RESCUE AND SURVIVAL SYSTEMS MANUAL

U.S. Department of Transportation

United States Coast Guard

COMDTINST M10470.10E

Commandant
United States Coast Guard

2100 Second Street S. W.
Washington, DC 20593-0001
Staff Symbol: G-OCS-2
Phone: (202) 267-1585

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COMMANDANT INSTRUCTION M10470.10E

Subj: RESCUE AND SURVIVAL SYSTEMS MANUAL

Ref:
(a) Simplified Acquisition Procedures Handbook, COMDTINST M4200.13 (series)
(b) Management Information for Configuration and Allowances (MICA)
(c) Combined Allowance for Logistics and Maintenance Support (CALMS)
(d) Supply Policy And Procedures Manual, COMDTINST M4400.19 (series)
(e) Property Management Manual, COMDTINST M4500.5 (series)
(f) Boat Crew Seamanship Manual, COMDTINST M16114.5 (series)
(g) Equipment Lists, COMDTINST M16714.3 (series)
(h) Medical Manual, COMDTINST M6000.1 (series)
(i) Coating and Color Manual, COMDTINST M10360.3 (series)
(j) Uniform Regulations, COMDTINST M1020.6 (series)
(k) Ordnance Manual, COMDTINST M8000.2 (series)
(l) United States Coast Guard Regulations, COMDTINST M5000.3 (series)
(m) Cutter Swimmer Program, COMDTINST 16134.2 (series)

1. PURPOSE. This Manual establishes operational policy, equipment standards, engineering procedures and procurement authorization for the use, configuration, maintenance and logistics of rescue and survival equipment used by the United States Coast Guard.

2. ACTION. Area and district commanders, commanders of maintenance and logistics commands, commanding officers of headquarters units, assistant commandants for directorates, Chief Counsel and special staff offices at Headquarters shall ensure that the operational policy, equipment standards and engineering procedures directed herein are complied with by operational units. Internet authorized.

3. DIRECTIVES AFFECTED. Rescue and Survival Systems Manual, COMDTINST M10470.10D, all previous Commandant Notes, released prior to March 2002, under SSIC 10470 and all subsequent message changes to Rescue and Survival Systems Manual, COMDTINST M10470.10D are cancelled.

DISTRIBUTION – SDL No.139

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NON-STANDARD DISTRIBUTION:

4. MAJOR CHANGES. This Manual incorporates extensive changes and additions to rescue and survival equipment and systems, which have occurred since August 1999. Users shall read and become thoroughly familiar with the new contents.

5. POLLUTION PREVENTION (P2) CONSIDERATIONS. Pollution Prevention considerations were examined in the development of this directive and have been determined not to be applicable.

6. CHANGES. Change recommendations to this Manual's content are highly encouraged. All levels of the chain of command shall take a proactive role in maintaining the health of this directive to ensure it reflects the best practices relevant to the job today. Change recommendations shall be submitted via the chain of command to Commandant (G-OCS-2).

7. FORMS. Personal Clothing and Equipment Record, AF Form 538; and Procurement Request, DOT Form DOT-4200.1.2.CG; are available on the standard workstation in Jetform Filler. 406 MHz EPIRB Registration Form, OMB 0648-0295, is available on the World Wide Web at www.sarsat.noaa.gov/beacon.html or may be obtained by calling (888) 212-SAVE.

TERRY M. GROSS
Assistant Commandant for Operations

RECORD OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	DATE ENTERED	ENTERED BY

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Chapter 1
Introduction

Introduction

This manual contains the information necessary for the proper administration of the unit's rescue and survival systems program. It defines operational requirements, and directs specific policies related to procurement, required maintenance procedures and documentation necessary to ensure that the safety and survival of Coast Guard personnel is not compromised.

Systems and Equipment Configurations

The equipment and system configurations identified in this manual have been evaluated and found to be the most compatible with Coast Guard operations. Deviations or modifications to configurations of the equipment or systems identified in this manual are not authorized.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Warnings, Cautions, and Notes	1-3
B	Program Manager	1-5
C	Changes	1-7
D	Maintenance	1-9
E	Logistics	1-11

Section A. Warnings, Cautions, and Notes

Overview

The following definitions apply to Warnings, Cautions, and Notes found throughout this manual.

A.1. Warning

WARNING

OPERATING PROCEDURES, TECHNIQUES OR STEPS THAT MUST BE CAREFULLY FOLLOWED TO AVOID PERSONAL INJURY OR LOSS OF LIFE.

A.2. Caution

CAUTION !

OPERATING PROCEDURES, TECHNIQUES OR STEPS THAT MUST BE CAREFULLY FOLLOWED TO AVOID EQUIPMENT DAMAGE.

A.3. Note

NOTE

Operating procedures, techniques or steps that require additional emphasis.

Section B. Program Manager

B.1. Authority

This Rescue and Survival Systems Manual is prepared and released under the authority of the Commandant, United States Coast Guard.

Commandant (G-OCS-2) is the Rescue and Survival Systems Program Manager for U. S. Coast Guard rescue and survival systems.

Section C. Changes

C.1. Changes

Commandant (G-OCS-2) promulgates this manual and its changes. Submit change recommendations that include new or changed requirements and supporting rationale or justification via the chain of command to G-OCS-2 using the standard letter format.

