

Chapter 8

Assault Crossing

GENERAL

The assault across the river phase normally begins with an attack to secure a dismounted infantry lodgement on the exit bank. This may involve an air assault, but the bridgehead force normally assaults using pneumatic boats or swims amphibious vehicles.

The dismounted infantry assault is normally a battalion task force from the bridgehead force. The assault battalion normally crosses in waves, as sufficient boats are seldom available to carry the entire battalion task force across at once. It is a very complex operation, requiring synchronization between multiple-force elements and skilled application of technical procedures. Success requires training and extensive rehearsal.

Due to the extreme vulnerability of forces in small boats on open water, the force normally assaults at night or during limited visibility. If it must be conducted during daylight, the assault site must be isolated by fires and smoke to reduce its vulnerability.

This chapter describes the assault boat crossing. It focuses on conducting the crossing at night. It defines the organizational elements required to conduct an assault across a river and the necessary supporting techniques and procedures.

ORGANIZATION

The specific organization used is dependent on METT-T factors, particularly the size of the bridgehead, the distance to exit-bank objectives, and the nature of the threat defense. Regardless of these factors, the assaulting battalion task force will organize into overwatch and assault elements and will be assisted in the assault by other brigade units in attack-by-fire positions.

Assault Overwatch Elements

Each assaulting company has a direct-fire overwatch element under its control. This element covertly establishes an attack-by-fire position along the friendly bank before the assault. They use night vision and thermal sights to locate threat positions. They also develop a fire plan to engage these positions and to provide suppressive fires on all suspected positions. When directed to engage, the overwatch element destroys all known and suspected positions. The direct-fire overwatch elements must be positioned early enough to develop a

detailed fire plan. Area suppression is lifted or shifted when assault elements reach the exit bank or mask fires.

Overwatch elements are normally the tanks and infantry fighting vehicles of the assaulting, dismounted battalion task force. If an attached light infantry battalion is conducting the assault, tripod-mounted heavy machine guns and antitank missile systems (augmented by infantry fight vehicles and tanks) provide the overwatch support. They are positioned under the control of the company XO and receive fire commands from the company commander with the assault element.

Supporting artillery battalions and mortars provide indirect-fire support. The assaulting task force has priority of fires from at least one artillery battalion during the assault. Artillery does not normally fire a preparation fire for covert assaults. It lays batteries on priority targets and fires on request. This normally occurs after the initial wave is ashore or upon discovery. If the assault is not covert, the battalion fires a preparation that continues during the crossing of the first wave, lifting on command when the boats approach the exit bank.

Mortars deploy near the river to cover the crossing. Their location should keep them within range of the task force objectives without displacement. Units should stockpile rounds so that mortars can support the operation without replenishment during the assault. Also, they can carry their untouched basic load with them when ordered to cross the river. The mortars primarily support with smoke.

Graphic fire-control measures are essential because of the danger of firing on friendly forces. Boundaries between companies should run along terrain features easily visible in the dark to help control the indirect fires during the dismounted assault.

Counterbattery fire is imperative to the success of the river crossing. The target acquisition battery radars deploy to cover the area before the assault crossing begins.

Smoke is not normally used to support the first wave of a covert crossing because of the risk of losing surprise, but it hides later waves as they cross. If the crossing is opposed, a smoke haze should cover the first wave before it enters the water to reduce direct-fire effectiveness. The assaulting task force commander

initiates smoke obscuration. If smoke generators are available, they deploy to obscure a large length of the river. Additional smoke along multiple sites on the river conceals the true crossing area. This additional smoke may be from smoke pots if nothing else is available.

If units must fire smoke onto the far shore in order to cover the crossing area, they fire it on the command of the assaulting task force commander after surprise is lost. Mortars are the primary means of indirect-fire smoke. Direct-support artillery is generally reserved for supporting fires.

Air-defense teams deploy along the near shore of the river to cover the crossing. Once in place, they remain until the brigade releases them. They can move across the river and link up with the assaulting task force only after other SHORAD air-defense systems have taken position to cover the river. The crossing sites remain the priority air-defense area throughout the crossing.

Assault Across the River Phase

Each lead battalion in a ground assault should have at least one ford or assault boat site big enough to accommodate two companies abreast.

A hasty crossing is more likely to use fording vehicles than a deliberate crossing, since it allows the force to continue across the river without pausing to acquire other crossing means. A ford site should have 300 meters along the near bank at the entry point for deployment of overmatching elements.

Considerations for the use of assault boats (RB15s) include —

- Opportunity for surprise in a silent paddle crossing.
- Speed (MPS using outboard motors).
- Good maneuverability in the water.
- Limited, if any, entry-bank preparation — none on the exit bank.
- Mechanized troops separated from their vehicles and equipment.
- Limited carrying capacity, particularly antitank weapons.
- Limited protection, mobility, firepower, and communications on the exit bank.

The unit protects itself during an assault boat crossing by crossing silently, during periods of limited visibility, and at a location where the threat does not expect a crossing attempt.

Generally, an infantry platoon uses three boats for its personnel and attached elements. If short of boats, the dismounted elements of an infantry platoon equipped with the M2 Bradley can fit in two boats. Allocation of one squad per boat, when possible, preserves unit integrity.

For an assault using RB15s, each company requires at least 200 meters along the river to disperse the boats and ideally 300 meters between companies. This is a total of 700 meters for a battalion assaulting with two companies abreast.

Control is very important, particularly by night when boats can easily become separated or lose direction. Combat experience has demonstrated that engineer and infantry boat rehearsals before the crossing attempt are mandatory for success. These rehearsals should begin as soon as the unit receives the warning order without waiting for the detailed crossing plan.

Consideration for use of air assault are —

- Indirect approach.
- Surprise.
- Flexibility.
- Rapid closing with the threat, if a landing zone is available.
- Weather.
- High threat air-defense priority at the river, requiring a suppression of enemy air-defense effort.
- Separation of mechanized troops from their vehicles and equipment.
- Vulnerability to armored counterattack, requiring a quick ground linkup.

Planning and execution are the same as for other air-assault operations, covered in *FM 90-4*. As with assault boats, rehearsals are necessary, particularly for troops not familiar with air-assault operations.

Against little or no resistance, swimming vehicles may be practical in the assault stage. Considerations for swimming fighting vehicles are —

- Minimum effect on troop organization and control.
- Troop protection, mobility, and firepower on the far bank.
- Early antitank capability on the far bank by vehicle-mounted tube-launched, optically tracked, wire-guided (TOW) missiles.
- Reduced number of vehicles to be rafted.
- Slow swimming speed.
- Poor maneuverability in water.
- Extreme vulnerability to antiarmor weapons while in water.
- Suitable entry and exit points.
- Vehicle preparation.
- Lack of troop training in vehicle swimming operations.

Rapid reinforcement of dismounted assault troops with armored vehicles is so critical that it justifies the use of any expeditious method to get the first few swimming vehicles across. This includes winching, towing, or pushing the first ones across normally

unsuitable places while engineers prepare better entry and exit points for the rest.

The space required to swim vehicles on line is 200 meters of front per company with 300 meters between companies. Less is required if they cross in column. Commanders plan entry and exit sites to account for downstream drift of swimming vehicles.

Assaulting Units

The assaulting task force normally has three dismounted infantry companies of three infantry platoons each to conduct the assault. The task force may have formed company teams, but all assault companies must retain adequate dismounted infantry strength for the assault. Besides its organic infantry and armor, the assault task force has its fire-support team, its air-defense teams, and an attached combat engineer company (with the engineer platoons attached to the assault companies).

The first assault wave moves the bulk of the dismounted force across covertly. This force attempts to provide sufficient security on the far shore, so that the second and later assault waves can cross after surprise is lost. It carries the rifle platoons, attached assault engineers, forward observers, and rifle company command group.

The organization of the first wave permits rapid deployment of the company into a tactical formation on the far shore. Individual boat loads retain unit integrity

at the lowest level. The two basic boatload configurations are the rifle squad boat and the rifle platoon headquarters boat (see *Figure 8-1*).

Each boat contains its engineer boat crew and a rifle squad. The squad boat also carries an engineer assault team, while the platoon boat carries the platoon headquarters. The boat force commander is the senior occupant. He commands the force up to the attack position and after they debark on the far shore. The coxswain is the "pilot in command" and commands all boat occupants from the point that they man the boat in the attack position until they debark on the far shore.

