

LESSON PLAN

January 2004

COURSE TITLE: Aviation Rescue Swimmer
Courses, Q-050-0600
Q-050-0602

CLASSIFICATION: Unclassified

LESSON PLAN NUMBER: 3.6

LESSON TOPIC: Disentanglement Procedures (Free
Floater/Helicopter Aircrew)

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.

INSTRUCTIONAL REFERENCES:

1. NWP 3-50.1, Naval Search and Rescue Manual
2. NAVAIR 13-1-6 Series Manuals

INSTRUCTIONAL AIDS:

1. Trainee Guide

TERMINAL OBJECTIVE:

Partially supported by this lesson topic:

- 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 and overland rescues as outlined in NWP 3-50.1 and OPNAVINST 3130.6 series, without injury to personnel or damage to equipment.

Enabling Objectives:

Completely supported by this lesson topic:

- 3.11 List the disentanglement procedures for day and night conditions for survivors both with and without aircrew survival equipment.
- 3.12 Demonstrate disentanglement procedures for day conditions for survivors both with and without aircrew survival equipment.

CRITERION TEST: Written Test, Job Sheet 3-6.

HOMEWORK: None

2. LRU-1 Life Rafts
3. LPP-1 Life Vest
4. Pool
5. Chemlights
7. Flashlights
8. Whistle
9. Rescue Swimmer's Equipment

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

INTRODUCTION:

A. Establish Contact

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 medical clinic for treatment within 24 hours, and are you taking any medications?
 - b. Has anyone taken over-the-counter medications within 24 hours?
 - c. Are there any potentially disqualifying illnesses/ conditions for which you are currently being evaluated?

Refer questionable cases 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

Aviation personnel who have bailed out or ejected from their aircraft and are entangled in the parachute

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

present the rescue swimmer with both the greatest challenge and the greatest danger. The swimmer must act swiftly and efficiently in disentangling the survivor before the parachute sinks and the survivor is pulled down with the parachute.

2. Lesson Overview

Briefly outline material to be covered.

The wave generator may be used during all non-testable portions of this lesson as approved by the Training Chief.

a. Lesson Topic: Disentanglement Procedures (Free floater/Helicopter Aircrew)

b. Major Teaching Points:

- (1) Disentanglement procedures for a free floater.
- (2) Disentanglement procedures for helicopter aircrew personnel.
- (3) Emergency floatation procedures.
- (4) Raft extraction procedures.

WARNING

Inhalation of composite fibers resulting from aircraft fires

and/or aircraft material damage may be harmful to rescue personnel. If smoke is present, the rescue swimmer shall be deployed up-wind and will approach the aircraft in a manner as to avoid any smoke. Discard wet suit if it becomes impregnated with composite fibers.

PRESENTATION:

NOTE

Equipment worn by the survivor determines the procedures to be used in parachute disentanglement.

A. DISENTANGLEMENT PROCEDURES FOR FREE FLOATER

1. **ASSESS** the situation to determine if survivor(s) are conscious, unconscious, passive, or active. Assessing the situation begins before water entry. The situation may change at any moment.
2. **ESTABLISH** communication to determine the condition of the survivor and make approach. Ask, "are you OK"? The rescue swimmer shall continually evaluate the medical condition of a survivor during the entire course of a rescue.
3. Grasp survivor between the shoulder blades and pull survivor into wind. Obtain control of survivor **"ICIC"**.

State that the rear surface approach is preferred.

Stress "in close in control".

NOTE

Check for breathing. Give two breaths if required. Continue giving rescue breaths during disentanglement not to exceed 60 seconds between breaths until survivor is hoisted free of water.

4. **CLEAR** head, neck, and chest area. If survivor is conscious ask about any known injuries or conditions.
5. **CHECK FLOATATION**, evaluate the condition of survivor's floatation.

NOTE

When the survivor has damaged or no floatation, the rescue swimmer may give up his/her SAR 1 vest. If the rescue swimmer chooses to give up floatation, he/she shall use the appropriate conscious or unconscious survivor procedures as outlined in Lesson Topic 3.7, Combative Survivor Procedures.

6. **DISENTANGLEMENT** from head to toe.
7. **SWEEP ARMS**, ensure that the survivor's arms are completely clear of any debris. Once it has been verified that the survivor's arms are clear, cross the arms across the survivor's chest.
8. **SPINAL HIGHWAY**, using the spine as a reference, submerge and proceed hand-over-hand, keeping one hand on the survivor at all times, down the back and remove any debris off of the survivor's legs. Submerge as many times as necessary to remove all possible entanglements.

WARNING

If survivor has a suspected back injury, use the side of the survivor as a reference, proceed hand-over-hand along the side, keeping one hand on the survivor at all times, and remove all possible entanglements.

9. **DISCARD RAFT**, (if applicable).

NOTE

At the discretion of the rescue swimmer the raft may be punctured with a knife and sunk before, during, or after the survivor has been removed.

WARNING

Loss of ABC's is a serious life threatening condition requiring immediate medical treatment. This condition takes precedence and the survivor should be recovered by the fastest means possible.

