

Report Date: 30 Apr 2012

**Summary Report for Individual Task
551-8ST-1017
Assist in Rigid Inflatable Boat (RIB) Operations
Status: Approved**

DISTRIBUTION RESTRICTION: Approved for public release; distribution is unlimited.

DESTRUCTION NOTICE: None

Condition: Given an operational vessel with a Rigid Inflatable Boat (RIB) and crew. You are required to assist in the RIB operation.

Standard: The Solider assisted with RIB operations, in accordance with (IAW) TM 55-1945-224-14&P and without causing damage to the boat or injury to other crewmembers/survivors, in order to effectively perform rescue operations.

Special Condition: Aboard a vessel, day or night, under all sea and weather conditions, whether for a routine drill or actual emergency rescue operation. Special Conditions (if any): Rescue boats should be operated only by a trained coxswain.

Special Standards: None

Special Equipment:

MOPP:

Task Statements

Cue: None

DANGER
None

WARNING
None

CAUTION
None

Remarks: None

Notes: None

Performance Steps

1. Assist in conducting pre-operational checks.
 - a. Verify that The rigid hull is free of leaks or damage.
 - b. Verify that The high capacity trunks are up.
 - c. Verify that The bilge pump is operational and switch on auto.
 - d. Verify that The battery electrolyte is at the proper level.
 - e. Verify that The battery is fully charged.
 - f. Verify that The navigation lights are operational.
 - g. Verify that All hatches are secure.
 - h. Verify that The steering system operates smoothly and freely without leaks.
 - i. Verify that The throttle and shift controls operate smoothly and freely.
 - j. Verify that The following items are on board and stowed:
 - (1) Paddles
 - (2) Mooring lines
 - (3) Fire extinguisher
 - (4) Inflation pump
 - (5) Tube repair kit
 - (6) Flares
 - (7) Life jackets (1 per person)
 - k. Check the bilge pumping and draining system
 - (1) Verify that the bilge pump drain and hull cavity drain plugs are in place.
 - (2) Verify that the high capacity drain trunks are secured in the up position.
 - l. Check the inflatable collar
 - (1) Verify that the inflatable collar is free of any punctures or excess water and that the attachments are secure.
 - (2) Verify that the inflatable collar is at the correct operating pressure -minimum of 2.25 psi (150mb).
 - m. Check the fuel system.

(1) Verify that there is sufficient fuel is on board.

(2) Verify that the fuel lines and filter are free of leaks.

(3) Fill the fuel tanks (if necessary) starting with the aft tanks to maintain optimum center of gravity:

(a) Remove the portable fuel tanks.

(b) Verify that the correct gasoline/oil mixture is used when re-fueling. (Check the engine manufacturer's technical manual for the correct fuel mixture.)

(c) Fill the tanks.

(d) Verify that the fill and vent fittings are closed to prevent spilling gasoline when replacing the tanks into the boat.

(e) Place the portable fuel tanks back into the boat and secure.

(f) Re-connect the fuel supply line.

(g) Open the appropriate vent.

Note: If gasoline is spilled during filling, wash down and wipe the area out prior to operating.

WARNING:

- GASOLINE IS HIGHLY INFLAMMABLE AND ITS VAPORS ARE EXPLOSIVE.
- SMOKING, FLAMES, HEAT, OR SPARKS ARE NOT PERMITTED IN THE AREA.
- ANY FUEL IN THE BILGE IS A FIRE HAZARD. CLEAN UP SPILLS IMMEDIATELY.

n. Check the electrical system

o. Electrolyte levels

(1) Check that the electrolyte in each cell of the battery is approximately 3/16 inch (5 mm) above the battery plates.

WARNING

TO REDUCE THE CHANCE OF EXPLOSION, NEVER EXPOSE BATTERY TO SPARK OR OPEN FLAME. DO NOT SMOKE NEAR BATTERIES. BATTERIES GENERATE HYDROGEN GAS WHICH IS EXPLOSIVE AND FLAMMABLE. BATTERY FLUID CONTAINS SULPHURIC ACID WHICH IS EXTREMELY CORROSIVE.

(2) If the level is too low, add colorless, odorless drinking or distilled water and recharge the battery.

