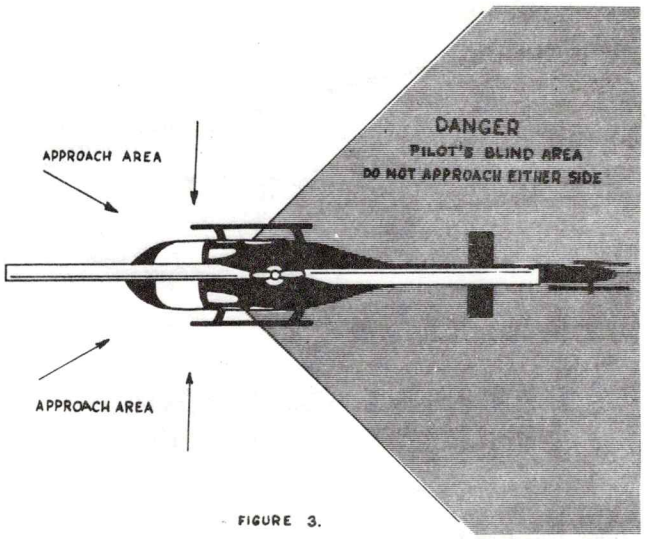

FIGURE 3.

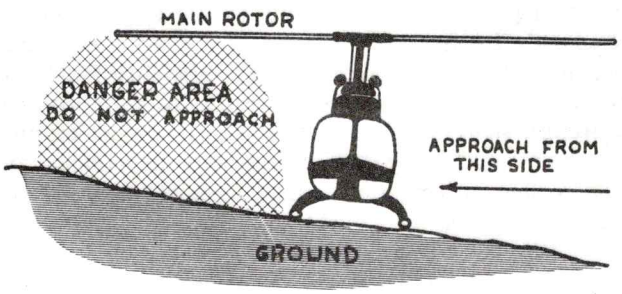

FIGURE 2.

Daytime landing zone requirements are relatively simple. Attempt to set up the largest open unobstructed landing zone possible such as a farm field, parking lot, dual lane boulevard or median strip.

Nighttime landings require that the border of the zone be marked by lighted flares. A circle or square pattern of at least 50-60 feet minimum is desired. Four to six flares are required. A crisscross or "X" type flare arrangement is not recommended. Flood or spot lights should not be aimed up at the landing helicopter, but should illuminate the ground of the landing site.

ASSISTANCE REQUIRED TO LOAD MED-EVAC PATIENT

The observer will need assistance at the transport pickup scene with securing the patient on the litter, carrying him to the aircraft and loading the patient aboard. Firemen, policemen or civilians are utilized for this purpose. At the observers instruction, the person assisting will take a position at the bottom of the litter near the feet of the patient and assist in carrying the litter to the helicopter. The assistant will be instructed to place his end of the litter in the forward part of the aircraft first, with the observer guiding the head or top portion of the litter into the ship and securing it in place. The job of the assistant is then completed and he is instructed to back safely away from the aircraft.

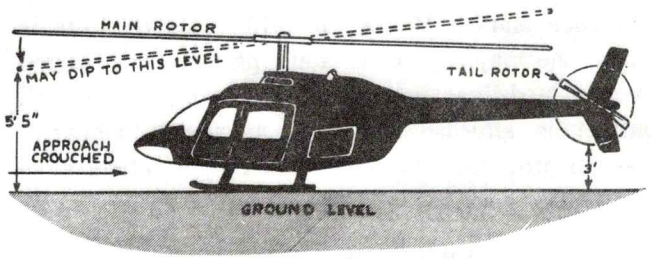

FIGURE 4.

INTER-AGENCY COOPERATION

The Maryland "Med-Evac" program came into existence in 1969 and has transported since then over 2,500 patients. The survival rate for these patients, most of whom suffered major trauma injuries, is approximately 83%. The primary reason attributed to such a high survival rate has been getting the patient to a properly staffed and equipped treatment center in the shortest possible time. The Maryland system continues to demonstrate that many lives can be saved when fire departments, ambulance and rescue squads, police personnel and hospital personnel work together for the good of the patient.