The address for G-OCS-2 is:

Commandant (G-OCS-2)
U. S. Coast Guard Headquarters
2100 Second Street S.W.
Washington, D.C. 20593-0001

Attn: Rescue and Survival Systems Program Manager

Section D. Maintenance

D.1 Rescue and Survival Systems Petty Officer

Surface units do not have a specific petty officer rating dedicated to rescue and survival equipment maintenance. The Commanding Officer/Officer-In-Charge shall designate, in writing, a petty officer to manage the unit's rescue and survival equipment. It is not intended that this individual actually inspect or maintain the equipment. However, it is intended that the individual be responsible for the administration of the various requirements detailed throughout this manual, and in effect become the unit's expert for this equipment.

D.2 Periodic Maintenance

Periodic maintenance is essential to promote longevity and ensure that rescue and survival equipment and systems function properly when needed. Specific guidance is directed throughout this manual. Applicable equipment and systems sections indicate when and how maintenance is to be accomplished. Equipment and systems requiring only minor procedures for maintenance will contain those procedures in the applicable section. Equipment and systems requiring extensive procedures for maintenance will have a maintenance procedure card that shall be used to perform those procedures.

D.3 Maintenance Documentation

Maintenance logs shall be used to track equipment or system maintenance when that maintenance is directed on a maintenance procedure card. Maintenance procedure cards and maintenance logs are contained at the end of the chapter in which the equipment or system is discussed.

D.3.a WARNING

FAILURE TO COMPLY WITH THE DIRECTED PERIODIC MAINTENANCE FOR EQUIPMENT OR SYSTEMS MAY RESULT IN INJURY OR LOSS OF LIFE WHEN THOSE PIECES OF EQUIPMENT OR SYSTEMS ARE USED.

Section E. Logistics

E.1 Unit Allowances

Unit allowances for rescue and survival equipment and systems shall be determined by platform type, mission to be accomplished, number of crewmembers assigned or passengers embarked, and geographical location or range the platform is ordered to operate in. A spare allowance may be necessary for augmentation during surge operations and to allow scheduling flexibility for equipment or systems out of service for rework or awaiting replacement. Commanding Officers/Officers-In-Charge may procure additional items as necessary to ensure the unit maintains the directed readiness status. Engineering Logistics Center Instructions (Management Information for Configuration and Allowances, Allowance Equipage Lists and Combined Allowance for Logistics and Maintenance Support) and this manual establish the minimum allowance requirements for platform type.

E.2. Procurement Policies

Procurement policy for equipment can be found in the Simplified Acquisition Procedures Handbook, COMDTINST M4200.13 (series). Specific procurement policy, in accordance with the reference (a), is directed for each piece of equipment presented in this manual. Equipment that has a national stock number assigned shall be procured using the national stock system. Equipment on General Services Administration (GSA) schedules shall be procured from among all qualified GSA vendors. Equipment identified as government furnished equipment, stocked at Uniform Distribution Center (UDC), shall be procured only from UDC. Equipment on Headquarters managed contracts shall only be procured following the provisions on those contracts. Many equipment items presented are procured from commercial sources and the salient characteristics are described with suggested sources identified and units are required to procure brand name or equal equipment that meets all the salient characteristics. Some commercially procured equipment that is of a standard configuration critical to mission safety, platform configuration or law enforcement jurisdiction shall only be procured from the identified sources. In these instances, the Determinations and Findings of the Standardization approved by the Director of Finance and Procurement is provided in Appendix B and shall be copied to the procurement file. Commanding Officers/Officers-In-Charge shall refer all procurement questions to the local Contracting Officer for reply and guidance.

Section E. Logistics

E.3 Property Management

Rescue and survival systems and equipment identified throughout this manual shall be managed in accordance with applicable directives. Specific guidance for Operating Material and Supplies (OM&S) and inventory equipment tracked through Computer Aided Maintenance Program/Configuration Management plus (CMplus) can be obtained from Supply Policy And Procedures Manual, COMDTINST M4400.19 (series). Guidance on tracking general purpose property in the Oracle Fixed Assets Module can be found in the Property Management Manual, COMDTINST M4500.5 (series).

Chapter 2
Rescue Equipment

Introduction

This chapter contains information about rescue equipment used afloat and ashore. The sections in this chapter reflect approved equipment and their authorized configurations.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Rescue Equipment Policies	2-3
B	Rescue Equipment Maintenance Procedure Cards	2-23
C	Rescue Equipment Maintenance Logs	2-57

Section A. Rescue Equipment Policies

Overview

This rescue equipment policies section establishes the operational requirements, describes the salient characteristics and discusses maintenance requirements and procurement information for the following equipment:

- CG-P1B dewatering pump
- CG-P5 dewatering pump
- CG-P6 dewatering pump
- Stokes litter
- Ring buoy
- Float light
- Rescue line throw bag

A.1 CG-P1B and CG-P5 Dewatering Pumps

A.1.a Application

The CG-P1B and the CG-P5 dewatering pumps are used primarily for emergency dewatering of vessels in danger of sinking. The CG-P1B model has a rated output of 120 gallons per minute at a 10-foot suction lift. Under load this pump will dewater for approximately 4 to 5 hours on the gasoline supplied with the kit. The CG-P5 model has a rated output of 200 gallons per minute at a 10-foot suction lift. Under load this pump will dewater for approximately 1 ½ to 2 ½ hours on the gasoline supplied with the kit.

A.1.b WARNING

DEWATERING PUMPS SHALL NOT BE USED TO PUMP FLAMMABLE LIQUIDS OR WATER CONTAMINATED WITH PETROLEUM PRODUCTS.