(3) Check the state of charge

Note: Knowledge the Soldier must have:

K-1: The Soldier must know how to use a hydrometer to measure the specific gravity of the battery electrolyte to determine the state of charge of the battery.

CAUTION

Ensure battery connections are made properly with correct battery polarity. Connections are negative (black) to negative and positive (red) to positive. Incorrect connections will damage the charging system.

(4) Check electrical connections

- 1. Inspect all electrical connections are secure.
- 2. Verify battery connections are clean and tight.

p. Check the engine.

(1) Tilt the outboard motor down.

(2) Start the motor.

(3) Bring the motor up to operating temperature.

(4) Shutdown the motor before launching.

(5) Perform any additional engine checks in accordance with (IAW) the manufacturer's technical manual.

Note: A cooling water supply hose must be connected to the outboard motor's lower unit cooling water intakes while the engine is being run out of the water.

CAUTION: Do NOT start the engine while the boat is out of the water unless the engine is connected to the auxiliary cooling water supply. Overheating can damage or destroy the engine.

WARNING

PERSONNEL MUST BE KEPT AWAY FROM THE PROPELLER DURING THE START-UP OF THE ENGINE ONBOARD THE SHIP. FOLLOWING START-UP, IT IS POSSIBLE TO PUT THE ENGINE INTO GEAR CAUSING THE PROPELLER TO ROTATE AND THE POSSIBILITY OF SERIOUS PHYSICAL INJURY OR DEATH.

2. Assist in launch the rescue boat.

a. Remove the storage cover and confirm that all systems are operational (See Step 1).

b. Take tension on the lift hook.

c. " Inspect all lift hook and sling connections to ensure correct and secure attachment.

d. c. Release all gripes and tiedown.

(1) Lift the rescue boat clear of the storage cradle and any obstructions in way of the launching path of the boat.

(2) Check that the rescue boat assumes a slightly bow up attitude and adjust weight as necessary.

e. d. Swing the davit outboard so that the rescue boat is well clear of the ship.

(1) " Use the painter to maintain a fore and aft alignment to the boat.

(2) " The coxswain turns the outboard motor so that the bow of the rescue boat will steer away from the ship.

f. e. Lower the rescue boat into the water.

Knowledge the Soldier must have:

K-1: The Soldier must know how to lower the rescue boat into the water.

g. Board the rescue boat and assume seating positions.

h. Start the engine and release the lift hook immediately upon contacting the water.

Note: The ship's crew will raise the lift hook as soon as it is released from the rescue boat. The ship's crew then releases the painter, which must be quickly brought on board the rescue boat.

i. Once the painter is retrieved, maneuver the rescue boat away from the ship.

3. Assist starting the engine.

a. Ensure that the outboard motor is tilted down and that there is sufficient water to operate the motor.

b. Squeeze the full line primer bulb until it becomes firm.

c. Place the control lever in the neutral position.

d. Move the neutral throttle lever on the control head upwards.

e. Attach the man overboard actuator lanyard to your wrist.

f. Insert the actuator into the man overboard switch located on the control head.

g. Operate the starter/ignition switch and choke as per the outboard motor manufacturer's technical manual.

h. Release the starter switch as soon as the engine fires.

i. Allow the engine to warm up as per the outboard motor manufacturer's recommendations.

CAUTION

When an alarm sounds, stop the engine immediately and investigate the cause.

j. Check that the engine function gauges are displaying normal values (see the outboard motor manufacturer's technical manual) and that a continuous flow of cooling water is exiting the pilot hole (located just below the engine cowling on the aft side of the engine).

4. Assist in operating and maneuver the rescue boat.

a. Operate the steering wheel.

(1) Turn the steering wheel **CLOCKWISE** to turn the boat to **STARBOARD**.

(2) Turn the steering wheel **COUNTERCLOCKWISE** to turn the boat to **PORT**.

b. Perform seakeeping and boat handling maneuvers.

Note: Because of the light responsive nature of the rescue boat, dangerous situations may sometimes be avoided by maintaining or increasing speed rather than by slowing down. When going to windward, the boat's speed allows it to be either steered around breaking seas or powered through them square on.

(1) Reduce the speed as the bow breaks through to prevent the boat from flying off the crest of the wave.

(2) When running before the sea, adjust the speed to ensure that the boat is not overrun by breaking seas or that it does not drive into the back of the next wave ahead.

