

LESSON PLAN

January 2007

COURSE TITLE: Surface Rescue Swimmer  
Courses, A-050-0500

TERMINAL OBJECTIVE:  
Partially supported by this lesson topic:

CLASSIFICATION: Unclassified

3.0 Upon completion of this unit of instruction, the student will demonstrate the proper rescue techniques of military and civilian personnel, day or night, utilizing appropriate SAR equipment for at-sea rescues, as outlined in NTTP 3-50.1 and OPNAVINST 3130.6 series, without injury to personnel or damage to equipment.

LESSON PLAN NUMBER: 4.3

LESSON TOPIC: Primary Rescue Devices and Procedures

ALLOTTED LESSON TIME: 1.5 Classroom  
6.0 Laboratory

INSTRUCTIONAL SUPPORT:

1 Classroom Instructor  
1 Laboratory Instructor  
Safety personnel and additional instructors as required per Annex E, Staffing Requirements, of Curriculum Outline

Enabling Objectives:  
Completely supported by this lesson topic:

INSTRUCTIONAL REFERENCES:

1. NTTP 3-50.1, Naval Search and Rescue Manual
2. NAVAIR-13-1-6.5, Rescue and Survival Equipment

3.28 Explain the functional operation of the following Rescue Devices per NTTP 3-50.1:

- a. Double Rescue Hook
- b. Modified Rescue Strop
- c. Rescue Litter/SAR MEDEVAC Litter, Trail Line and Gloves

INSTRUCTIONAL AIDS:

1. Trainee Guide
2. Double Rescue Hook
3. Modified Rescue Strop

3.29 Demonstrate procedures for placing a survivor into the following rescue devices in a water environment:

- a. Double Rescue Hook
- b. Modified Rescue Strop
- c. Rescue Litter/SAR MEDEVAC Litter
- d. Rescue Litter Sling Assembly

4. Rescue Litter/SAR MEDEVAC Litter,  
Trail Line and Gloves

CRITERION TEST: Job Sheet 4.3/Written Test

HOMEWORK: None

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

INTRODUCTION:

A. Establish Contact

Display name and lesson topic.

1. Introduce self, give rank, current job.
2. State background, schools, duty stations, etc..
3. State question and answer policy.
4. Review Training Time Out policy.
5. Ask the following questions:
  - a. Has anyone gone to the hospital/branch clinic for treatment within 24 hours, and are you taking any medications?
  - b. Has anyone taken over-the-counter medications within 24 hours?
  - c. Does anyone have a potentially disqualifying illness/ condition for which you are currently being evaluated?

Refer student to department medical representative for disposition.

B. State Lesson Objectives

Turn to cover page of Lesson Plan and paraphrase objectives.

C. Establish Readiness

1. Motivating Statements

Establish importance and relevance of lesson material using personal experience or anecdote.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

2. Lesson Overview

Briefly outline material to be covered.

- a. Lesson Topic: Rescue Devices and Procedures
- b. Major Teaching Points:
  - (1) Communication Procedures
  - (2) Double Rescue Hook
  - (3) Modified Rescue Strop
  - (4) Rescue Net
  - (5) Rescue Litter/SAR MEDEVAC Litter
  - (6) Inspection and Care of Rescue Devices

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

PRESENTATION:

Instructor note: This presentation may be given in the classroom or on the pool deck.

A. Communication Procedures

1. Efficient communications keep the ship, boat crew, deck crew, and swimmer aware of a developing rescue situation and allows rescue platform to provide needed support to swimmer (i.e., deployment of rescue devices).
2. The radio offers an optimal secondary means of communications.
3. Hand signals are the primary means of communication between rescue swimmer and the rescue platform in a maritime environment.
  - a. All crewmembers must be familiar with the meaning of standard hand signals.

Demonstrate all signals.

1. I am all right

Raised arm, open hand, fingers extended.

2. Move in for pickup

Raised arm, thumb up.

3. In trouble, need assistance

Vigorous waving of one arm.