A.1.c Configuration

The CG-P1B dewatering pump consists of a 3 horsepower, 4 cycle gasoline driven engine attached to a straight centrifugal pump. Priming is accomplished by actuating a priming hand pump assembly attached to the top of the pump casing. The permanently attached 3 inch discharge hose includes a discharge check valve at the hose end. When priming the pump this check valve prevents air from entering the pump. The CG-P1B uses a detachable polyethylene gas tank that mounts on the side of the engine and incorporates a quick disconnect fitting. Other features of this pump include a solid state ignition, corrosion resistant parts, its light weight and small size. The CG-P1 pump may be packed in the standard round aluminum container or the square polyethylene container for use on the 30-foot surf rescue boat.

The CG-P5 pump consists of a 5 horsepower, 4 cycle gasoline driven engine. The CG-P5 is configured and operates the same as the CG-P1B with the following exceptions. The CG-P5 has a recoil-type pull starter, a manually operated discharge check valve and quick release hose fittings. The CG-P5 is packed in the standard round aluminum container.

A.1.d Maintenance and Repair

Maintenance is performed in accordance with Maintenance Procedure Card 2-1. Repairs are limited to parts replacement within unit capabilities. Repairs beyond unit capabilities can be accomplished using local small engine repair shops. If local shops are used, ensure shop technicians are aware that water must be in the impeller case during engine operation.

A.1 CG-P1B and CG-P5 Dewatering Pumps

A.1.e Inspection

Acceptance, monthly, quarterly and post use inspections are to be performed in accordance with Maintenance Procedure Card 2-1.

A.1.f NOTE

The CG-P1B and CG-P5 pump kits are no longer available for procurement. A limited number of replacement parts are available. The CG-P6 pump kit is the authorized replacement dewatering pump and is discussed later in the section.

A.1.g Supply Sources

CG-P1B and associated components are available from the National Stock System using the following national stock numbers:

CG-P1B Pump Kit	4320 01 150 8901
Aluminum Container	8110 01 031 8863
Clamp Ring	5340 01 144 7003
Polyethylene Container	8110 01 155 1625
Fuel Tank	2910 01 150 8924
Starter Rope	2990 00 367 3116
Suction Hose CG-P1B	4720 01 148 7850
Suction Hose CG-P5	4720 01 327 8680
Discharge Hose CG-P1B	4720 01 148 7851
Discharge Hose CG-P5	4720 01 327 5236
Desiccant	6850 00 264 6573
Plastic Packing Bag	9930 00 927 4569

A.2 CG-P6 Dewatering Pump

A.2.a Application

The CG-P6 dewatering pump is used primarily for emergency dewatering of vessels in danger of sinking. The CG-P6 model has a rated output of 250 gallons per minute at a 12-foot suction lift. Under load this pump will dewater for approximately 4 to 5 hours on the gasoline supplied with the kit.

A.2.b
WARNING

DEWATERING PUMPS SHALL NOT BE USED TO PUMP FLAMMABLE LIQUIDS OR WATER CONTAMINATED WITH PETROLEUM PRODUCTS.

A.2.c Configuration

The CG-P6 dewatering pump consists of a 6 ½ horsepower, 4 cycle gasoline driven engine attached to a straight centrifugal pump impeller. The 3 inch diameter suction and discharge hoses connect to the pump casing via color coded quick connect cam-lock style fittings. Priming is accomplished by actuating a manual, positive-displacement priming hand pump assembly. Priming at a 12-foot suction lift takes less than a minute. An integrated discharge check valve aids in priming and operating the pump. If the pump is stopped while dewatering, the impeller case will remain primed as long as the suction hose end strainer remains submerged. The CG-P6 uses a detachable portable fuel tank that mounts on the side of the engine and incorporates a quick disconnect fitting enabling rapid tank changes. Other features of this pump include a high degree of corrosion resistance in oceanic environments, a double lip pump shaft seal designed to survive loss of suction damage and continue to function at rated capacity and on-condition based maintenance instead of interval based. The CG-P6 is packed in the standard round aluminum container.

A.2.d Accessory Equipment

A discharge outlet adapter is available that allows coupling a 1 ½ inch fire hose to the discharge for limited fire suppression capability. A suction inlet adapter is available that allows coupling a CG-P1B suction hose to the suction inlet. A 25-foot suction hose is available for deep compartment dewatering.

A.2.e Maintenance and Repair

Maintenance is performed in accordance with Maintenance Procedure Card 2-2. Repairs are limited to parts replacement within unit capabilities. Repairs beyond unit capabilities can be accomplished using local small engine repair shops. If local shops are used, ensure shop technicians are aware that water must be in the impeller case during engine operation.

A.2 CG-P6 Dewatering Pump

A.2.f Inspection

Acceptance, monthly, annual and post use inspections are performed in accordance with Maintenance Procedure Card 2-2.

A.2.g Supply Sources

The CG-P6 dewatering pump and associated components are available from the Engineering Logistics Center or the national stock system using the following national stock numbers:

CG-P6 Pump Kit	4320 01 F99 0342
Aluminum Container	8110 01 031 8863
Clamp Ring	5340 01 144 7003
Container Lid Gasket	5330 00 062 7420
Fuel Tank w/guage	2910 01 470 3235
15' Suction Hose w/ strainer	4720 01 470 3580
Discharge Hose	4720 01 470 3570
Secondary Starting Rope	2990 01 470 5532
Flashlight	6230 00 299 3035
Instruction Card	9905 01 470 2813
Technical Manual	7610 01 470 2850
Training Video	5836 01 470 2915
Desiccant	6850 00 264 6573
Plastic Packing Bag	9930 00 927 4569
25' Suction Hose w/ strainer	4720 01 470 3707
Discharge Outlet Adapter	4730 01 470 3309
Suction Inlet Adapter	4730 01 470 3288

A.2.h NOTE

Many other parts for maintaining the pump assembly are available from the Engineering Logistics Center. Refer to Allowance Parts List number 01158520A2 for additional items.