(3) When running a beam sea, run the boat clear of the breaking sea or square her bows to it and power through it.

Note: When in doubt as to which method to use, always head squarely into the sea. When stopped, always head the boat into the sea and be prepared to power through any breaking waves.

WARNING

WHEN POSSIBLE, WARN PERSONNEL ON THE BOAT THAT AN EMERGENCY STOP IS REQUIRED SO THAT THEY CAN SECURE THEMSELVES.

c. Perform an emergency stop.

(1) Pull the control into NEUTRAL as quickly as possible.

(2) Steer the boat to avoid the danger.

CAUTION

Shifting into reverse when the boat is planing may damage or stall the engine.

NOTE: The rescue boat has limited steering capability when the propeller is stopped.

NOTE: Although the inflatable collar makes capsizing unlikely, if capsize does occur, the crew should remain with the boat to increase chances of being sighted. To minimize the risk of hypothermia, the crew should climb aboard the inverted boat.

(3) Once off a plane and engine is at an idle rpm (750 rpm), shift into reverse.

5. Operate the engine controls.

a. FORWARD: Move the control lever forward from the neutral position.

b. INCREASE SPEED: Push the lever further forward.

c. ASTERN (REVERSE): Move the control lever astern from the neutral position.

Note: When shifting from FORWARD to REVERSE, move the control lever to NEUTRAL and allow the engine RPM to drop to the idle level before shifting to REVERSE. Use the same technique when shifting from REVERSE to FORWARD.

WARNING: AVOID EXCESSIVE SPEED IN HEAVY WEATHER AS SERIOUS DAMAGE TO THE BOAT AND CREW WILL RESULT.

6. Assist in marshaling liferafts (Figure 551-8ST-1034_01) by grouping them all together in a safe position. (This may require towing some or all of the liferafts. See Step 8, Tow liferafts.)

Note: In addition to the liferafts, the rescue boat must pick up any survivors that are in the water. The first priority of the rescue boat is to provide a safe place for the survivors. This means that the liferafts must be marshaled in a safe location. Following this, the rescue boat must rescue all personnel in the water.

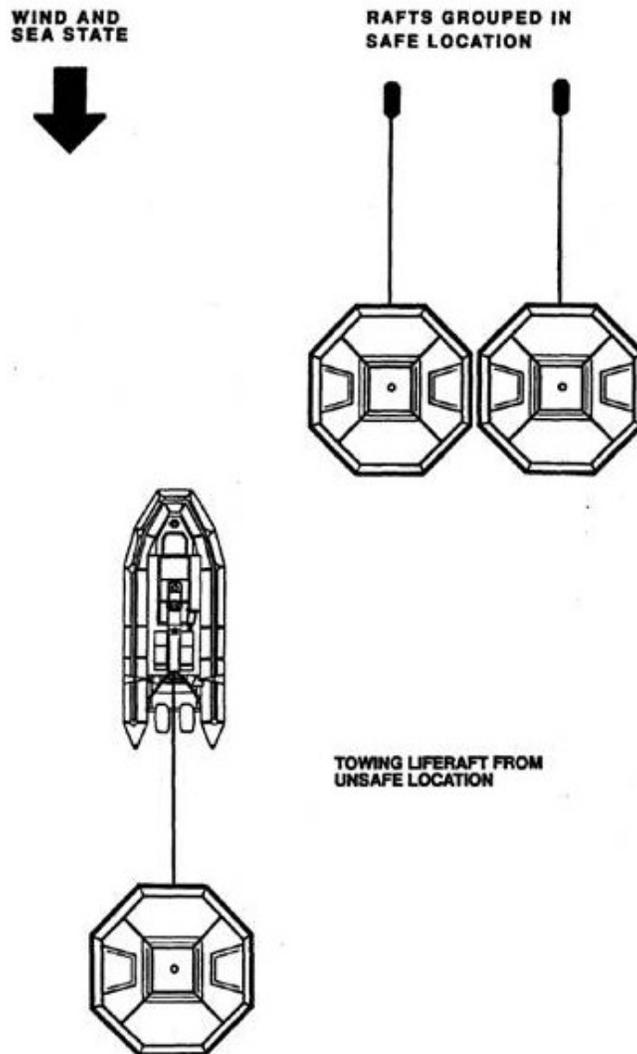


Figure 551-8ST-1034_01 (Marshalling Liferafts)

7. Assist in towing the liferafts.

WARNING

WATCH FOR SURVIVORS IN THE WATER WHEN APPROACHING LIFERAFTS.