10. Perform **FINAL CHECK**, head to toe to ensure that all shroud lines and parachute suspension lines are clear.
11. **SIGNAL** rescue platform.
 - a. Day-arm raised, thumb up.
 - b. Night-arm raised, waving high intensity chemlight.
12. As helicopter is approaching:
 - a. Ensure **AREA CLEAR**.
 - b. Establish a left hand cross-chest carry.
13. Allow **RESCUE HOOK TO TOUCH WATER** to discharge static electricity.
14. **USE APPROPRIATE PROCEDURES** for rescue device selected.

Emphasize importance of final check especially if swimmer inadvertently swims into any debris.

15. Perform **SAFETY CHECK** on rescue device, signal up hoist.

B. DISENTANGLEMENT PROCEDURES FOR CMU-33/P22P-18 AIRSAVE VEST WITH PRU-60/P22P-15 INTEGRATED BODY ARMOR, AND CMU-30/P22P-15 ASAIP VEST WITH PRU-61/P22P-15 INTEGRATED BODY ARMOR.

When the survivor is wearing the AIRSAVE/ASAIP vest with body armor, the rescue swimmer shall:

1. **ASSESS** the situation to determine if survivor(s) are conscious, unconscious, passive, or active. Assessing the situation begins before water entry. The situation may change at any moment.
2. **ESTABLISH** communication to determine the condition of the survivor and make approach. Ask, "are you OK"? The rescue swimmer shall continually evaluate the medical condition of a survivor during the entire course of a rescue.
3. Grasp survivor between the shoulder blades and pull survivor into wind. Obtain control of survivor **"ICIC"**.

NOTE

Check for breathing. Give two breaths if required. Continue giving rescue breaths during disentanglement not to exceed 60 seconds between breaths until survivor is hoisted free of water.

4. **CLEAR** head, neck, and chest area. If survivor is conscious ask about any known injuries or conditions.

NOTE

If the survivor is wearing an HGU series helmet, the chin strap must be loosened prior to inflating survivor's floatation.

5. **CHECK FLOATATION**, evaluate the condition of survivor's floatation.

NOTE

When the survivor has damaged or no floatation, the rescue swimmer may give up his/her SAR 1 vest. If the rescue swimmer chooses to give up floatation, he/she shall use the appropriate conscious or unconscious survivor procedures as outlined in Lesson Topic 3.9, Combative Survivor Procedures.

NOTE

The following floatation assemblies can be utilized with the ASAIP Vest; LPU-21/P, LPU-27/P, and LPU-35/P.

WARNING

Depending on floatation assembly installed, the rescue swimmer must use the appropriate inflation procedures.

6. **DISENTANGLEMENT** from head to toe.
7. **SWEEP ARMS**, ensure that the survivor's arms are completely clear of any debris. Once it has been verified that the survivor's arms are clear, cross the arms across the survivor's chest.
8. **SPINAL HIGHWAY**, using the spine as a reference, submerge and proceed hand-over-hand, keeping one hand on the survivor at all times, down the back and remove any debris off of the survivor's legs. Submerge as many times as necessary to remove all possible entanglements.

WARNING

If survivor has a suspected back injury, use the side of the survivor as a reference, proceed hand-over-hand along the side, keeping one hand on the survivor at all times, and remove all possible entanglements.

9. **DISCARD RAFT**, (if applicable).

NOTE

At the discretion of the rescue swimmer the raft may be punctured with a knife and sunk before, during, or after the survivor has been removed.

10. Perform **FINAL CHECK**, head to toe to ensure that all shroud lines and parachute suspension lines are clear.
11. **SIGNAL** rescue platform.
 - a. Day-arm raised, thumb up.
 - b. Night-arm raised, waving high intensity chemlight.
12. As helicopter is approaching:
 - a. Ensure **AREA CLEAR**.

Emphasize importance of final check especially if swimmer inadvertently swims into any debris.

NOTE

Survivor's lifting device is located on right side of vest. Lifting device could be covered by a nylon restraining flap.

WARNING

The survivor will ride lower than normal on PNJ-205 and TRI-SAR

rescue harnesses. This will prevent dual man hoist into UH-1 and H-60 aircraft.

NOTE

UH-1 and H-60 aircraft recoveries shall use the rescue strop as the primary means of rescue.

- b. With your right hand, connect rescue swimmer's snap hook to survivor's "D" ring.
 - c. Maintain left hand cross-chest carry while grasping rescue swimmer's lifting "V" ring in your left hand.
13. Allow RESCUE HOOK TO TOUCH WATER to discharge static electricity.
 14. USE APPROPRIATE PROCEDURES for rescue device selected.
 15. Perform SAFETY CHECK on rescue device, signal up hoist.

C. ARMOR PLATE REMOVAL PROCEDURES

NOTE

The following procedures for armor plate removal will happen during step 6 (disentanglement head to toe), immediately following the check inflation step.

WARNING

The rescue swimmer must decide if performing armor plate removal procedures could cause further injury to survivor.