4. Deploy raft

Clenched fists, arms crossed overhead.  
Clenched fist, arm

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

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|---|--|
| 5. Rescue Hand Tool                                 | pumping motion   |
| 6. Deploy Rescue Litter                             | One arm raised with open palm, fingers extended, other arm raised over the swimmer's head and touching the first arm at the elbow. |
| 7. Deploy Rescue Net                                | Both arms raised, palms open, fingers extended at a 45 degree angle to the swimmer's head.   |
| 8. Ready to be hoisted                              | Raised arm, thumb up.  |
| 9. Stop hoisting                                    | Raised arm, clenched fist.   |
| 10. Lower cable                                     | Raised arm, thumb down.  |
| 11. Deploy personal flotation device                | Either hand palm down on crown of head.  |
| 12. Request assistance of additional rescue swimmer | Either arm out, palm down, rotating in circular motion.  |
| 13. Request rescue boat assistance                  | Both arms raised over head, palms together.  |
| 14. I am all right (night)                          | Swimmer's lighting device (chemlight) on, raised arm, palm open, fingers extended.   |
| 15. Move in for pickup (night)                      | Wave chemical light.   |

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

16. In trouble need assistance
- B. Double Rescue Hook
1. The Double Rescue Hook is the primary rescue device.
    - a. All other rescue devices can only be used with the Double Rescue Hook.
    - b. Load ratings of the Double Rescue Hook (per NAVAIR 13-1-6.5):
      - (1) Large hook, rated at 3,000 lbs., shall be the only hook used to hoist personnel.
      - (2) Small hook, rated at 1,000 lbs., is to be used only for lightweight items such as mail.
      - (3) The equipment ring, rated at 1500 lbs., is used to hoist light equipment and mail.
    - c. Night-time Illumination
      - (1) Attach chemlight strap to equipment ring and attach two chemlights to strap.
  2. Procedures for forecastle recovery by Rescue Hook.

Blue strobe on.

Display device, indicating hooks and equipment ring.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

**WARNING**

**When connecting to a survivor who has as SV-2 vest, ensure that the chest strap on the survivor is loosened slightly to avoid injury to the survivor.**

- a. Perform approach and disentanglement procedures as necessary.
- b. Attach swimmer's tending line to the gated "D" ring located on the right shoulder of the pilot's torso harness if needed.
- c. When the rescue swimmer and survivor are ready to be hauled back the ship, the rescue swimmer shall position pilot and a thumbs-up signal to commence hauling in.
- d. Once under the davit, the swimmer gives a closed fist signal to stop hauling in. Position pilot under davit and attach largest hook of the double rescue hook to the gated "D" ring on the torso harness or the "D" ring on the right shoulder of non-ejection aviators.
- e. Rescue swimmer connects the surface swimmer harness "V" ring to the large end of the double rescue hook.
- f. Rescue swimmer signals ship, "Ready to be hoisted".

C. Modified Rescue Strop

Display Strop.

1. Rescue device used with Double Rescue Hook. The

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

Modified Rescue Strop is a buoyant device with a red waterproof cover designed to accommodate one survivor. A webbing strap runs through the cover and has a "V" ring at both ends for attaching the Double Rescue Hook. Two arm retainer straps are attached on the outside to hold survivor in the strop.

2. Night-time Illumination

Two chemlights are attached to the chemlight strap. The strap is attached to the Rescue Strop lower "V" ring.

3. Procedures for use:

Walk-through procedures with equipment and "survivor".

**NOTE**

Arm retainer straps shall be in the stowed position when lowering the Rescue Strop.

- a. Signal for pick-up.
- b. Once under davit, the swimmer signals a closed fist to stop hauling in.
- c. Approach hoist with survivor in an appropriate carry.
- d. Working behind the survivor, with the arm retainer straps outboard, the rescue swimmer shall pass the free end of the strop under one arm, around the back, and under the other arm.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- e. Connect the Rescue Strop free end lifting "V" ring to the large hook.
- f. Position the Rescue Strop tightly under the survivor's armpits and on the upper half of the survivor's back.

**WARNING**

**Arm retainer straps shall always be used when hoisting survivor with the Rescue Strop. This prevents the survivor's arms from rising and the survivor from slipping out of the Rescue Strop.**

- g. Pass the arm retainer straps over the survivor's arms, route under the Rescue Strop and across the survivor's chest.
- h. Connect the snap-hook arm retainer strap to the "V" ring arm retainer strap.
- i. Pull webbing on the "V" ring arm retainer strap until the arm retainer straps are secured tightly around the survivor's arms.
- j. If swimmer is to be hoisted, connect swimmer's lifting "V" ring to large hook.
- k. Perform Safety Check.
- l. Signal, "Ready for Pick-up".
- m. Rescue swimmer and survivor are hoisted up. After reaching the rescue platform the Rescue swimmer and crew shall assist the survivor.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- n. Once the survivor is inside and on the deck of the rescue platform, the rescue swimmer shall maintain positive control of the survivor until the crew gives a thumbs up. A thumbs up indicates to the rescue swimmer that the crew has the survivor in positive control on the rescue platform.