A.3 Stokes Litter

A.3.a Application

The stokes litter (ridged or folding) is a versatile device designed to safely transport non-ambulatory personnel onboard ships and boats or for applications such as helicopter hoisting. The basic stokes litter design can be reconfigured for hoisting or surface operations. Only stainless steel or titanium alloy litters are authorized. Aluminum litters are no longer authorized for use and shall not be used.

A.3.b Flotation Characteristics

When the litter is configured in accordance with Maintenance Procedure Cards 2-3, 2-4 or 2-5 it will float face-up at a 45-degree angle with the foot end submerged. The top 18 to 24 inches at the head end of the litter will be above the surface of the water. The stokes litter is self-righting.

A.3.c WARNING

PATIENTS WEARING BUOYANT GARMENTS, SUCH AS EXPOSURE SUITS OR PFD'S WILL AFFECT AND POSSIBLY NEGATE THE FLOTATION AND SELF-RIGHTING CHARACTERISTICS OF THE LITTER. DILIGENT ATTENTION TO FLOTATION CHARACTERISTIC CHANGES WHEN PATIENTS ARE SECURED IN THE LITTER MUST BE MAINTAINED.

A.3.d WARNING

THE FOLLOWING IN-WATER PATIENT RESTRAINT PROCEDURE MUST BE TRAINED PRIOR TO USE. CREW COORDINATION BETWEEN THE SWIMMER AND DECK CREW IS CRITICAL TO EVOLUTION SUCCESS. RECURRENT TRAINING OF THIS PROCEDURE IS HIGHLY RECOMMENDED.

A.3.e NOTE

Tending lines and hoisting sling cables must be kept from interfering with patient restraint straps. The gray, red, blue, and green restraint straps shall be disconnected and secured to the right side of the litter prior to lowering the litter to the water's surface. The black restraint strap with flotation pads shall be buckled.

A.3 Stokes Litter

A.3.f
NOTE

When securing the black restraint strap with flotation pads, difficulty may be encountered with patients wearing buoyant garments. Buoyant garments are not to be removed; instead place as much slack in the restraint strap as possible and attempt to connect the buckle.

A.3.g
WARNING

IF THE PATIENT IS SECURED TO A BACKBOARD OR SPINAL IMMOBILIZATION DEVICE, DO NOT REMOVE IT.

A.3.h
In Water Patient Restraint

Use the following procedure to secure a patient in the litter while in the water.

1. Disconnect the litter from the hoist hook.
2. Disconnect the black restraint strap.
3. Guide the patient into the litter with a collar or equipment tow.
4. Pull the gray restraint strap loose from the right side of the litter and route it under the patient's arms and over the patient's chest. Connect the buckle pulling the slack from the strap.
5. Pull the red restraint strap loose from the right side of the litter and route it over the patient's arms and torso. Connect the buckle pulling the slack from the strap
6. Secure the remaining restraint straps around the patient, working from head to toe, using the same procedure.
7. Reconnect the litter to the hoist hook.

A.3 Stokes Litter

A.3.i Configuration

Commanding Officers/Officers-In-Charge are responsible for ensuring that stokes litters are configured properly. Operational mission should be considered when dictating the unit's standard stokes litter configuration (basic, surface or helicopter hoisting). Maintaining kits with parts required for each configuration is recommended for each mission for which stokes litter may be used. This will allow rapid configuration changes and enhance operational readiness. The stokes litter is constructed of high strength stainless steel or titanium alloy. Its construction includes stainless steel slats, which provide longitudinal support and strength. The basic design includes ballast weight at the foot end and a removable flotation assembly. Five restraining straps and smooth plastic mesh netting are incorporated for patient restraint. The litter may be a ridged one-piece or foldable two-piece design. (See Figure 2-1.)

A.3.j Flotation Kit Requirements

The flotation kit assembly with ballast weight shall be installed for operations on ships, boats, and helicopters. Stokes litter flotation shall consist of a chest pad, flotation tubes, ballast bar and restraint straps. More recent flotation kit designs incorporate a back pad installed over the plastic mesh netting in the upper portion of the litter. Stokes litters used ashore do not require flotation and ballast, patient restraining straps are required.

A.3.k Configuration Kits

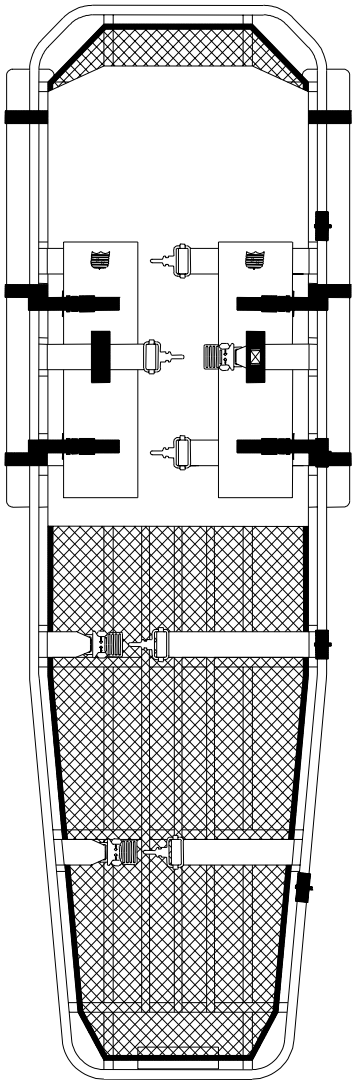
Two configuration kits should be maintained for the different configurations that the unit's stokes litter may be used for. A surface kit containing four tending lines is used primarily for surface operations. A helicopter hoisting kit containing the standard NATO helicopter-hoisting sling that is marked "Helicopter Hoistable" is used for helicopter hoisting operations. Reconfiguring the stokes litter from it's basic configuration to a surface configuration or to a hoisting configuration is easy and can be accomplished quickly. In no instance shall more than one configuration be rigged simultaneously. Changing stokes litter configurations shall be accomplished in accordance with Maintenance Procedure Cards 2-4 or 2-5.