- a. Approach the liferaft with caution from downwind.

WARNING

KEEP HANDS CLEAR OF THE BOLLARD WHEN TYING OFF THE TOWLINE.

b. Maneuver close enough to pick up the liferaft's towline and tie it off on the stern bollard (Figure 551-8ST-1034_02) if so equipped. Otherwise, secure the liferaft's towline to the padeyes on the RIB's transom. Ideally, a two legged bridle should be used.

c. Reduce the strain on the liferaft by taking tension on the towline slowly.

d. Take a turn around the bollard (with the boat moving slowly) and pay out the line as the tension comes on the towline.

Note: This is important in rough sea conditions when the waves will cause the rescue boat to surge ahead.

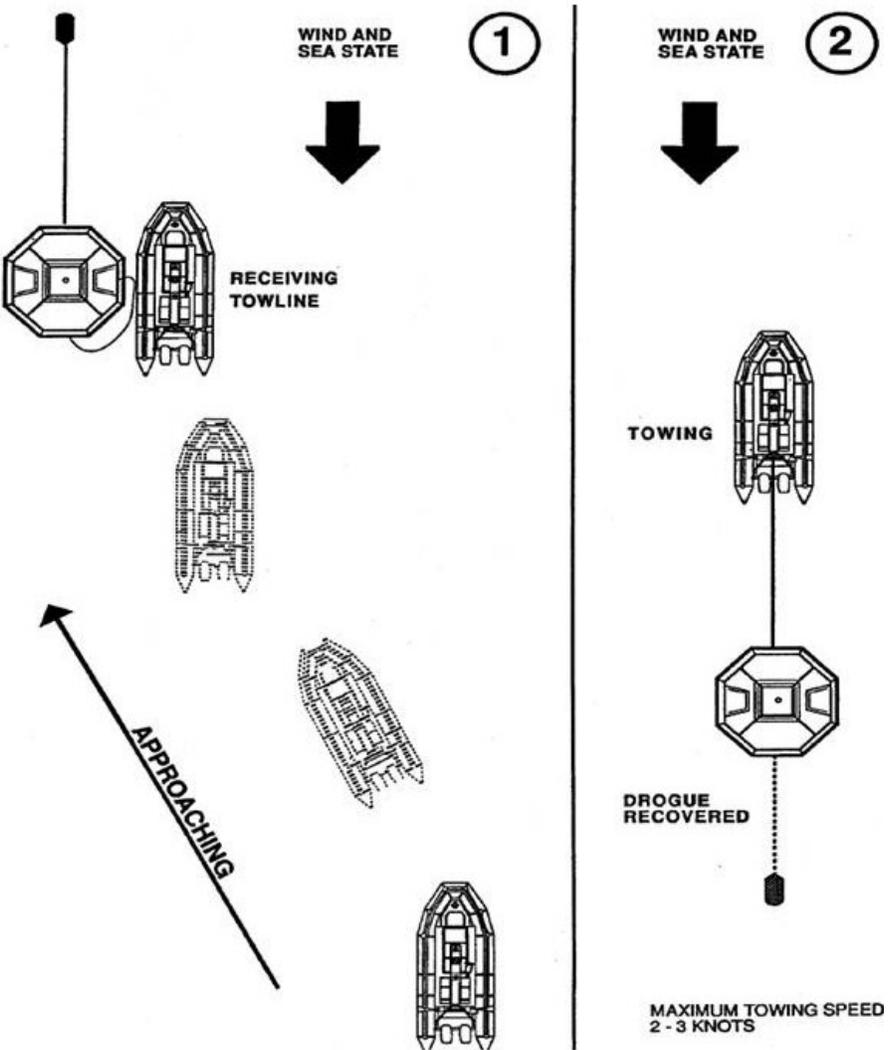


Figure 551-8ST-1034_02 (Towing Diagram)

WARNING

ALWAYS APPROACH CASUALTIES SLOWLY SO THAT THE POSSIBILITY OF CONTACT WITH THE PROPELLER IS KEPT TO A MINIMUM.