Note: Rifle squads illustrated are Bradley squads. The same boat configuration is used for other squads, though they may man more of the boat positions.

First-wave boats carry only critical cargo, such as critical antitank and machine-gun ammunition demolitions and engineer tools required for breaching obstacles.

Platoon boats form a boat group of three boats, spaced 20 meters apart on the water. The boat group forms into a "V," with the platoon leader's boat acting as the guide boat in the center. The two engineer assault teams are from an engineer squad, with the squad leader commanding the team in the right boat and the assistant squad leader commanding the team in the left boat. The assault teams re-form into a squad upon debarking.

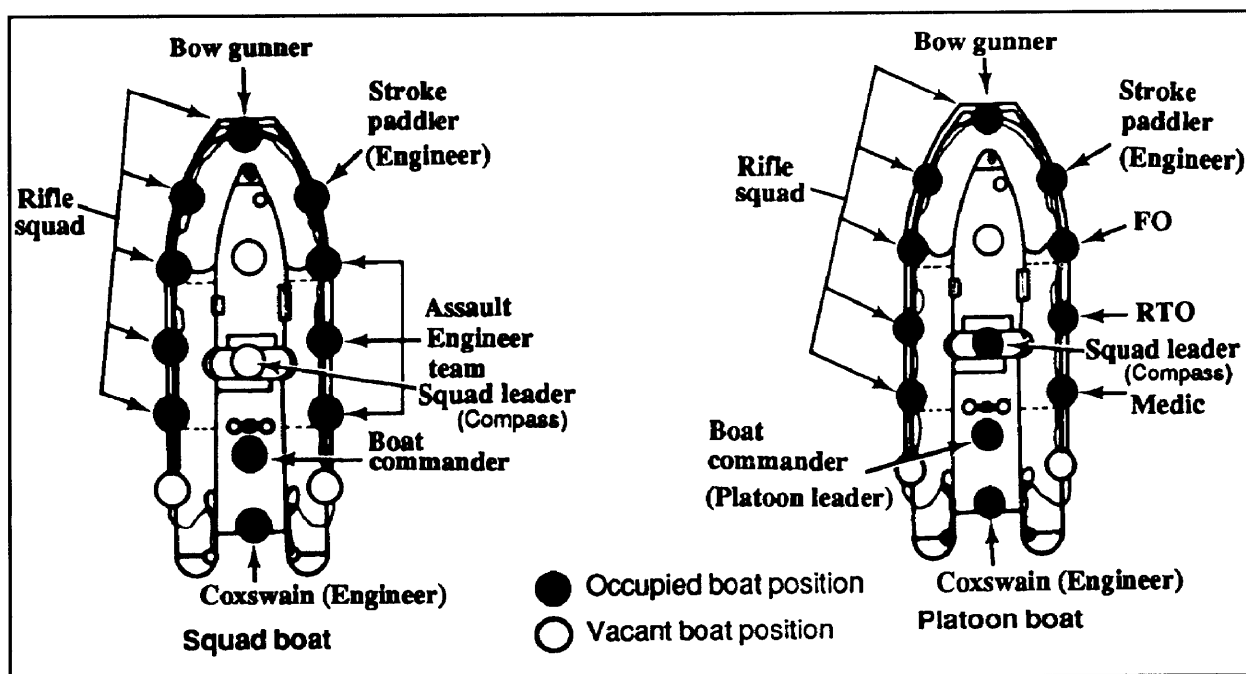


Figure 8-1. Boat load configurations

Platoon boat groups form into company flotillas (see *Figure 8-2*). The company commander commands the guide boat in the center platoon. The company command group disperses between boats, filling in vacant boat positions. Platoon guide boats maintain a 40-meter interval (two-boat interval) between boat groups.

The first wave of the assault consists of all three company flotillas crossing on line. Battalions do not have a prescribed crossing formation. Each company crosses in its own zone and attacks its own objectives.

All undamaged boats return to the near shore after carrying the first wave. The second and later waves carry across the remaining troops and materials that are necessary to seize the far-shore lodgment. They also carry the materials necessary to establish blocking positions and a hasty defense of the crossing area.

If sufficient boats are available, all rifle companies cross in the first wave. If not, the remaining company crosses in the second wave (it may have its own far-shore zone or be the task-force reserve). The second wave carries the company aid station and may include the battalion command group. Since sufficient air-defense systems are in place to cover the crossing area, the brigade may release some or all of the battalion's air-defense teams to cross in the second wave.

The second wave also transports additional material and ammunition not required for the initial assault but necessary to establish a defense. This may include antiarmor weapons and ammunition, laser designators, mines, or pioneer tools. It normally includes tripod-mounted weapons systems such as M2HB .50-caliber

machine guns, TOW antitank systems, ground laser location designator (GLLD), and Mark 19 40-millimeter grenade launchers.

If secrecy is not required for the second wave because the first wave is in combat, or if the threat has begun to fire on the crossing area, outboard engines propel the boats so that paddlers are not necessary.

Immediate movement of some heavy antitank weapons across to support the dismounted assault battalion is essential. This is critical enough to justify extraordinary actions. As vehicles carry all heavy antitank weapons, engineers concentrate on forcing a few critical vehicles carrying heavy weapons across immediately after the second wave. They hand carry them, if necessary, even before direct fire and observed indirect fire has been removed from the crossing area. Vehicles cross by swimming or fording or are dragged or rafted across.

Crossing-area engineers begin bank preparation on both the near and far shore, using hand tools and equipment where possible. They swim an ACE or deep ford a bulldozer to get a winch capability to the far shore. Bradleys either swim or ford, with towing assistance if necessary. A bridge-erection boat can tow Bradleys if the current velocity is too high. Using a block and tackle fastened to a tree or picket holdfast, a bridge erection boat can help Bradleys leave the water over unprepared banks. If high-mobility multiwheeled vehicle (HMMWV) weapons carriers are available, they can be waterproofed and pulled across on the bottom with a winch cable. If absolutely necessary,

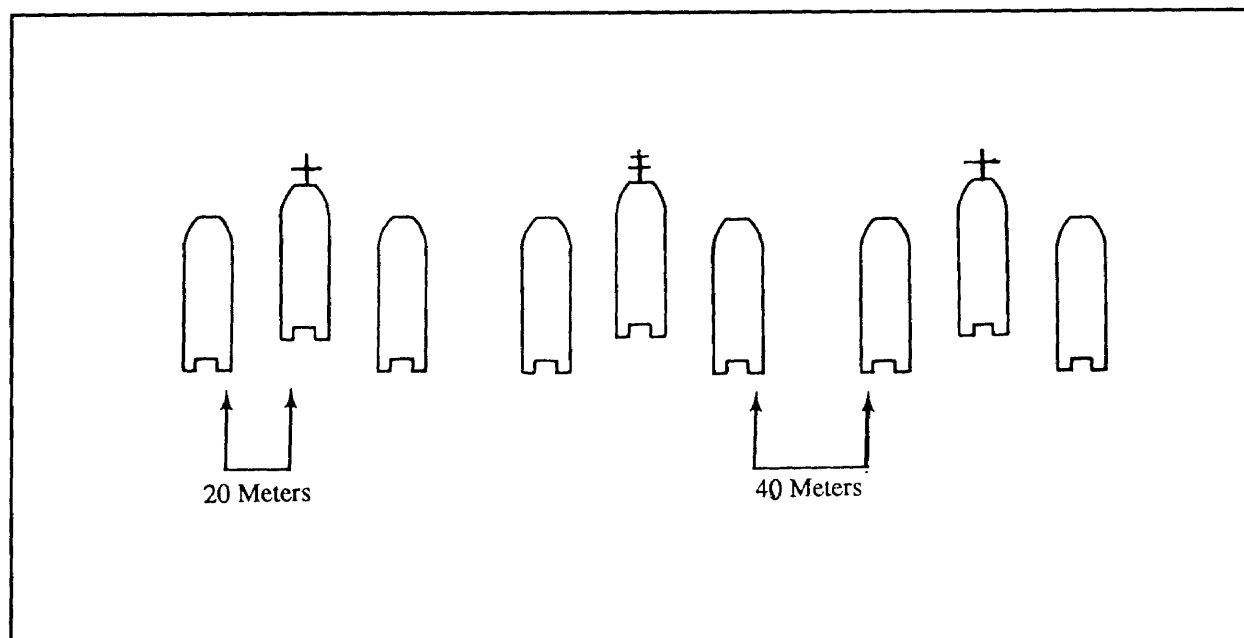


Figure 8-2. Company flotilla

rafting can be used, but this risks destruction of equipment that will be critical later in the crossing.

