

**OUTLINE SHEET 4.5
AVIATION LIFE SUPPORT SYSTEMS**

INTRODUCTION:

During this unit of instruction the Rescue Swimmer will learn about the different components that make up the Aviation Life Support System. Being familiar with these devices will help the Rescue Swimmer expedite the rescue. Furthermore, the Rescue Swimmer will know where the devices are located to assist in disentanglement.

ENABLING OBJECTIVES:

- 3.33 Explain the functional operation and hardware associated with various parachute harnesses.
- 3.34 List the types of harnesses outlined in NWP 3-50.1.
- 3.35 Describe the procedures for donning/doffing the following assemblies:
 - a. Helmet assemblies
 - b. RSSK assemblies
 - c. Oxygen mask assemblies
 - d. Survival vest/floatation assemblies

GENERAL EQUIPMENT:

- 1. Anti-Exposure Suits
 - a. Anti-Exposure and dry suits. Worn under the flight suit.
 - b. Imperial Wetsuits (quick donning)
 - Bright _____ in color
 - Worn over the flight suit/clothing
 - Positive buoyancy may negate _____ features of MEDEVAC litter.
 - Some have lifting “V”- ring in the center of the chest.
- 2. Flight Helmets (Diagram Sheet 4.5-1)

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- a. Covered with high visibility _____ tape
 - b. Provide limited floatation.
 - c. May hinder _____ between survivor and rescuer.
 - d. Helmets are _____ until survivor is aboard rescue platform.
3. Oxygen Masks (Diagram Sheet 4.5-2)
- a. Form fit to face
 - b. Attach to helmet with _____.
 - c. Oxygen supply hose connects to Rigid Seat Survival Kit (RSSK) or Aircraft console.
 - d. Always _____ mask from helmet first to eliminate the possibility of suffocation

FLOTATION DEVICES:

- 1. Aircrew Flotation Devices
 - a. Naval aircrew flotation is provided by an LPU series life preserver assembly attached to either an _____ or a _____ harness.
 - b. Providing flotation to the survivor is very important. There are three methods of inflating an LPU:
 - Some jet aircrew may have an automatic inflation device, such as the FLU-8. This device is activated within 8-15 seconds upon immersion in the water, and will require no action on the part of the rescue swimmer.
 - Manual inflation is accomplished by pulling the beaded handles located near the _____.

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- Oral inflation is accomplished by loosening the knurled knob on the inflation tube, holding it down with your teeth, and blowing into the tube. This method will require the most effort on the part of the rescue swimmer.
2. Other flotation assemblies. (Diagram Sheet 4.5-3)
 - a. Worn by flight deck personnel and aircraft passengers
 - b. Inflated by CO2 or orally
 - Pull cord for Co2 inflation
 - Oral inflation

**BACKPACK PARACHUTE
(Diagram Sheet 4.5-4):**

1. Large fixed wing land bases aircraft crew (P-3, C-130) wear an NB- series Back Pack Type Parachute with quick donning harness.
 - a. Harness is worn over the SV-2 survival vest and flotation.
 - b. Harness must be removed to separate the survivor from the parachute
 - c. Removed by releasing three quick ejector snaps, one at the chest, and one for each leg.

**TOSRO HARNESS-STYLE PARACHUTE/
RIGID SEAT SURVIVAL KIT RELEASE
(Diagram Sheet 4.5-5):**

1. Jet and E-2 aircrew wear a PCU-Series Torso Harness.
 - a. The torso harness is not removed during the rescue. The parachute must be separated from the torso harness.

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- b. For Navy gear, the parachute is separated by releasing the Koch fittings which attach the parachute risers to the harness.
 - Most jet gear incorporates _____ (SEAWARS) which automatically release the Koch fittings upon complete immersion in salt water. This system poses no danger to the rescue swimmer and requires no action of the rescue swimmer. (Diagram 4.5-6)
 - Manual release is accomplished by separating the male portion of the koch fitting assembly (located on the right and left upper chest area) from the female ends (on the parachute risers).

- c. A Rigid Seat Survival Kit/Seat Kit Unit containing a raft, oxygen, and survival gear is attached to the lap belt of the torso harness. E-2 aircraft incorporates a lap belt type detachment from the RSSK. (Diagram Sheet 4.5-7)
 - Disconnect oxygen hose from RSSK by lifting the knurled locking ring and pulling firmly on the supply hose
 - After ensuring the oxygen hose disconnected, remove the RSSK by releasing the _____ fittings located near the aviator's hips.

**USAF/OTHER
PARACHUTE HARNESS:
(Diagram Sheet 4.5-8)**

1. USAF harnesses closely resemble Navy Backpack Type.
2. Risers may be attached with Frost, Koch or J1 Capewell Fittings.
3. Seat Kits may use mini-koch fittings or a fitting closely resembling automotive lap belts.

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**HOISTING ATTACHMENT
POINTS:**

1. For hoisting, the rescue hook or rescue swimmer's snap hook may be attached directly to the aviator in one of two ways.
 - a. Hoist via the lifting "V" ring of an SV-2 vest (if so equipped).
 - b. Hoist via the gated "D" ring of a PCU torso harness.