NOTE

If vest is zippered fully, armor release beaded pull handle will

not detach normally. Armor release beaded pull handle will have to be detached at snaps to remove back plate.

WARNING

Failure of armor release beaded pull handle to completely come away from survivor could cause a choking hazard to survivor. If this occurs, the rescue swimmer must detach snaps to allow back plate to fall away.

1. Grasp armor release beaded pull handle, located on front chest of vest, and pull out and away (approximately 18 inches) to release back plate. If back plate does not fall away, pull free from hook/pile tape located on rear of vest, and discard.

NOTE

Vest could be fully zippered which would cover access to chest plate. Unzip vest to expose chest plate.

2. Grasp nylon web handle on front plate, located on center of chest inside vest. Pull free from hook/pile tape and discard.
3. Continue disentanglement using appropriate procedures.

D. RAFT EXTRACTION PROCEDURES

WARNING

Liferaft must be discarded prior to final check.

NOTE

The point at which disentanglement in the liferaft becomes unfeasible is the point at which the rescue swimmer should extract the survivor from the raft. Once the survivor is in the water, the rescue swimmer resumes disentanglement procedures from where he/she left off.

1. The three effective methods of removing a survivor from a raft are as follows:

WARNING

Do not use this method if the survivor has a possible back injury.

- 1.a. The rescue swimmer gets behind the survivor, places his/her knees against the edge of the liferaft, and grasp the survivor's harness/flight suit between the shoulder blades.
- 1.b. Simultaneously, the rescue swimmer pulls the survivor up and over the raft lobe, and pushes down and away with knees against the raft.
- 1.c. Once the survivor is in the water, continue disentanglement procedures.

WARNING

Do not use this method if the survivor has a possible back injury.

- 2.a. The rescue swimmer gets behind the survivor and grasps the harness/flight suit between the shoulder blades.
- 2.b. The rescue swimmer will roll the survivor and raft either to the right or left. Inform survivor if

practical. Normally, in order to gain momentum the rescue swimmer will rock the survivor/raft twice to the side and prepare to roll the survivor out of the raft. On the third time, roll the survivor into the water and immediately right him/her by rolling him/her onto their back.

- 2.c. Once the survivor is in the water, continue disentanglement procedures.

WARNING

Use the following method if survivor has a possible back injury.

- 3.a. The rescue swimmer gets behind the survivor and grasps the harness/flight suit between the shoulder blades.
- 3.b. With one hand, the rescue swimmer remove his/her scabbard knife while maintaining control of the survivor with the other hand. The rescue swimmer then uses the knife to puncture/cut the raft and deflate it.

WARNING

This is done well clear of the survivor ensuring not to injure the survivor or swimmer.

- 3.c. While the raft is deflating, the rescue swimmer may stow the knife if practical.
- 3.d. Once the survivor is in the water, continue disentanglement procedures.

Summary:

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

A. State the Lesson Objectives.

Turn to cover page for objectives.

B. Review major teaching points.

Briefly summarize.

APPLICATION:

NOTE

It is unrealistic for a survivor to act aggressively and chase the rescue swimmer. This is an impractical simulation of an active drowning victim as defined by the American Red Cross (Lifeguarding Manual, pg. 56); GAO Report (pg. 17) calls "belligerent and aggressive victims is a poor teaching method and an ineffective way to mentally condition students to perform under stress". Survivors SHALL be briefed to exhibit the following characteristics as detailed by the American Red Cross:

1. Struggle to keep the face above the water in an effort to breathe.
2. Have arms extended to the side, pressing down for support. There is no supporting kick.
3. Have a vertical body position in the water.
4. Struggle at the surface, unable to move forward, for approximately 20 to 60 seconds before submerging.

IN NO CASE WILL THE SURVIVOR CHASE THE RESCUE SWIMMER.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

- A. Instructor performs a day water entry and proceeds to slowly disentangle a survivor wearing the applicable parachute harness while another instructor talks the students through the procedures. Set up rescue scenarios in the deep end of the pool.

Ensure students receive the classroom instruction and observe an in-water demonstration of each disentanglement scenario prior to any practical experience.

NOTE

Instructors shall observe and critique the performance of each student for all rescue scenarios, under both day and night situations.

Students outfitted in complete Rescue Swimmer equipment will line up on the side of the pool and, upon direction of the Primary Instructor, enter the water using standard water entry procedures and perform disentanglement procedures.

SCENARIOS

1. Simulated conscious aircraft passenger wearing a partially inflated LPU-28/LPP-1 and cranial helmet.
2. Simulated conscious helicopter crewman wearing a CMU-33 or CMU-30 vest with appropriate floatation and an HGU series helmet.
3. Simulated unconscious helicopter crewman wearing a CMU-30 or

The student simulating the man-overboard shall wear a shorty wetsuit and an un-inflated LPU-28/LPP-1/LPU-30/MK-1 vest for minimum floatation.

DISCUSSION POINT

RELATED INSTRUCTOR ACTIVITY

CMU-33 vest with appropriate floatation and an HGU series helmet.

EVALUATION: Job Sheet 3.6, written test.

ASSIGNMENT: None