Note: TOW electronics should be carried across in a boat.

Engineers

Engineers supporting the assault are attached to the assaulting companies as described above. Each company receives an engineer platoon that accompanies the assaulting force on to its objective, helping it fight through obstacles and prepared defenses. The engineers help the assaulting force establish hasty defenses after it has seized its objectives. Engineers normally come from the division engineer battalion that supports the brigade.

Boat engineers operate the boats and cross the assault force. They are in direct support of the assaulting battalion until it has secured its objectives. They remain on the water after the assault force has crossed and continue to carry men and materials across in assault boats until heavy rafts can take over the mission. Boat engineers also improve exit and entrance banks for rafts and boats and assist with crossing the initial heavy weapons. The boat engineers come from the engineer battalion that will remain on the river operating the crossing area.

Two boat engineers are assigned to each assault boat. They are the coxswain and the lead paddler on the right side of the boat (stroke paddler). The stroke paddler controls the stroke during the assault crossing. The boat engineers paddle the boats back for the next wave. Outboard motors normally are used during the second wave.

Normally, an engineer platoon must operate the boats for a first-wave assaulting company. An engineer company can cross the assault battalion of a brigade.

Each assaulting company requires 9 boats plus a safety boat. The assaulting battalion requires 30 boats to carry the assault companies, plus 1 for the battalion commander. If less are available, some companies may not cross in the first wave.

OPERATIONS

Far-Shore Reconnaissance

Tactical reconnaissance of the far shore must cover abroad front to a significant depth to determine details of terrain and threat defenses. This should occur early and cover sufficient terrain to disguise the actual crossing area.

Engineers conduct a technical reconnaissance of the far shore focusing on the immediate crossing area. A swimming reconnaissance team conducts it at night. Divers using snorkels conduct the reconnaissance, if

possible. Strong swimmers (Red Cross-certified lifeguards or water-safety instructors) from the engineers supporting the crossing make up the reconnaissance party if divers are not available. Two swimmers make up a reconnaissance team to scout a company crossing area.

The reconnaissance party carries heavily lubricated weapons and wears LBE. They wear running shoes and use swim fins. Swimmers must wear Class 5 life jackets as flotation devices. (US Army flat foam-filled life jackets will not serve.) The swimmers may wear racing goggles but not face masks, which reflect too much light. The swimmers camouflage their faces and hands and tow any necessary equipment in bundles.

Swimmers must carefully avoid splashing. If necessary, they wear weights to ensure that kick strokes are underwater. The party enters the water far upstream from the actual crossing site and floats with the current while crossing. Swimmers use the sidestroke, facing each other and observing behind the other swimmer. This allows 360-degree observation and communication by hand and arm signals. When the swimmers approach the shore, they switch to the breaststroke so that they can observe the landing area. Swimmers must use stealth and caution when approaching the beach. They must keep a low profile in the water and also on the beach. If they are experienced enough and have sufficient confidence in their abilities, they can use camouflage head nets made from small pieces of camouflage net to help conceal them as they approach the beach.

When the swimmers reach shallow enough water and determine that the situation is safe for landing, they remove their fins. If they can immediately enter the woods upon leaving the water, they do so in a rush. If the woods are a distance from the water, one swimmer remains in the water just at the waterline and covers the other as he moves quickly across the beach. Once the inland swimmer has moved to the edge of the woods, he covers his partner, who is moving across the beach to the same position.

Critical information requirements include –

- Bank characteristics at the assault-boat landing areas.
- Water depth to a distance of 15 feet offshore.
- Any obstacles along the shore.
- Locations of threat observation posts.

The reconnaissance team checks potential areas identified from the near shore and evaluates each based on its ability to support assault boats, disembark troops, and move off the beach. The reconnaissance party also checks areas where raft and bridge centerlines can be installed.

Far-shore reconnaissance is conducted early and at multiple sites along the shore to generate information necessary for planning and selecting the most suitable areas. Normally, far-shore reconnaissance is conducted by maneuver units supported by engineers.

Far-Shore Preparation

The far shore is prepared immediately before the assault crossing. The preparation team consists of a two-man scout-swimmer team and a two-man cargo team with an inflatable reconnaissance boat – both also from the supporting engineers. The swimmers that have conducted the far-shore reconnaissance are normally best suited to do the far-shore preparation. The preparation team installs landing markers for the flotillas. A separate team normally marks each company zone to speed preparation.

The scout-swimmer team and the cargo team are equipped the same as the reconnaissance party, and they use the same techniques. The scout-swimmer team crosses first, floating downstream to the landing site with the current. Upon landing, they move to the correct landing site for the assault landing and signal for the cargo team to cross. They install transit lights to guide the cargo team as it crosses.

Signaling is accomplished with a flashlight equipped with an opaque filter, sending a prearranged Morse Code letter. The transit lights consist of either two flashlights with opaque filters and directional cones or two chemical lights in their foil wrappers with small areas torn open to release light. The team installs the lights so that one is roughly 1 meter above the water and the other is roughly 2 meters above the water and 2 meters behind it, aligned facing 45 degrees upstream.

The cargo team waits until signaled to cross. It uses a three-man reconnaissance boat as a flotation device to carry marking materials, mine detectors, night-vision goggles, and a radio. The reconnaissance boat is covered with a camouflage net section and is partially deflated after loading so that it floats low in the water

to reduce its signature. The camouflage net is secured to the lifelines to aid in holding the cargo in the partially submerged boat. The cargo team crosses oriented on and swimming slightly upstream of the transit lights so that it can drift into shore with the current, limiting noise and splash.

The preparation team installs landing markers as its first priority. These are the same types of markers used to guide the cargo team. They must be adequately visible to the assault force but dim enough not to harm night vision. If flashlights are available, they have opaque and/or colored filters installed to limit the light output. Chemical lights remain in the foil wrappers with only enough foil removed to provide necessary light. All landing markers are transit lights to mark the position and to help the boats set the proper course relative to the current. Normally, if the current is less than 0.5 MPS, the lights are set perpendicular to the river. If the current exceeds 0.5 meters per second, the lights are set at a 45-degree angle to the river, facing upstream. Double transit lights mark the center boat group of the flotilla, and single transit lights mark the flank groups. If colored lights are available, green lights mark the right boat group landing area, white the center, and red the left (see *Figure 8-3*).

The preparation team also makes a final examination of the landing areas for mines or obstacles. If they discover isolated mines, they mark them and the routes around them. If the team finds a major minefield that will significantly hinder the landing at a site, they either notify the assault force and move the site upstream or downstream to avoid the mines or they attempt to breach the minefield. Once the preparation is complete, the team signals the assault force to begin crossing, initiating the movement of the first wave carrying the boats from the attack position. The preparation team then finds cover near the landing area for the center boat of a predesignated boat group (generally the center boat group) and awaits its arrival. This boat

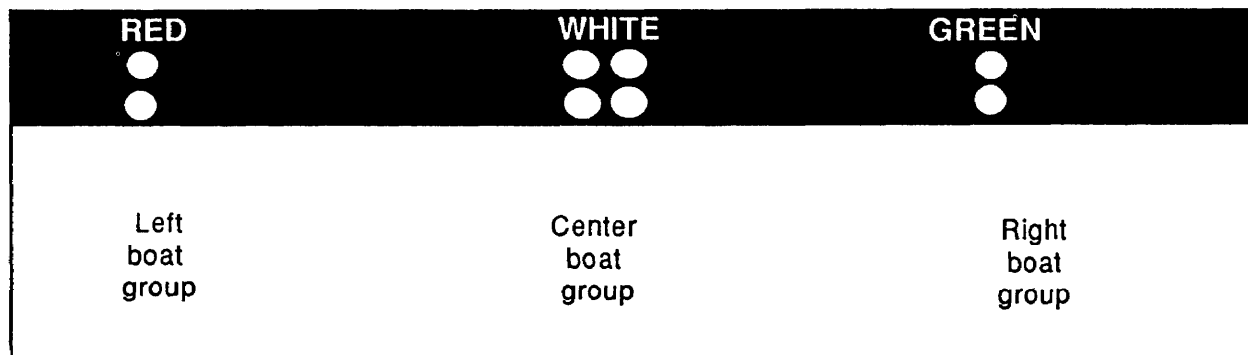


Figure 8-3. Landing marker lights

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group is especially alert for linkup with the preparation team. While waiting, the team continues to watch for threat activity and alerts the assault force of any significant changes.