A.3.l Helicopter Hoisting Sling Installation

The only authorized helicopter hoisting sling to be installed on cutter and boat stokes litters is the NATO hoist sling, national stock number 1670 01 226 5300. The Lifesaving Systems hoist sling, part number 193, is specifically not authorized for cutter and boat stokes litters. The part number 193 hoist sling is a cotter pinned, semi-permanent installation and does not allow detachment of the hoist sling so that surface use tending lines may be installed rapidly.

A.3 Stokes Litter

A.3.m Basic Stokes Litter



A.3.n Maintenance and Repair

Seawater rapidly degrades and/or corrodes stokes litters and associated components. If stokes litters are stored on weather decks, fresh water washes are required weekly. Maintenance requirements can be found on Maintenance Procedure Cards 2-3, 2-4 and 2-5. Repairs are limited to attached component replacement. Structural repairs to the litter frame are not authorized at the unit level. Structural repairs may be accomplished by the manufacturer.

A.3 Stokes Litter

A.3.o Inspection

Build-up, quarterly and post use inspection and semi-annual load testing are required. Refer to Maintenance Procedure Cards 2-3, 2-4 and 2-5 for inspection procedures.

A.3.p Supply Sources

Stokes litters and associated components shall be procured from the following sources:

Ridged and folding stokes litters, flotation kits, patient restraint straps, patient lift inserts and tending line snap hooks are available from:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748

Use the national stock system for the following associated components:

NATO hoist sling	1670 01 226 5300
Manila tending line	4020 00 289 8616
Sail twine	4020 00 231 5886

A.3.q Standard D&F

The source listed is the only known source of supply. Determinations and Findings of the Standardization approved by the Director of Finance and Procurement is provided in Appendix B and shall be copied to the procurement file.

A.4 Ring Buoys

A.4.a Application

Ring buoys are primarily used for a crewmember overboard. Procedures for its use can be found in the Boat Crew Seamanship Manual, COMDTINST M16114.5 (series). The ring buoy can be easily deployed from stowage brackets to mark an object or person in the water during daytime or nighttime operations. The floating electric marker light and rescue line throw bag are generally stowed adjacent to the ring buoy.

A.4.b Configuration

The standard ring buoy is available in three sizes, 20, 24, and 30 inches. Ring buoys are constructed of molded unicellular plastic, are inherently buoyant and nylon line is attached around the outside circumference. The ring buoy is colored international orange for high visibility. In addition to the orange color, SOLAS grade reflective tape is attached for better visibility of reflected light.

A.4.c Maintenance and Repairs

Maintenance for the ring buoy is accomplished in accordance with Maintenance Procedure Card 2-6. Repairs to the ring buoy are limited to line and reflective tape replacement.

A.4.d Inspection

Build-up and semi-annual inspections are accomplished in accordance with Maintenance Procedure Card 2-6.

A.4.e Supply Sources

Units may obtain acceptable ring buoys from many sources. A listing of manufacturers is contained in Equipment Lists, COMDTINST M16714.3 series. The National Stock System maintains a supply of ring buoys with the following national stock numbers:

Ring Buoy 20 inch outside diameter	4220 00 275 3155
Ring Buoy 24 inch outside diameter	4220 00 275 3156
Ring Buoy 30 inch outside diameter	4220 00 275 3157

A.5 Floating Electric Marker Light

A.5.a Application

The floating electric marker light is primarily used for a crewmember overboard. Procedures for its use can be found in the Boat Crew Seamanship Manual, COMDTINST M16114.5 (series). The floating electric marker light can be easily deployed from stowage brackets to mark an object or person in the water during daytime or nighttime operations. The floating electric marker light, attachment line is used to attach the light to the ring buoy. Units shall keep this line attached at all times. If use of the ring buoy without the light is desired, the attachment line can be quickly disconnected. The floating electric marker light is designed to operate for a minimum continuous duration of 15 hours. The ring buoy and rescue line throw bag are generally stowed adjacent to the ring buoy.

A.5.b Salient Characteristics

Any suitable, Coast Guard Approved, floating Electric Marker Light meeting the specifications and certified as outlined in 46 CFR 161.010.

A.5.c Maintenance and Repairs

Maintenance for the floating electric marker light is accomplished in accordance with Maintenance Procedure Card 2-7. Repairs to the float light are limited to commercially available parts replacements.

A.5.d Inspection

Build-up and semi-annual inspections are accomplished in accordance with Maintenance Procedure Card 2-7.