NOTE: Each rescue is different and any technique may have to be varied depending on the particular conditions at the time of the rescue. The preferred technique is described below.

8. Assist in recovering a person in the water.

a. Position the boat directly downwind of the survivor. (Figure 551-8ST-1034_03).

b. Slowly maneuver the boat toward the survivor with the bow directly into the wind.

c. Make the approach slowly to ensure that the survivor is not run over.

d. Bring the starboard side, if possible, alongside the survivor.

Note:

- Bringing the starboard side alongside the survivor allows the coxswain to stand off-center directly over the controls with good visibility of the side where the survivor will be picked up.
- The sea state should be bow on or slightly starboard forward quarter (less than 10°) for a starboard side rescue.
- Assuming the rescue boat is manned with two crew members, the best position to pick up the survivor is just forward of the control console.

e. Take a low position toward the center of the boat allowing the coxswain good visibility.

f. Move to the side of the rescue boat as the survivor is reached.

g. Retrieve the survivor from the side position as aft as possible to reduce the chance of the bow being pushed around over the survivor.

Note: When the crew has hold of the survivor, the coxswain can move forward to help.

h. If the survivor is missed on the first attempt:

(1) Circle the boat keeping the survivor on the inside of the circle.

(2) Make the approach again upwind from the survivor.

Note: Keeping the survivor inside the circle rotates the transom and keeps the propeller away from the survivor.

(3) Make the survivor as comfortable as possible once out of the water; if rescued from cold water, wrap the survivor in a thermal protective aid.

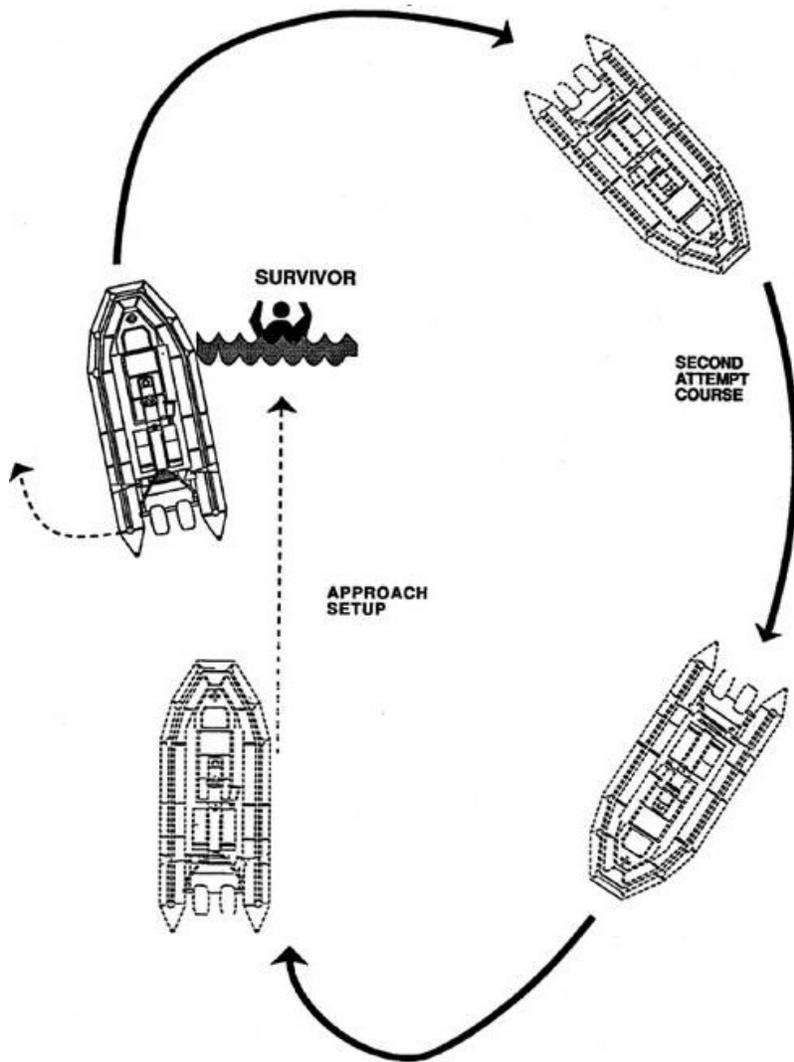


Figure 551-8ST-1034_03 (Man Overboard Recovery)