D. Rescue Litter/SAR MEDEVAC Litter

1. Litter Characteristics:

- a. Both are for use with suspected back injury victims and unconscious survivors.
- b. Both are designed to be used over land or in water with flotation assemblies.
- c. Rescue Litter requires a flotation kit for over water use. When flotation is installed litter floats with survivor's head slightly reclined from the vertical.

Display Litter, indicating features.

**WARNING**

**If survivor is wearing the bright orange Quick Donning Anti-Exposure Suit it may counteract the self-righting feature of the Rescue Litter and the SAR MEDEVAC Litter.**

- d. Both have a two piece rescue litter hoisting sling, which are attached to the Double Rescue Hook. Sling is color coded short red to head and long white to feet.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

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| e. | The SAR MEDEVAC Litter folds in half and can be stored in a backpack and weighs approximately. 40 lbs. It can be hoisted vertically or horizontally with its own sling, making it especially useful in restricted access situations.   | Display SAR MEDEVAC Litter, indicating features.  |
| f. | Night-time illumination.<br><br>Two chemlights are attached to each strap. One strap is attached to the head of the litter, one to the foot.   |   |
| g. | Both litters utilize a "trail line" controlled by the swimmer in the water to control litter deployment, and stabilize the litter during hoisting.<br><br>(1) One hundred and twenty feet in length.<br><br>(2) Three-eighths inch thick polyethylene, diamond-braided line.<br><br>(3) A weak link is incorporated, designed to break if the trail line becomes entangled.<br><br>(4) Gloves and line are deployed together via a 5lb shot bag. | Display trail line assembly and gloves.   |
| 2. | Securing Survivor to the Rescue Litter (Stokes Litter):  | Display Rescue Litter securing features. Demonstrate each procedure as it is presented. |

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. Rescue Litter has five restraint straps. They are stowed with four retaining straps.
- b. Procedure for securing survivor:
  - (1) The rescue swimmer shall guide the survivor into the positioned litter by using the collar tow or equipment carry.
  - (2) Once positioned, the swimmer shall take the top restraint strap from the front of the litter and secure it around the survivor's chest. The strap is pulled loose from the right side, placed under the arms but over the chest, and attached to the fitting on the left.
  - (3) Next, working from the chest strap down, secure the rest of the restraint straps.
  - (4) Once the restraint straps are secured, attach the chest pad over the survivor's arms. The rescue swimmer may encounter some difficulty if survivor has flotation; however, flotation shall not be removed. Instead, remove chest pad from litter and continue with rescue. If practical swimmer will return chest pad back to rescue platform when hoisted.
- 3. Securing survivor to the SAR MEDEVAC Litter:

Display SAR MEDEVAC Litter securing features.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. Litter will need to be assembled by rescue platform crew prior to lowering to swimmer.
- b. Litter has integral cervical collar and head restraint, four survivor restraint straps, one chest flotation pad assembly strap, and one foot restraint assembly.
- c. Procedure for securing survivor:
  - (1) The rescue swimmer shall guide the survivor into the positioned litter by using the collar tow or equipment carry.
  - (2) Once positioned, the swimmer shall take the top restraint strap from the front of the litter and secure it around the survivor's chest. The strap is pulled loose from the right side, placed under the arms but over the chest, and attached to the fitting on the left.
  - (3) Next, working from the chest strap down, secure the rest of the restraint straps.
  - (4) Properly adjust foot restraint assembly.
  - (5) Once the restraint straps are secured, attach the chest pad over the survivor's arms. The rescue swimmer may encounter some difficulty if survivor has flotation; however, flotation shall not

Demonstrate each procedure as it is presented.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

be removed. Instead, remove chest pad from litter and continue with rescue. If practical swimmer will return chest pad back to rescue platform when hoisted.

- (6) Secure head restraint assembly if possible. Do not remove survivor's helmet if neck/back injury is suspected.

4. Forecastle Litter Procedures:

Demonstrate procedures.

**NOTE**

When the rescue swimmer reaches a distance of 20 to 25 feet from the ship he/she will signal stop hauling. The rescue swimmer shall maintain a distance of 20 to 25 feet to prevent being battered against the ship.

- a. Signal for litter (Trail line will come out first).

**WARNING**

The weight bag shall be deployed so as not to strike rescue swimmer or survivor.