Near-Shore Reconnaissance

Units must be extremely careful to hide reconnaissance elements conducting near-shore reconnaissance in the crossing area or to deceive the threat about what they are doing.

Battalion and company command groups must conduct a daylight reconnaissance of the crossing area. They must see the embarkation and debarkation points and key landmarks to help guide the force when crossing. They must also see the attack position and the routes from it to the river. Company guides must walk the routes from the dismount points to the boat-group positions within the company attack position. Engineer boat coxswains must see the routes they will traverse from the attack position to the water.

Support-force leaders and vehicle commanders must covertly select firing positions and locate concealed routes into the positions for their vehicles during daylight. They should identify sectors of fire and conduct extensive observation within the sectors to acquire specific targets.

Assault Force Rehearsal

An assault boat crossing cannot be conducted effectively in the face of opposition without thorough rehearsal. If possible, the force should conduct two rehearsals. One should be during daylight, to learn the procedures, and one should be at night, under actual assault conditions.

The rehearsal area should be similar to the actual crossing area but away from the river to preserve

secrecy. Generally, a rear-area river is the rehearsal area.

Before rehearsal, the boat crews and infantry train together in the actual boat teams assigned for the crossing. Soldiers receive their boat assignments and practice in their assigned positions until the boats can move effectively on the water. The training must include boat carry, launch, embarkation, watermanship, emergency actions, debarkation, and hasty defense.

Note: After rehearsal, boat assignments are not changed!

During training, the coxswain forms the boat team. He forms the crew members in a column of twos in the relative positions they will occupy in the boat, with passengers at the rear of the two columns. He then numbers the crew. The right side paddlers are 1, 3, 5, and 7; the left side paddlers are 2, 4, 6, and 8, both sides from bow to stern. The stroke paddler is always number 1 and the coxswain is always number 15, regardless of the number of paddlers used. Passengers are numbered consecutively from bow to stern starting with number 11, who is always the bow gunner. The coxswain addresses all crew members by number. When the coxswain wishes to address a command to a pair of paddlers, he uses their numbers together, as in "1 and 2," "3 and 4."

Figure 8-4 shows only 8 paddlers. The boat can carry 15 soldiers. If fully loaded, it uses 10 paddlers. Boat position numbers do not change.

All forces participating in the assault crossing rehearse together. The support force moves into position, and the assault force crosses in the same waves it will use for the actual crossing. Rehearsal should cover the assembly area through to seizure of the assault-force objectives.

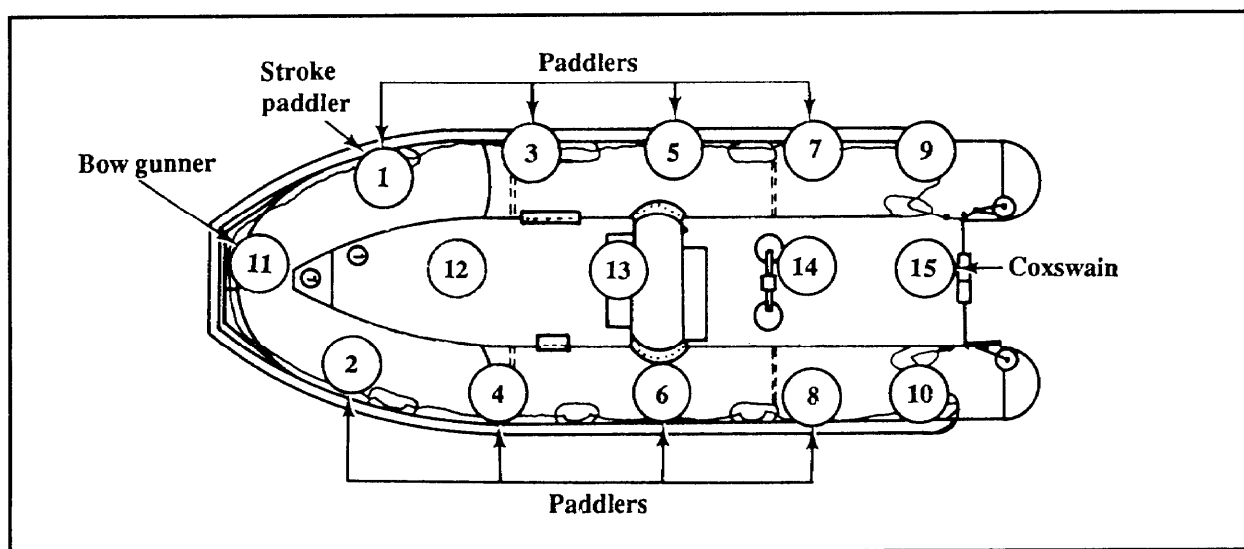


Figure 8-4. Boat numbering

Attack Position Procedures

The attack positions must be large enough to accept a dismounted infantry rifle company. They should be –

- Accessible to trucks or carrying parties bringing the assault boats.
- Concealed from hostile ground and aerial observation.
- Connected with clearly defined foot routes to the river.
- Within 100 to 200 meters of the river.
- In defilade from hostile flat-trajectory fire.

Trucks carry assault boats and life jackets as far forward as possible without compromising secrecy. They are met at the designated unload position by the engineer platoon and company guides from each attack position, who will unload the truck and carry their boats into place. The platoon can carry two at a time, so this will require five trips. If possible, HMMWVs moving at low speed to minimize noise can carry several boats at a time into the attack position.

Within the attack position, boat crews disperse assault boats and life jackets along the boat group routes to the river. The safety boat is positioned as the last boat in the downstream boat group. After the boats are placed in position and inflated, paddles are stowed in the boat at each paddler's location and life jackets are placed on top of them. The remaining life jackets for passengers and coxswain are arrayed behind the boat.

After the boats are prepared, each engineer squad provides a guide to bring the platoon crossing on their boats from the assembly area. The platoon leader sends the guide party to the assembly area, where they link up with their boat groups. The remaining engineers establish local security around the attack position and await the boat groups.

Soldiers arrive in the attack position with their weapons cocked on an empty chamber, selector switches on *SAFE*, and magazines removed. Squad leaders must verify this in the assembly area before moving to the attack position. The soldiers are organized, without the boat engineers, into boat teams and boat groups in the assembly area. They travel as boat groups. When they arrive at the attack position, their guide leads them directly to their boats.

When the boat team arrives at their boat, the coxswain commands, "*Crew, boat stations.*" The team forms on the boat in proper boat positions, with passengers lining up to its rear. The coxswain then directs the team to load and check weapons. The team insert magazines and verify magazine seating but do not chamber rounds. All weapons remain on *SAFE*. Squad leaders verify that all weapons are on *SAFE*. The coxswain then directs the soldiers to sling weapons and

don life jackets. Paddlers sling rifles diagonally, so the rifle barrels extend up over the shoulders that will be away from the boat when standing alongside and facing forward. Odd-numbered paddlers sling over their right shoulder, even numbered over their left. This allows carrying the boat at high carry and reduces interference with paddling. Muzzles must be up during all boat operations to prevent punctures. The teams then await the command to proceed to the water.

Embarkation Operations

On order of the company commander, the boat crew paddlers carry the boats to the river. They make no unnecessary stops from the time of departure from the attack position until the boat reaches the bank. The coxswain directs either "*Low carry*" or "*High carry.*" In low carry, crew members lift the boat to about knee height by the carrying handles while facing forward and carry the boat at arms length. In high carry, crew members lift the boat to about head height, place it on inboard shoulders, and carry it while gripping the carry handle with outboard hands. Normally, high carry is used for long distances, and the boat is shifted to low carry when approaching the bank. Paddles remain in the boat during carry procedures. Remaining crew members follow the boat to the water.