A.5.e Supply Sources

Units may obtain brand name or equal floating electric marker light and associated parts from the following suppliers:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572
(813) 645-2748
P/N: 314

ACR Electronics
5757 Ravenswood Road
Ft Lauderdale, FL 33312
(954) 981-3333
P/N: SM2

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.6 Rescue Line Throw Bag

A.6.a Application

The rescue line-throw bag is used as a survivor retrieving line or to assist in boat handling. It is easy to use and provides quick and accurate deployment of 75 feet of floating line. The line is easily repacked and can be quickly re-deployed as required. It can be used safely for throwing to survivors in the water. The user opens the bag and extracts the looped end of the rope from inside the bag. The loop end, with attached snap hook, is grasped and held firmly as the bag is tossed towards the target. The end loop protrudes through the bottom of the bag and provides a handhold for the survivor to grasp while being rescued. In addition, the snap hook may be attached to the ring buoy and the rescue line deployed as the ring buoy is thrown towards the survivor.

A.6.b Salient Characteristics

The line bag is constructed of an international orange nylon cloth or mesh. Hardware or elastic is used to close the bag. A carrying strap is attached which provides for easy retrieval and a handhold for survivors to grasp while being pulled to safety. A foam disk is incorporated in the bag for flotation. The nylon line stowed in the bag is 3/8-inch double braid construction with multi-filament polypropylene core and is 70 to 100 feet long. The nylon provides strength and is abrasion and U/V resistant. The line is brightly colored for high visibility and has excellent flotation characteristics. The nylon line has a working load of 500 pounds.

A.6.c Maintenance and Repairs

Repairs of the line-throwing bag are limited to cleaning of the bag and line replacement. Maintenance Procedure Card 2-8.

A.6.d Inspection

Periodically inspect the line-throwing bag for signs of deterioration. Replace line as necessary. Replace bags that are damaged beyond economical repair. Maintenance Procedure Card 2-8.

A.6 Rescue Line Throw Bag

A.6.e Supply Sources

Units may obtain brand name or equal rescue line throw bags and associated parts from the any of the following suppliers:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572
(813) 645-2748
P/N: 237P

Down Stream Products Inc.
20916 209th Ave. S.E.
Monroe, WA 98272
(360) 805-9799
P/N: 70″ x 3/8″ Poly./Kern.

MARSARS
Great Eastern Marine, Inc.
155 Myrtle Street
Shelton, CT 06484
(203) 924-7315

Cascade Outfitters
145 Pioneer Parkway East
Springfield, OR 97477
(503) 747-2272
P/N: 0700 Rescue Rope

Stearns Inc.
PO Box 1498
St. Cloud, MN 56302
(800) 697-5801
P/N I021 70 feet and
I022 100feet

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.6 Rescue Line Throw Bag

A.6.f Rescue Line Throw Bag

Section B. Rescue Equipment Maintenance Procedures

Overview

This rescue equipment maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by the "Inspection" paragraphs in section A. The following maintenance procedure cards are directed for use as the standard maintenance practice:

- CG-P1B or CG-P5 dewatering pump
- CG-P6 dewatering pump
- Basic stokes litter
- Hoisting stokes litter
- Surface stokes litter
- Ring buoy
- Float light
- Rescue line throw bag

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

ITEM 1. CG-P1B OR CG-P5 DEWATERING PUMP ACCEPTANCE INSPECTION

CONSUMABLES

Water
Gasoline
Gasoline Additive
SAE-30 above 40 F, SAE-5W20 below 40 F

Desiccant	6850 00 264 6573
Copper Breakaway Wire	9525 00 603 4115
Corrosion Preventative Compound	8030 00 938 1947
Type I Nylon Cord	4020 00 240 2154
Plastic Bag	9930 00 927 4569
Retro-reflective Tape	9390 01 078 8660
Size “D” Batteries	6135 00 120 1020

TOOLS REQUIRED

"Tiny Tach" inductance tachometer — Briggs and Stratton part number 19389

NOTE This inspection is required before placing the dewatering pump into service.

1. Perform all steps in ITEMS 2 and 3.
2. Ensure monthly and quarterly inspection dates are recorded on the dewatering pump maintenance log.

ITEM 2. CG-P1B OR CG-P5 DEWATERING PUMP MONTHLY INSPECTION AND TEST RUN

CONSUMABLES

See list in ITEM 1 above.

1. Remove contents from container.
2. Ensure presence of the following items:
   A. Pump/engine assembly
   B. Discharge hose
   C. Suction hose
   D. Flashlight
   E. Fuel tank

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

F. Fuel line connect/disconnect display tag
G. Instruction sheet
H. Starter rope

3. Ensure "NO SMOKING" decal 7690 01 000 0891 is applied to lid of container.
4. If required, install shackles or lifting bridle/harness on container.
5. Ensure all applicable modifications have been complied with.
6. Visually inspect engine fuel tank internally for water or foreign matter, inspect fuel tank externally for cuts or punctures, inspect gas line attachment point for security and leaks, inspect fuel tank vent for security, and inspect gas line connect/disconnect fitting for corrosion and proper operation.

NOTE The use of a gasoline additive is recommended to prevent gum deposits from forming in the carburetor and to help keep the fuel fresh.

7. Fill fuel tank with gasoline and engine crankcase with oil.
8. Unroll and inspect discharge hose for cuts, abrasions, and tears. Inspect discharge check valve for security and integrity of rubber sleeve over check valve. Ensure discharge hose is securely attached to pump outlet and discharge check valve.
9. Inspect suction hose. Hose should not be stiff or brittle. Attach suction hose and check for cuts, pin holes, and burn spots; ensure rubber gasket is present and properly seated in female fitting. Replace as required.
10. Mount fuel tank to engine.
11. Connect fuel line to engine. Ensure security of fuel line connect/disconnect fitting.
12. Place suction hose strainer in fresh water to be pumped.
13. Prime pump by pumping the priming pump handle until pump housing and suction hose are completely filled with water.