9. Assist in Docking/mooring the boat.

WARNING

ENSURE PERSONNEL DO NOT PUT ARMS OR LEGS OVERBOARD WHEN COMING ALONGSIDE A BOAT OR DOCK. THERE IS RISK OF SERIOUS INJURY (EVEN WITH THE INFLATABLE COLLAR) IF ARMS OR LEGS ARE TRAPPED BETWEEN THE BOAT AND DOCKING SURFACE.

CAUTION: When approaching the docking position, look for sharp objects (nails, metal pipes, etc.) that might damage the inflatable collar.

- a. Prepare the docking line prior to coming alongside of the pier or dock.
- b. Steer carefully alongside the slip or pier, taking the wind, current, or tide into consideration.
- c. Cast lines into the pier.
- d. Secure lines to bollards, bits, or cleats as appropriate.

Note: Two lines, under normal conditions, are sufficient to secure the boat (one bow and one stern line). In extreme weather conditions or if the boat is to be left for an extended period, more lines may be required. Depending on available securing positions on the dock or pier, lines should lead free of the inflatable collar to reduce the chance of chafing damage.

10. Anchor the boat.

- a. Remove the anchor and anchor line from its stowage position and connect the two.
- b. Lay out the line so it will run freely when released.
- c. Tie the bitter end to the bow.
- d. Move the boat upwind or upcurrent to where the anchor is to be dropped.

WARNING

ENSURE PERSONNEL STAY CLEAR OF THE ANCHOR AND LINE. THERE IS A RISK OF INJURY IF ARMS OR LEGS BECOME ENTANGLED IN THE LINE DURING PAYING OUT OF THE ANCHOR LINE.

Caution: Before reversing away from the anchoring position, ensure the line is free of the propeller.

- e. Place controls in neutral.
- f. Pay out the anchor line until the anchor bottoms.

Note: If anchoring is necessary, the boat must be anchored with as much protection as possible from existing or prevailing weather.

g. To hoist the anchor:

- (1) Steer the boat to the anchor location with the controls in slow ahead.
- (2) Take up the slack as the boat moves forward to prevent over-running the anchor.
- (3) Stop the boat when the anchor line becomes vertical.
- (4) Hoist the anchor.

Note: The anchor line may be stuck to the bottom. If so, tie off the anchor line and continue forward slowly - this will free the anchor from the bottom. Again, put the controls in neutral and hoist the anchor.

- (5) Disconnect the anchor and line and stow.

11. Assist in shutting down the engine.

a. Normal shutdown

- (1) Reduce the engine temperature by allowing the engine to run at idle for 2 to 3 minutes.
- (2) Turn the main switch (located on the control head) to OFF.
- (3) Tilt the engine up to reduce the risk of damage to the outboard motor lower unit from grounding or corrosion.

b. Emergency shutdown (Complete either of the following actions.)

(1) Turn the main switch (mounted on the engine control head) to OFF.

(2) Disengage the man overboard switch actuator from the man overboard switch (located on the engine control head).

Note: The engine cannot be restarted until the actuator is reinstalled in the man overboard switch. Disconnecting the outboard motor wiring harness prevents the engine from being stopped by either the main switch or the man overboard switch.

12. Assist in recovering the rescue boat.

Note: Shipboard recovery of the rescue boat requires coordination between the ship and rescue boat. Develop a communication method to achieve this coordination as recovery can be very difficult and dangerous in severe weather conditions. The side of the ship on which the davit is located determines the orientation of the ship with respect to the wind and sea conditions.

Figure 551-8ST-1034_04 details the ship's position for recovery with a davit mounted on the starboard side of the ship. The ship should be making headway and maintaining maneuverability at approximately two to three knots.

a. Check that the lift sling is secure and correctly attached to the boat lifting fittings, and that the slings will be free from fouling on personnel or equipment when tension is applied.

b. Maneuver the rescue boat alongside the ship forward of the davit location.