The boat crew may launch the boat either bow first or stern first. They launch it bow first whenever the water is shallow enough for the team to wade in carrying the boat at low carry. They launch it stern first when the water is too deep for wading or when the launch point has steeply sloped banks. Bow first is the preferred method.

Bow first. On the coxswain's command, "*Launch boat,*" team members perform a low carry and move into the water at a fast walk. When the depth of the water is such that the boat floats free of the bottom, all hands continue pushing it into the river remaining at their relative positions alongside the boat.

As the water reaches the knees of the first pair of paddlers, the coxswain commands, "*One and two in.*" The first pair of paddlers climb into the boat, unstow their paddles, and give way together. The coxswain orders each pair of paddlers into the boat in succession by commanding, "*Three and four in,*" "*Five and six in,*" and "*Seven and eight in.*" The pairs climb into the boat on command, break out their paddles, and pick up the stroke of the stroke paddler.

The coxswain orders the passengers into the boat after the paddlers by commanding, "*Eleven in,*" "*Twelve in,*" and so forth. Passengers board over the stern and move forward in the boat to their positions. The coxswain enters the boat last and sounds off, "*Coxswain*

in, hold water." He then holds the boat in place until the boat he is guiding on begins to cross.

Stern first. On the coxswain's command, "*Launch boat,*" team members perform a low carry and carry the boat stern first to the water's edge. They launch the boat by passing it back along the line of team members. When the stroke paddler can no longer help pass the boat back, he moves to the bow of the boat and handles the towing bridle. Other team members follow suit, taking their places along the towing bridle between the stroke paddler and the boat.

When the boat is in the water, the coxswain enters the boat and takes his station. He then commands the boat team to load, starting with the rearmost left-hand paddler, that is, "*Eight in,*" "*Seven in,*" "*Six in,*" "*Five in,*" "*Four in,*" "*Three in,*" "*Two in.*" Passengers embark next as he commands, "*Fourteen in,*" "*E/even in.*" When the coxswain is ready to cast off, he commands, "*Stroke in.*" The stroke paddler casts off, climbs into the boat, and takes his station. The coxswain allows the boat to drift back and turns it to face across the river. He then holds the boat in place until the boat he is guiding on begins to cross.

If motors are to be mounted before the first wave crossing, the coxswain brings the boat in to shore stern first after the boat is manned and holds it in place either by a line to shore or by holding bottom. Two engineers wade to the boat carrying its motor and mount it on the transom.

Tactical Control Afloat

The coxswain navigates the boat, steers it, and directs the paddlers. He controls the movement of the boat in the water as well as embarkation and debarkation from it. He ensures that the boat maintains proper station on the guide boat. The boat commander sits in front of the coxswain and directs the boat in an emergency. He also commands the boat occupants upon landing until the unit has re-formed. The boat commander directs fires from the boat, if necessary.

Each platoon has a platoon guide boat, which contains the platoon headquarters. Other platoon boats position themselves to either side of the platoon guide boat as wingmen to maintain a 20-meter interval for protection against fires and to allow dispersion on landing. They follow the guide boat and land when it does. They open fire from the boat when the guide boat does.

Each company has a command and control (C2) boat, which carries the company commander and leads his flotilla. The platoon guide boats position themselves at double-boat intervals from the C2 boat, maintaining

a 40-meter spacing between boat groups. The C2 boat is normally the lead boat of the center platoon.

The battalion command group remains on the near shore until the assault wave has landed. The commander controls the near-shore direct fires and directs changes in landing points if elements of the first wave encounter difficulties. He also directs changes for the following wave. The commander has his own boat and crosses on his own schedule, but he normally crosses with the second wave. The command group normally does not cross in a single boat but is distributed among several boats.

Guide boats in all boat groups are responsible for ensuring that their group lands at the proper place. Landing marker lights are installed as transit lights to assist navigation on the water. The coxswain will see two lights, one above the other. If the boat is moving straight to the landing, the lights will be straight in vertical alignment. If not, the lower light points in the direction the boat must go to be exactly headed for the landing. The boat will not head directly for the transit lights except when the river has no current. The boat heads for the far shore so that the boat's true course is directly for the lights (see *Figure 8-5*).

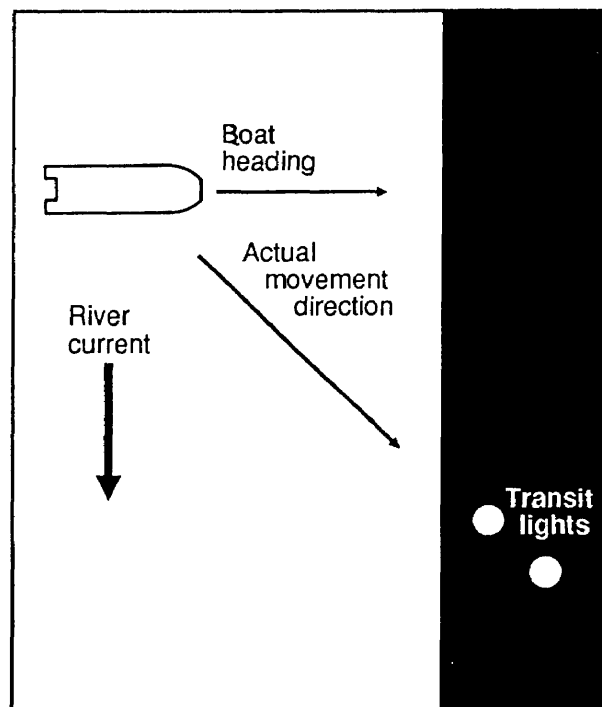


Figure 8-5. Boat course

Normally, the boats will cross slightly upstream from the landing so that they can drift in with the current. To do this, they align so that the lower transit light points slightly downstream (see *Figure 8-6*).

If the force is conducting a crossing where smoke is necessary on the water and it obscures the far shore, other navigation methods include stringing ferry lines across the river for the boats to follow, using floating markers, or traveling on a compass heading.

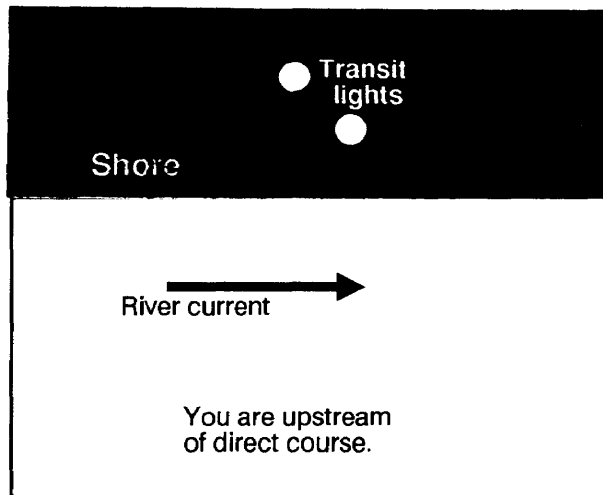


Figure 8-6. Transit lights

Watermanship

Watermanship includes all the skills that the boat crew must exhibit to properly control their boat in the water. It includes individual paddling skills, responsiveness to commands, and the skill of the coxswain.

Individual paddlers use a paddling technique where they push the paddle vertically into the water roughly 1 meter to their front and then power it back through the water by pushing with the upper hand while using the lower (guide) hand for control. At the end of the power stroke, they remove the paddle from the water, turn it outboard and parallel with the water's surface (feathering), and move it forward for the next stroke. The stroke is silent, with the paddlers careful not to strike the side of the boat or to splash.

The stroke paddler sets the pace to control the paddlers. He receives oral commands from the coxswain and establishes and maintains the paddling pace. All paddlers match the stroke of the paddler in front of them, except for the number two man, who matches his stroke with the stroke paddler. If the boat crew has difficulty paddling in unison, the coxswain can exercise oral control by calling cadence. Normal paddling speed

is 10 strokes per minute for stealth, 30 strokes per minute for speed.

Commands

"Ho/d water." Paddlers hold their paddles motionless in the water with the blade perpendicular of direction of motion.