NOTE Pump should be primed in less than 40 seconds at a 10-foot lift. If the pump does not stay primed, check for air leaks. Fully primed condition is indicated by a discharge of water from the priming pump.

CAUTION ! DO NOT OPERATE PUMP WITHOUT LIQUID IN PUMP HOUSING.

14. Fully extend starter rope and inspect for worn areas. Replace as required. Wind starter rope on starter pulley.
15. Set choke lever to "choke" position.

WARNING **EXHAUST GASES ARE HARMFUL. ENSURE AREA IS SUFFICIENTLY VENTILATED WHEN OPERATING ENGINE.**

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

NOTE For the test, pump should be 10 to 15 feet above the water. Engines that require over six pulls on the starter rope to start shall be tuned up or repaired as required. Failure of the engine to start is probably the result of condensation (moisture) inside the container. Most of this moisture can be eliminated by completely drying kit components and by using proper packaging methods. Vacuum cleaner discharge air, directed into the hoses and pump housing will improve and speed drying.

16. Pull starter rope; as engine starts, slowly reset choke lever to “run” position.
17. Allow pump to pump fresh water for 15 minutes.

NOTE In the event suction is lost while pump is running, it can be regained by pumping the priming pump handle.

18. Adjust engine speed control to achieve approximately (CG-P1B 3100 rpm) (CG-P5 3300 rpm) while pump is pumping water.
19. After 15 minutes of pumping, stop engine by disconnecting gasoline and allow pump to run out of gas.
20. Drain pump and pump hoses.

NOTE To aid in draining and drying pump and discharge hose, disconnect discharge hose from discharge port on pump. Hang hose (with discharge check valve end up) to ensure discharge hose is completely dry.

CAUTION ! BEFORE STORING PUMP, ENSURE THAT DISCHARGE HOSE IS SECURELY ATTACHED TO DISCHARGE PORT ON PUMP.

21. Thoroughly dry all kit components.
22. Store pump in accordance with the Packing Procedure.
23. Record monthly inspection date on the dewatering pump maintenance log.

ITEM 3. CG-P1B OR CG-P5 DEWATERING PUMP QUARTERLY INSPECTION

1. Remove contents from pump container.
2. Drain fuel into a suitable flammable liquid waste container. Inspect fuel tank for foreign matter. Inspect exterior of fuel tank for cuts and cracks. Inspect fuel line for security and leaks.
3. Drain crankcase oil into a suitable flammable liquid waste container. Inspect crankcase oil for evidence of metal particles, moisture, or corrosion.

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

4. Fill engine crankcase with oil. Use SAE-30 in the summer (above 40 degrees Fahrenheit) and SAE-5W20 or 5W30 in the winter (below 40 degrees Fahrenheit).
5. Clean and re-oil air cleaner element as follows:
6. Remove air cleaner retaining screw.
7. Remove air cleaner carefully to prevent dirt from entering the carburetor.
8. Disassemble air cleaner and wash element in liquid detergent and water to remove dirt. Wrap foam element in a clean cloth and squeeze to dry. Saturate element in engine oil. Squeeze to remove excess oil.
9. Reassemble air cleaner.

CAUTION ! IT IS IMPORTANT THAT THE METAL CUP IS IN PLACE FOR PROPER FILTERING, BUT MORE IMPORTANT IS TO ENSURE THAT SMALL PIECES OF THE FOAM ELEMENT ARE NOT DRAWN INTO THE CARBURETOR.

10. Fasten assembled air cleaner to the carburetor with the retaining screw.
11. Remove and inspect spark plug. If it is corroded or deteriorated, replace spark plug using Champion P/N CJ8 or equivalent.
12. Ensure spark plug gap measures .030 inch. Install spark plug.
13. Install new D cell batteries in flashlight.
14. Perform a monthly inspection and test run. Refer to ITEM 2.
15. Record quarterly inspection date on the dewatering pump maintenance log.

ITEM 4. CG-P1B OR CG-P5 DEWATERING PUMP POST USE INSPECTION

NOTE This inspection is required after the dewatering pump has been used in salt water or returned from use involving search and rescue operations.

1. Remove all components and inspect for missing or damaged items. Repair or replace damaged components. Refer to ITEM 2 for inventory of components.
2. Remove blower housing from engine.
3. Remove flywheel using flywheel holder and flywheel puller.
4. Using fresh, soapy water, thoroughly wash all kit components.
5. Wire-brush and clean the flywheel and face of magneto armature to remove any corrosion or debris.
6. Inspect components of solid-state ignition for security and condition.
7. Apply a light coat of corrosion preventative compound to all metal surfaces.
8. Install flywheel and pulley assembly. Torque flywheel nut to 55 foot-pounds.
9. Adjust armature air gap as follows:
10. With the armature up as far as possible and one screw tightened, slip a .010-inch feeler gauge between the armature and the flywheel.

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

11. Turn the flywheel until the magnets are directly below the armature.
12. Loosen one mounting screw; the magnets should pull the armature down firmly against the feeler gauge.
13. Tighten the mounting screws and re-check the gap for .010-inch clearance.
14. Inspect starter rope. Replace if cut or excessively frayed.
15. Remove all rust or corrosion by sanding or wire brushing. Repaint if required.
16. Record post use inspection on the dewatering pump maintenance log.
17. Perform all steps in ITEM 3.

