

## **EMPLOYMENT OF ARMED HELICOPTERS IN BUILT-UP AREAS**

*Wherever infantry forces are sent in the world, whether for combat operations or operations other than war, they will operate part of the time in built-up areas. Operating alongside and supporting them will be armed helicopters flown by technically skilled and tactically proficient US aviators. The commander or small-unit leader on the ground are responsible for ensuring the actions of these powerful aircraft are smoothly integrated into the combined arms team. Joint operations will mean that the aircraft supporting ground forces may be Army or USMC. During combined and coalition operations, especially during OOTW, it is more and more likely that armed helicopters from other nations may support US forces. In those cases, detailed information on their capabilities and employment techniques must be obtained through liaison channels.*

### **L-1. MISSIONS OF ARMED HELICOPTERS SUPPORTING MOUT**

Infantry units may be supported by a variety of armed helicopters ranging from fully modernized AH-64s or somewhat less capable AH-1s, to lightly armed but agile OH-58Ds and AH-6s. Regardless of the specific type of armed helicopter available, the same missions and tasks can be accomplished due to the inherent flexibility of Army aviation units.

a. The most common missions assigned to armed helicopters during MOUT are the following:

- (1) Escort of troop-carrying aircraft during air assaults.
- (2) Overwatch and supporting attacks integrated with the ground commander's maneuver.
- (3) Interdiction and destruction of enemy armored vehicles moving against friendly forces.
- (4) Precision engagement of hardened point targets.

b. In addition to the missions listed above, armed helicopters may be called on to perform some additional, nontraditional roles during MOUT. This is particularly true during OOTW in urban areas. Additional missions may include the following:

- (1) Assisting, for limited periods, in the control and coordination of fires with the maneuver of ground forces.
- (2) Providing limited relay of radio messages from isolated ground units.
- (3) Marking or identifying specific buildings and areas by smoke, fires, or targeting lasers.
- (4) Videotaping routes or objectives for later analysis by ground commanders.
- (5) Providing navigational and directional assistance to ground units.

(6) Providing limited area illumination by infrared or white light using either on-board sources or illumination rockets.

(7) Providing countersniper and counter-mortar/rocket armed reconnaissance patrols around friendly unit locations.

## **L-2. PLANNING CONSIDERATIONS FOR ARMED HELICOPTER EMPLOYMENT**

Although armed helicopters provide a flexibility and responsiveness almost unequaled by any other means of fire support, detailed planning is required to effectively integrate them with ground operations to accomplish the overall mission. The following must be considered when planning employment of armed helicopters.

a. **Increased Exposure to Direct Fire.** The ground-fire threat to armed helicopters increases during MOUT. Urban areas force the concentration of units and provide excellent cover and concealment for enemy gunners. In order to limit exposure to heavy anti-aircraft weapons, helicopters may have to stay low and move quickly. This increases their vulnerability to light small-arms fire.

b. **Obstacles to Flight.** Obstacles within urban areas are more numerous and dangerous than in any other environment. These obstacles include such things as—

- (1) Power lines and power cable pylons.
- (2) Hard-to-see telephone lines, trolley cables, and traffic light cables.
- (3) Light poles, rooftop antennas, and telecommunication towers.
- (4) Towering buildings that may prevent rapid vertical maneuvering of heavily loaded aircraft.

c. **Navigational Difficulties.** Even though pilots can often see better than observers on the ground, because most maps do not show the vertical development of urban terrain, pilots can easily become temporarily misoriented. Navigational aids, such as GPS, have lessened but not eliminated this problem. Rapid displacement from position to position can sometimes create confusion between aerial and ground observers as to cardinal directions or locations. Mission planning should include the use of upgraded photography whenever possible. Newly developed areas or buildings may not show on recent maps. Some advanced computer simulation aids are now available to generate three-dimensional aerial views, which can be very useful especially during OOTW. Differing datums between the ground unit's maps and the aerial unit's GPS can cause significant confusion unless compensated for.

d. **Weapons Limitations.** Many characteristics of operations in urban areas limit weapons employment.

(1) Weapons use may be limited by the short arming/slant ranges within the urban area. Precision weapons, such as TOW and Hellfire missiles, require about 500 meters minimum range to reliably arm and stabilize on the intended target. Often, fire from longer ranges actually improves accuracy.

(2) Extensive use of precision weapons by several units in close proximity may cause coordination problems with target identification and designation.