"Give way together." Paddlers stroke in unison following the rhythm set by the stroke paddler.

"Slows stroke." The stroke paddler paddles 10 strokes per minute.

"Fast stroke." The stroke paddler paddles 30 strokes per minute.

"Backwater." Paddlers paddle backward in unison with the stroke paddler.

"Rest paddles." Paddlers rest their paddles across their legs.

"Hold bottom." Paddlers thrust paddles straight down into the river bottom and hold them against the side of the boat as a temporary anchor.

"Land boat." The stroke increases to 30 per minute, with each paddler digging deep into the water for power to drive the boat up on shore. The stroke paddler stows his paddle as soon as the boat grounds, then disembarks and secures the towing bridle to the shore.

"Right, backwater left, give way together." When paddlers execute these commands, the boat turns rapidly to the right. When the boat has turned to the new desired course, the coxswain commands, *"All, give way together."*

"Left, backwater right, give way together." When paddlers execute these commands, the boat turns rapidly to the left. When the boat has turned to the new desired course, the coxswain commands, *"All, give way together."*

The coxswain can make minor adjustments in boat speed by directing, *"Slow the stroke"* or *"Speed the stroke."*

The coxswain must take the river current into account when trying to hold a course. In low-velocity current, the boat can travel a relatively straight course across the river by crabbing slightly upstream. To do this, the coxswain aims the bow of the boat slightly upstream while sighting on the landing mark. If the mark remains on a constant bearing (it does not drift upstream or downstream), the boat is crabbing correctly and is headed directly for the landing.

If the current velocity is too high for successful crabbing (over about 0.5 MPS) either the boat must start upstream or the coxswain must steer a figure-eight pattern. In both cases, the boat should approach the landing heading into the current to avoid the danger of

broaching. If the boat is launched from far upstream, it generally follows a course similar to the dotted course in *Figure 8-7*. If the coxswain follows a figure-eight course, he steers upstream until aligned with the transit lights, then lets the bow drop downstream and guides on the lights until he reaches the landing point. He then steers upstream to the landing marks (see *Figure 8-7*, solid line). These techniques minimize the amount of time the boat will be traveling slowly against the current while near the threat shore.

The need for a figure-eight course is determined during reconnaissance. The flotilla command boat sets the figure-eight course, completing the downstream turn in alignment with the transit lights. Remaining boats simply maintain station until the last turn upstream toward the landing area. Boat groups then head directly for the transit lights.

Eddy currents (eddies) occur at channel bends, near points of land, and at places where the bottom is uneven. Eddies can be dangerous to small boats. The coxswain must be alert for them.

Smoke

The purpose of smoking the crossing site is to achieve a haze over water that can render direct and indirect fires less effective. It is particularly important not to

produce a column of smoke above water that can pinpoint the crossing location. For this reason, smoke is not used if conditions will not hold it close to the surface.

Smoke production is dependent on wind direction. If winds are blowing from the near shore toward the far shore, smoke generators or support-force vehicles can effectively smoke the crossing. If the winds tend to blow parallel to the river, near-shore smoke should not be used, as it will make a smoke wall that will silhouette boats on the river. In this case, floating smoke pots anchored across the width of the river can produce effective smoke. If the wind is blowing from the far shore to the near shore, smoke pots or mortar smoke on the far shore can be effective.

Direct Fire

All boats have a designated gunner at the bow, armed with either a squad automatic weapon (SAW) or a bipod-mounted machine gun. The gunners do not fire unless ordered to by the boat commander. If ordered to fire, the gunners engage the most dangerous target or suppress the landing area. Most often, the gunners engage threat weapons firing on the assault force by firing back up the line of threat tracers.

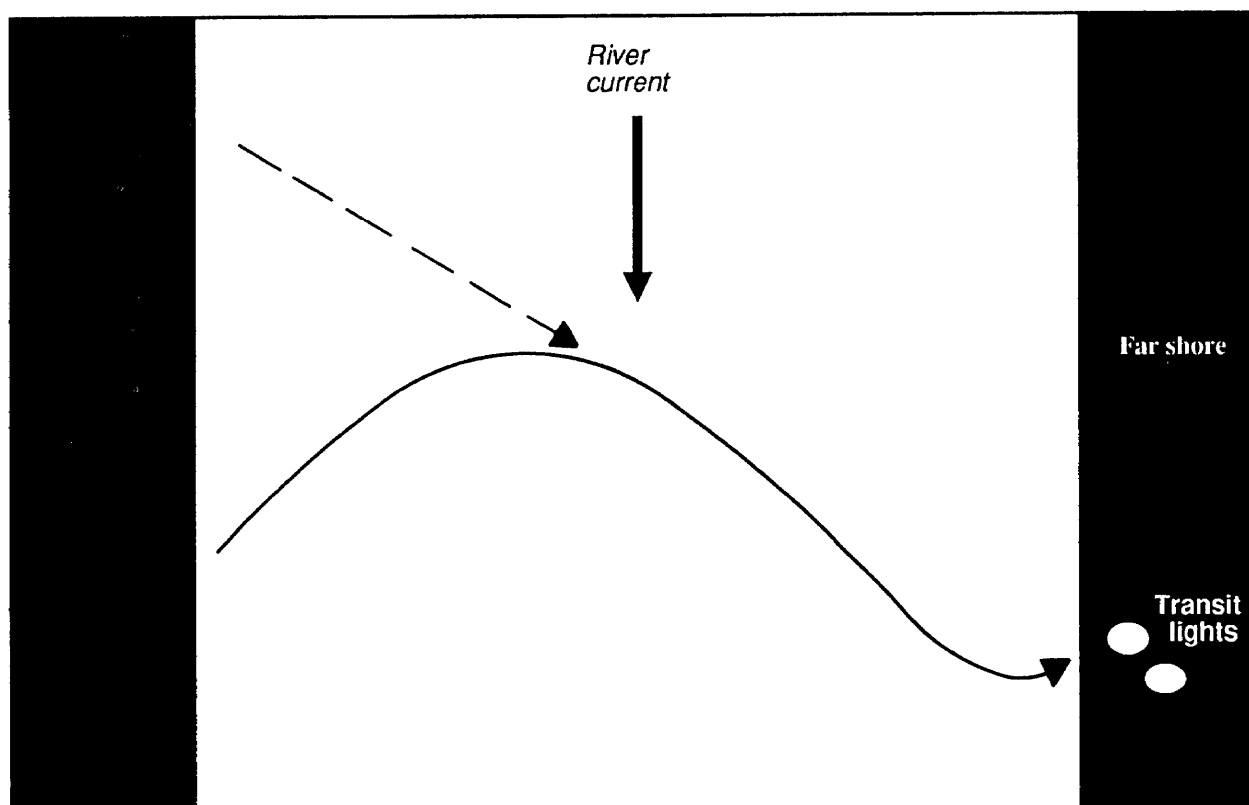


Figure 8-7. Figure eight course

If two passengers are available to be boat gunners, the second back from the bow should be armed with a grenade launcher.

All paddlers observe the paddle of the man to their front. In order to preserve their night vision, they do not look at the threat shore.

Debarkation Procedures

The manner in which the coxswain orders the boat team to land the boat depends on the depth of the water at the landing point.

Shallow water. As the boat nears the landing point, the coxswain directs the boat toward the landing and orders, "Land boat." As the boat grounds, paddlers stow paddles and disembark over the side into the water. They then hold the boat for the passengers to disembark. The stroke paddler secures the boat to shore to await return.

Deep water. As the boat comes alongside the shore, the coxswain orders, "Stroke out." The stroke paddler stows his paddle and, with towing bridle in hand, gets out of the boat onto shore. He then pulls the boat up close to shore and secures it if he can. Otherwise, crew members will have difficulty debarking. The other crew members stow their paddles. The coxswain then directs debarking by number, beginning with the passengers, then the shoreside paddlers, and finally the riverside paddlers. The coxswain is the last to leave the boat. He and the stroke paddler secure the boat and await return.

Immediately upon leaving the boat, the boat team forms a hasty perimeter. The bow gunner moves directly forward roughly 10 meters and drops prone, observing to his front. The left-side squad members move up and form a prone semicircle to his left, and the right-side soldiers form a semicircle to his right. The squad leader takes charge of his squad and directs all soldiers to drop their life jackets. He then awaits orders from his platoon leader.