- b. The rescue platform shall deploy the trail line ensuring that it is attached to the litter. The gloves shall be tied on by a slip knot located just above the weight bag.

**WARNING**

The rescue swimmer shall wear trail line or authorized Rescue Swimmer gloves with leather palms in order to prevent rope burns to the hands.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- c. Put on gloves.
- d. The rescue swimmer shall pull on the trail line gently until the entire line is deployed.
- e. Signal "thumbs-up" indicating ready for litter.
- f. Use the trail line to control the litter and pull it into position as it is lowered.
- g. The ship lowers the rescue litter into the water with hoisting slings attached to the rescue hook behind the litter.
- h. Disconnect one set of the hoisting slings from rescue hook, placing hoisting slings outside litter. Do not allow hoisting slings to foul restraining straps.
- i. Position survivor on litter, adhering to warning regarding survivor's buoyancy and the self-righting feature of the litter.
- j. Once the survivor is secure in the rescue litter the swimmer will disconnect one litter hoisting sling from the rescue hook. Swimmer then reconnects the litter hoisting slings back in the front of the rescue litter.
- k. The rescue swimmer shall give a thumbs-up signal indication, "ready to be hoisted." When the survivor is planed out, the swimmer will signal "stop hoisting".

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- l. Conduct pre-hoisting safety check, ensuring survivor is securely within litter, litter is attached to large hook, tending line is attached to the proper side of the litter, sling cables are in correct position, swimmer is wearing gloves, and cable is clear and not wrapped around the litter or swimmer.
- m. Signal ready to be hoisted.

**NOTE**

Extreme care shall be utilized during trail line evolutions in shallow waters. Cease hoisting immediately if the weighted bag becomes snagged on the bottom. Hoisting when this occurs may cause possible harm to personnel and/or equipment.

- n. By the use of the trail line and flutter kicking away from the ship, the rescue swimmer shall steady the litter during the hoisting operation to ensure the litter remains parallel and does not strike the ship.
  - o. With the litter and trail line on board, the crew shall lower the rescue strop and recover rescue swimmer.
5. Procedures for rescue boat recovery by rescue litter
- a. The rescue swimmer shall give the verbal/hand signal for the rescue litter.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- b. The litter shall be placed in the water, back against the gunwale/tube, with the head of the litter out of the water.

**NOTE**

The hoisting sling and trail line assembly shall not be attached to the rescue litter for rescue boat operations.

- c. The rescue swimmer shall place the survivor in the rescue litter utilizing proper procedures.
- d. Once the survivor is secured in the litter, the rescue swimmer shall give a thumbs-up signal to the boat officer.
- e. The boat officer will then direct the crew to retrieve the survivor aboard the rescue boat.

**G. NIGHT UTILIZATION OF RESCUE DEVICES.**

Normal hook up procedures are used at night. Chemical lights are attached as appropriate.

**WARNING**

Due to low visibility at night, the rescue swimmer must pay particular attention to ensure all safety straps, harnesses, ect. Are properly installed. Failure to do so could result in injury or death to the survivor/rescue swimmer.

**H. RESCUE EQUIPMENT INSPECTION.**

- 1. Visual inspection prior to use.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- a. Inspect fabric for cuts, deterioration, and abrasion.
- b. Inspect seams for proper adhesion and stitching.
- c. Inspect all hardware for security of attachment, corrosion, damage, wear, and if applicable, ease of operation.
- d. Check for sharp edges and projections.
- e. 90 day inspection cycle for equipment conducted by maintenance personnel.

**WARNING**

**Unauthorized modification to, and deviation from, prescribed life support and survival equipment by individual crew members could create unknown safety hazards.**

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

SUMMARY:

A. State Lesson Objectives

Turn to cover page for objectives.

B. Review Major Teaching Points

Briefly summarize.

APPLICATION:

Initial students practice procedures dry-land until comfortable.

Instructor demonstrate proper procedures in placing a survivor into the rescue net

Students place "survivor" into the following rescue devices in a day and night pool environment.

Instructor demonstrate proper procedures in placing a survivor into the rescue seat

- a. Double Rescue Hook
- b. Modified Rescue Strop
- c. Rescue Litter/SAR MEDEVAC Litter

Break initial students into small groups for dry land practice.

Students practice skills in water under observation and instruction of an in-water instructor. Instructor demonstrates skills as required.

EVALUATION: Job sheet checklist 4-3.

ASSIGNMENT: None