Note: The ship's crew will throw a small line or painter to the rescue boat. It is to attached to the rescue boat's bow eye.

c. Drift to a position where the sling ring is connected to the lift hook.

d. Signal the davit operator to hoist to take a strain on the lifting slings..

Note: Ensure that all personnel and equipment are clear of the lifting hardware when tension is taken.

e. Shut down the engine when the boat clears the water. (Refer to Step 10.)

f. Hoist the boat clear of all obstructions and swing the davit inboard over the stowage position.

Note: Use the painter to maintain fore and aft alignment of the rescue boat.

g. Carefully lower the boat into its storage cradle.

h. Make sure that the rescue boat is positioned correctly in the storage cradle and secure in position.

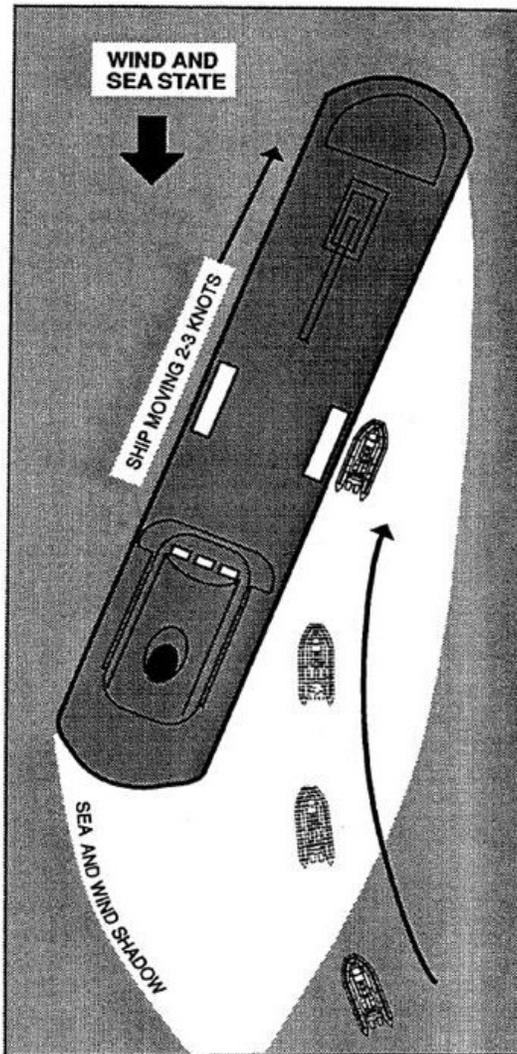


Figure 551-8ST-1034_04 (Approaching Ship Diagram for Rescue Boat Recovery)

(Asterisks indicates a leader performance step.)

Evaluation Preparation: Ensure that all information, references and equipment required to perform the task are available. Use the FM and the evaluation guide to score the soldier's performance. Brief the soldier. Tell the soldier what he is required to do IAW the task conditions and standards.

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Assist in conducting pre-operational checks were completed prior to operating the rescue boat?			
2. Assist in launching the rescue boat?			
3. Assist in starting the engine?			
4. Assist in operating and maneuver the rescue boat?			
5. Assist in Marshalling liferafts (if required)?			
6. Assist in towing liferafts (if required)?			
7. Assist in recovering a man overboard (if required)?			
8. Assist in docking/mooring the boat?			
9. Assist in anchoring the boat?			
10. Assist in shutting down the engine?			
11. Assist in recovering the rescue boat?			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	FM 55-502	Army Watercraft Safety (superseded by FM 4-01.502)	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination. In a training environment, leaders must perform a risk assessment in accordance with FM 5-19, Composite Risk Management. Leaders will complete a DA Form 7566 COMPOSITE RISK MANAGEMENT WORKSHEET during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, NBC Protection, FM 3-11.5, CBRN Decontamination.

Prerequisite Individual Tasks :

Task Number	Title	Proponent	Status
551-88H-1701	Perform Water Survival Techniques	551 - Transportation (Individual)	Approved

Supporting Individual Tasks :

Task Number	Title	Proponent	Status
551-88H-1701	Perform Water Survival Techniques	551 - Transportation (Individual)	Approved

Supported Individual Tasks :

Task Number	Title	Proponent	Status
551-88H-1701	Perform Water Survival Techniques	551 - Transportation (Individual)	Approved

Supported Collective Tasks : None