Boat Return

As soon as the boat team has formed a hasty perimeter and dropped their life jackets, the stroke paddler recovers them and returns them to the boat.

The boat engineer squad leader (the senior engineer with the boat group) takes charge of all three boats in the boat group. He supervises tying off all three boats in trail and loads all six engineers into the front boat. They then paddle the boat back to the friendly shore, towing the other two boats (see *Figure 8-8*).

On the return, the boat group travels in a relatively straight line to gain distance from the threat shore as rapidly as possible. This will cause the group to drift downstream. Upon reaching the near shore, the boat group turns upstream and travels close inshore until it

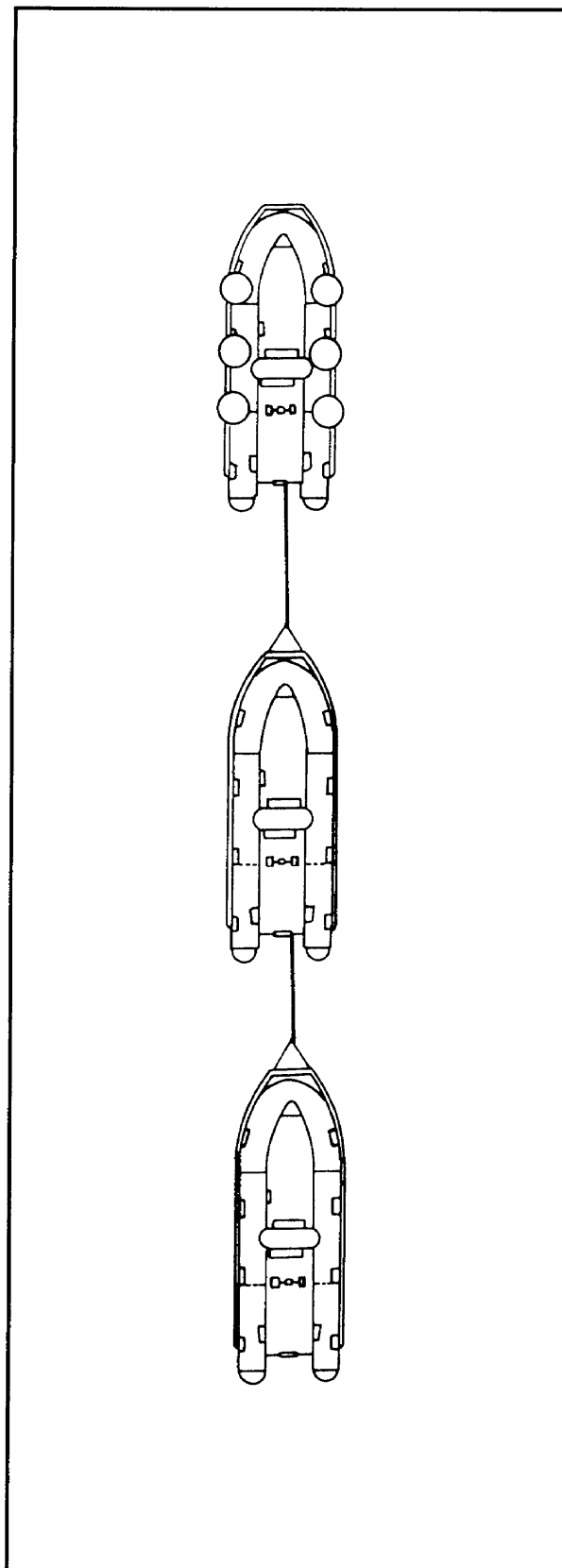


Figure 8-8. Boat return

reaches the departure point (see *Figure 8-9*). A guide from the engineer platoon headquarters guides them in for the next wave.

If the boats mount outboard motors, all three boat crews start their motors on command of the boat engineer squad leader and return independently to the near shore.

Motor Procedures

If motors are available, they speed the crossing significantly. Normally, the first wave uses paddles to cross covertly. After the boats return from carrying the first wave, the motors are mounted. If the boats can be placed in the water without threat observation (in a lagoon or barge basin, for example), the motors are mounted on the boats before the first wave crosses. In this situation, the motors can be started immediately if the crossing is discovered. The motors are also available for returning the boats after the first wave.

If a covert crossing cannot be achieved, the first wave may cross the river powered by motors. In this case, the motors are mounted after the boat crew and passengers have boarded. The crew paddles the boat while the coxswain starts the motor in order to reduce exposure time on the river.

Preparation is critical for success with outboard motors. The primary problem is hard starting. All motors are started and run up to operating temperature during preparation. If any are difficult to start, replacement motors are substituted (the hard-starting motors become backups). After mechanical checks and warmup, the fuel tanks are completely filled with the

correct fuel and oil mixture to eliminate condensation. In cool or cold weather, the motors are kept warm until needed, using a warming tent, ambulances with medical markings covered, a heated building, or other means.

A two-man team of engineers from the crossing area engineer battalion carries each motor to the water and mounts it on the boat. The boat is manned and held with the bow toward the river and the stern to the shore. If the bottom is shallow, the paddlers hold bottom. If the water is too deep or the current too strong, a line is fastened to the boat stern to hold it against the shore. The mounting team wades out to place the motor on the stern and fasten it in place. The coxswain directs the paddlers to give way together after the motor is mounted. He then starts the motor, with the boat under way. If the boat has too few occupants to move effectively by paddles (during the second wave, for example), the boat remains at the shore until the coxswain starts the motor.

Cargo Procedures

Porters detailed from the assault battalion task force bring the cargo forward. They carry it to the waterline at the boat launch point to await the return of the boats. When the boats return, the porters load and secure the cargo to the boat. If the cargo includes heavy or pointed items, a temporary plywood floor is placed in the boat before loading.

Porters accompany the cargo to the far shore to unload it. The cargo is unloaded into caches until carrying parties are sent back from the assault force to get it.

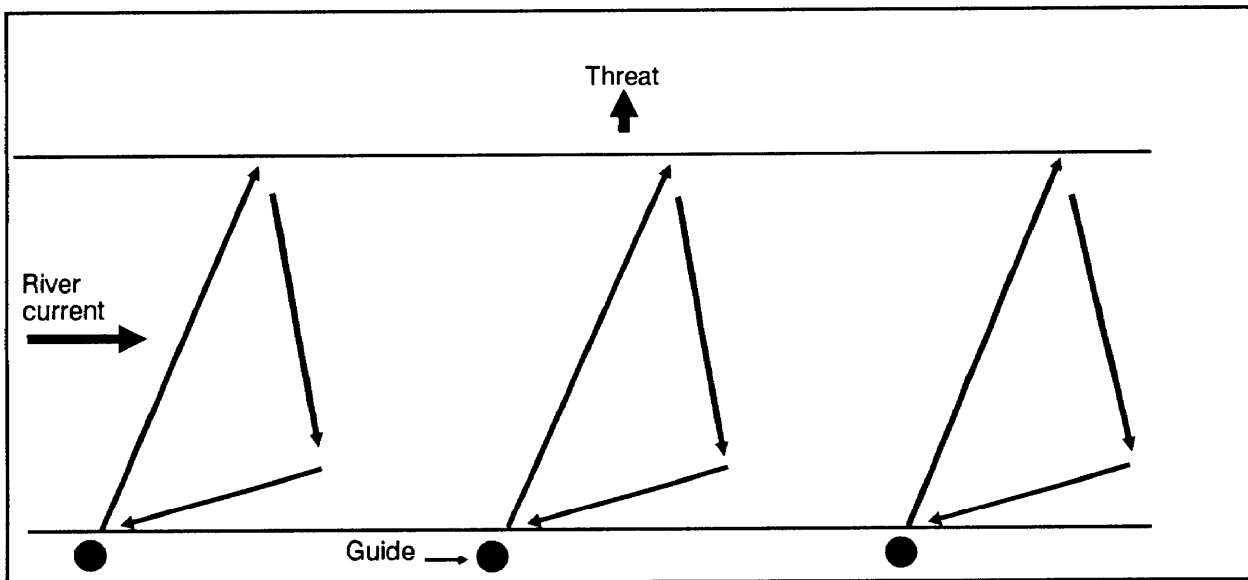


Figure 8-9. Operation of boat group

Casualty Procedures

Platoon medics accompany assault forces in the first wave. They carry their medical bags and night-vision goggles but do not have litters. They treat wounded where they fall, sending walking wounded back to the landing area and leaving more severely wounded where they were treated.