(3) Laser designation by both ground and aerial systems may be degraded by the large expanses of polished, flat reflective surfaces common in many urban areas.

(4) With the obvious exception of precision strikes by TOW or Hellfire, aerial fires can rarely destroy a target or kill large numbers of enemy forces within buildings. These fires provide excellent suppression, however, and can drive enemy forces away from firing positions or fix the enemy in place until ground maneuver forces can destroy him. Enemy positions that have been struck by fire can normally be reoccupied quickly by the enemy.

(5) Target identification and marking may be difficult because of heavy smoke and dust rising from urban fires and explosions. Some smoke from fires in industrial areas may be highly toxic or irritating. Pilots may have to don chemical protective equipment that hinders target detection and engagement. Friendly unit locations and personnel can be marked with colored panels, glint tape, strobe lights, and colored smoke. Targets can be marked with infrared laser pointers, such as the GCP-1 Ground Commander Pointer/Illuminator, colored M203 smoke rounds, M203 or mortar flares burning on the ground, or tracer fires. In some situations, improvised spotlights can also be used.

(6) If the combat situation allows, pilots should make a nonfiring (dry) run first before returning for a firing pass. Although fire from stationary positions is more accurate, running fire is normally safer for the aircraft due to enemy ground fire. If possible, ground commanders should avoid directing pilots along a gun-target line that passes over friendly troops. Gun-target runs that are perpendicular to the friendly unit's front are normally best.

e. **Aircraft Power Limitations.** The need to deliver hovering fires from temporary battle positions may require the aircraft to carry less than a full load of munitions or fuel. This is especially true with older model aircraft in hot, wet climates. Reduced loads mean more frequent trips to forward area refuel and rearm points and less time on station.

f. **Command and Support Relationships.** From the ground unit perspective, armed helicopters are most effective when they operate under the OPCON of the ground unit commander closest to the enemy. Normally, the infantry battalion is the lowest level granted formal OPCON of armed helicopters. However, in an urban area the battalion commander is rarely able to identify the precise location of enemy forces or to coordinate aerial fires with friendly squad and platoon maneuver. He often must pass the responsibility for close coordinate on of armed helicopter fires to the small-unit commander or leader on the scene. This commander can direct the efforts of only a few aircraft at a time, normally a scout weapons team consisting of an unarmed observation aircraft and an attack helicopter or two armed aircraft. It may be more effective for the aviation unit to retain control of its individual aircraft and operate by continuously rotating armed helicopter elements into the battle area where they then coordinate their attacks with the ground commander's maneuver. Generally, the smaller and more decentralized the combat actions, the better it is to have armed aircraft coordinate directly with the small-unit leader on the ground. The larger, more centralized the combat action, the better it is to retain control of armed aircraft by the aviation

headquarters. Whichever command and support relationship is chosen, both the ground and the aviation headquarters must understand what is expected of the other. Close liaison and unambiguous verbal communication are important.

### **L-3. ARMED HELICOPTER OPERATIONS IN LIMITED VISIBILITY**

Although US helicopters possess the most sophisticated night vision equipment in the world, armed helicopter operations in limited visibility are difficult and require extra care.

a. The extensive use of GPS and handheld laser pointers or designators eases the problems associated with night navigation, orientation, and target identification.

b. Operations that involve twilight, either dawn or dusk, present special problems for aircrews using image-intensification NVDs. The rapid change in the amount of illumination makes it difficult for pilots to observe the ground and see other aircraft. In the confined airspace low over an urban area, with friendly and enemy forces close by and dangerous obstacles, such as antennas, hard to see, armed helicopter support is difficult and dangerous. Infantry units should seek the advice of experienced aviators when planning night operations, especially those that may extend through a period of twilight.

c. Artificially lit urban areas create a hazard for pilots using image-intensification NVDs. One method of bleaching out bright city lights is to use the infrared light found on most US aircraft. This makes it easier to see and avoid obstacles, especially rooftop antennas, which stand out well in infrared light.

d. Forward-looking infrared devices found on OH-58D, AH-64, and some SOF aircraft are not affected by artificial light and are generally effective targeting systems in urban areas. Depending on the equipment used by the ground commander, these aircraft may or may not be able to detect laser pointer devices. Close liaison with the aviation unit prevents misunderstandings and maximizes the combat effectiveness of armed helicopters supporting infantry maneuver in urban combat.