The second wave carries senior aidmen with equipment to establish a far-shore casualty collection point in each company zone. The aid station should provide a blackout shelter such as a tarpaulin or small tent for patient examination along with emergency medical supplies and quantities of intravenous fluids. It also carries litter teams formed from headquarters elements of the assaulting task force. The litter teams carry wounded back to the collection point. The senior aidman at the collection point performs triage and treats patients. Priority patients are evacuated by assault boat as boats are available. All other patients wait until rafts are available.

Safety

Safety is as important in combat as it is in peacetime training. Procedures are established and soldiers are trained in peacetime to be safe in combat. Loss of a soldier to an accident in combat is just as intolerable as losing a soldier in peacetime and is potentially far more dangerous to the force. Safety procedures are particularly important when considering the risks during assault river crossings, where the lost soldier may be the key to mission success. Therefore, all safety procedures must be followed in combat.

The most important safety procedure is building a well-trained force. Nothing is more unsafe than allowing a force of amateurs to undertake a complex, potentially hazardous task where the well-being of all is dependent on each man knowing his job. Peacetime training should never be avoided, because of the potential hazards of a necessary combat task. Training to standard in a controlled environment is the only way to surmount the hazards.

Life jackets are always worn when using assault boats. If Class 5 life jackets (German army style) are available, they are worn over LBE and the diagonally slung rifle. The Class 5 life jacket will support the soldier so equipped and hold his head out of the water. If a life jacket providing lesser flotation is used, such as the standard US Army flat foam-filled life jacket, it is worn over the uniform. The LBE is worn over the life jacket, with the belt unfastened and the rifle slung diagonally over all. Rifle slings are turned around so that the free end is away from the weapon. This allows rapid jettison of the rifle in the water by pulling the free end of the sling to release the fastener.

Weapons are always carried in boats with the bolt forward on an empty chamber and the weapon on *SAFE*. The only exception to this is the bow gunner, who will charge his weapon in the boat when directed to fire. He must put the weapon on *SAFE* before debarking, and the squad leader must verify this by touch.

The soldier can immediately engage the threat, upon landing, by simply taking the weapon off *SAFE* and charging the chamber.

WARNING

The soldier must not take the weapon off *SAFE* and charge the chamber before leaving the boat.

A safety boat is always used during an assault crossing. One safety boat is used for every company flotilla. It contains at least one lifeguard-qualified swimmer (two, if possible), to act as a lifeguard. This lifeguard will not wear boots or LBE. The safety boat will also contain a boat hook and a float with an attached line for rescuing troops in the water. Rocket-propelled lifelines will be included, if available. At a minimum, the boat commander is equipped with night-vision goggles. The crew of the safety boat comes from the supporting engineer force that provides the boats and boat crews, and consists of eight paddlers, the coxswain/commander, a medic, and the lifeguard or lifeguards. It also contains a radio on the company frequency.

The safety boat crosses parallel with the flotilla and about 40 meters downstream. Its crew pays out a climbing rope fastened to the near shore as a guard rope and attaches life jackets as floats every four boat lengths (see *Figure 8-10*). When it reaches the threat shore, the crew ties off the guard rope and then moves back centered in the river. If a man goes in the water or a boat capsizes, the affected boat group makes a quick radio call on the company frequency, indicating the number in the water and the boat group calling. The alerted safety boat holds water, while its crew looks for troops who are in the water or who are caught by the guard rope.

If a soldier goes in the water, he should immediately remove his helmet and release it. He should then roll onto his back. If he is wearing a Class 5 life jacket, he retains his weapon and LBE. If he is wearing a lesser-quality life jacket, he releases his rifle and LBE and drops them. He then allows the current to carry him, stroking and kicking to remain centered in the river or to float to the friendly shore. He stays alert for the guard rope and safety boat. If he reaches the guard rope, he wraps his arms in it or clips a snap link to it on his LBE (if he is wearing LBE). He either waits for the safety boat or moves along the rope to the nearest shore.

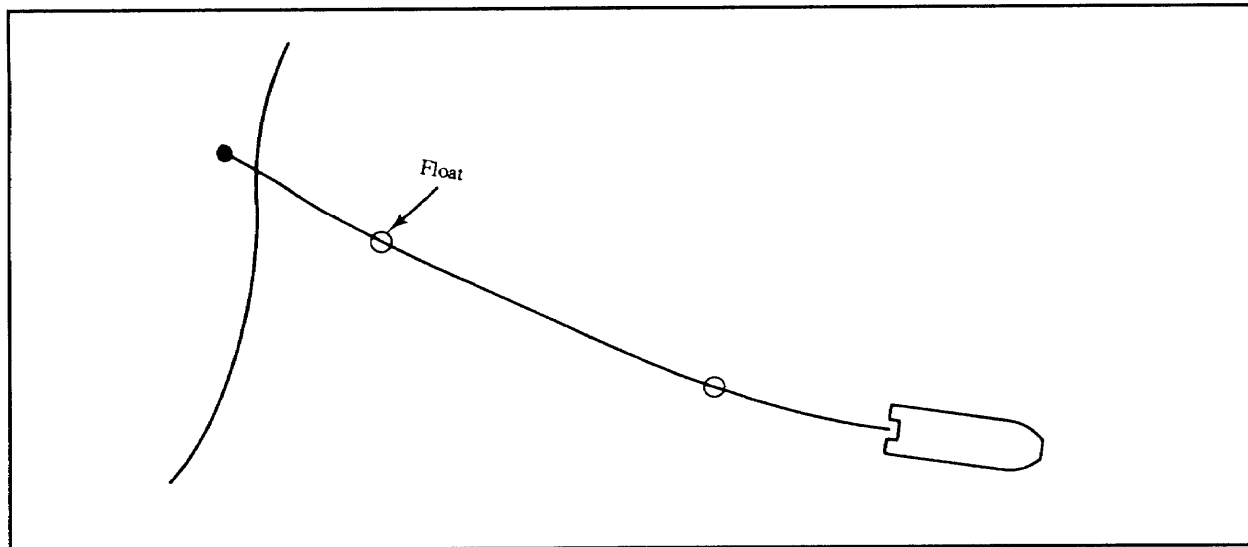


Figure 8-10. Safety boat and guard rope

If the boat is subjected to heavy artillery fire while crossing and if the boat commander directs, the coxswain turns the boat downstream and propels it at a fast stroke with the current out of the artillery impact area. If the boat is subjected to heavy direct fire while

crossing, on command of the boat commander all personnel stow paddles, slip over the side while holding the safety line, and propel the boat to shore by kicking with their feet. *Figure 8-11* provides a summary of the steps involved in an assault crossing.

- | | |
|--|--|
| 1. Conduct far-shore reconnaissance. | 13. Boat groups carry boats to river and launch boats. |
| 2. Conduct near-shore reconnaissance. | 14. Company flotillas cross river. |
| 3. Conduct rehearsal (day). | 15. Support force fires suppression (if required). |
| 4. Conduct rehearsal (night). | 16. Smoke placed on river (if required). |
| 5. Assault force moves into assembly area. | 17. Assault force debarks, deploys, and attacks. |
| 6. Company guides link up with engineer boat platoons. | 18. Second-wave force moves to river. |
| 7. Engineer boat platoons move into attack position. | 19. Boat groups return to near shore. |
| 8. Support force moves into position. | 20. Engineers mount motors (if required). |
| 9. Engineer boat platoons distribute and prepare boats. | 21. Second-wave force and cargo loaded into boats. |
| 10. Company guides bring assault force to attack position. | 22. Second wave crosses river. |
| 11. Boat teams man boats. | 23. Far-shore aid station established. |
| 12. Preparation teams prepare far shore. | 24. Initial heavy weapons force river. |
| | 25. Assault force seizes objectives. |
| | 26. Assault force establishes hasty defense. |

Figure 8-11. Assault steps, summarized