PACKING PROCEDURE

WARNING **DO NOT OVERFILL FUEL TANK. VARIATIONS IN ATMOSPHERIC CONDITIONS MAY CAUSE FUEL TO EXPAND AND ESCAPE FROM FUEL TANK, CAUSING EXPLOSIVE CONDITIONS.**

NOTE This model pump must be stored with the fuel tank in the unmounted position and the quick connect/disconnect gas line fitting disconnected from the engine.

NOTE The use of a gasoline additive is recommended to prevent gum deposits from forming in the carburetor and to help keep the fuel fresh.

1. Fill the gasoline container to 2 inches below the top to allow for possible expansion of gasoline. Ensure gas line connection card is attached to quick connect/disconnect fitting on fuel tank.
2. Check level of crankcase oil, fill to proper level if necessary.
3. Apply corrosion preventative compound into the suction end of the pump, ensuring the impeller and all moving parts are coated.
4. Apply a very light coat of corrosion preventative compound to the engine and pump.
5. Wipe down exterior of kit components with a clean rag.
6. Accordion fold discharge hose and secure with rubber bands or lightweight twine.

NOTE The starter rope shall be wound onto the starter pulley and held in place with a rubber band.

NOTE Take care to prevent damage to plastic bags during packing. Replace damaged bags.

7. Place pump/engine and discharge hose, starter rope, fuel tank(s), and two desiccant bags in plastic bag and secure top with rubber band.
8. Place sealed plastic bag inside container.

Maintenance Procedure Card 2-1

CG-P1B or CG-P5 dewatering Pump

9. Coil suction hose and place on top of sealed plastic bag.
10. Check flashlight for proper operation.
11. Attach laminated instruction card to flashlight with a 2-foot length of type I nylon cord. Place flashlight and laminated instruction card on top of sealed plastic bag.
12. Inspect exterior of container for condition of attached fittings and paint; repair or repaint as required.
13. Inspect lid and lid gasket. Place lid on container and secure it. Seal one clamp with .020 inch diameter copper breakaway wire.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

NOTE This card gives direction for build-up, inspection and maintenance procedures for the CG-P6 dewatering pump. Detailed component parts information can be found on Allowance Parts List 01158520A2 available from the Engineering Logistics Center.

ITEM 1. BUILD-UP PROCEDURE AND ACCEPTANCE INSPECTION

NOTE This inspection is required to place the dewatering pump into service.

PARTS REQUIRED

CG-P6 Dewatering pump kit 4320 01 F99 0342

NOTE The kit includes the pump and engine, suction hose and strainer, discharge hose, fuel tank, spare starter rope, flashlight and instruction card.

Aluminum container	8110 01 031 8863
Clamp Ring	5340 01 144 7003
Container Lid Gasket	5330 00 062 7420

CONSUMABLES

Gasoline	
Gasoline Additive	6850 01 322 5201
SAE 10 W-30 Engine Oil	9150 01 413 6897
Type I Nylon Cord	4020 00 240 2154
Retro-reflective Tape	9390 01 078 8660
Size “D” Batteries	6135 00 120 1020
Stencil Ink, Black	8010 00 285 4916

TOOLS REQUIRED

Stencil Kit, 3 inch	7520 00 272 9683

1. Unpack the pump system and associated components from the shipping packaging.
2. Inventory the pump system and associated components. The following items are required to continue:
   A. pump and engine assembly mounted to the protective frame
   B. 15-foot suction hose with attached strainer
   C. Suction hose
   D. 20-foot discharge hose

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

E. removable fuel tank with fuel gauge
F. spare starter rope
G. explosion proof flashlight
H. laminated instruction card
I. aluminum container
J. clamp ring
K. container lid gasket

3. Fill the engine crankcase with .63 quarts of SAE 10 W-30 engine oil. Replace the cap.
4. Install the fuel tank onto the fuel tank bracket. Secure the fuel tank retaining bands over the fuel tank handle.
5. Fill the fuel tank to 2 inches below the top with clean, fresh, regular (86 octane or higher) unleaded gasoline. Use of gasoline additive may be required depending on pump kit operating or storage environment. Use gasoline additive at maintenance supervisor's discretion.
6. Install batteries in the flashlight and check light for proper operation.
7. Attach the flashlight to the laminated instruction card with a 2-foot length of Type I nylon cord.
8. Tie a figure eight knot in the bitter end of the spare starter rope and attach the spare starter rope to the lifting frame of the pump with a larkshead knot.
9. Install 12 pieces of 2 inch by 3 inch retro-reflective tape on the aluminum container as follows:
   A. 4 pieces on the container bottom equally spaced around the outside circumference
   B. 4 pieces on the container top equally spaced around the outside circumference
   C. 4 pieces on the container side two inches from the top, equally spaced around the circumference
10. Stencil the lid of the container with the following: "NO SMOKING GAS IN CAN". Decals or adhesive backed letters may be used in lieu of stencil ink.
11. Change the engine oil and inline fuel filter after the first 20 hours of engine operation.
12. Record pump serial number, build-up procedure and acceptance inspection complied with on the CG-P6 maintenance log.
13. Perform all steps in ITEM 2.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

ITEM 2. MONTHLY INSPECTION AND TEST RUN

NOTE If ITEM 3 needs to be complied with at this inspection interval, complete it prior to performing this inspection.

CONSUMABLES

Fresh Water	
Gasoline	
Gasoline Additive	6850 01 322 5201
SAE 10 W-30 Engine Oil	9150 01 413 6897
Instruction Card	9905 01 470 2813
Silicone Spray	9150 00 823 7860

TOOLS REQUIRED

"Tiny Tach" inductance tachometer Briggs and Stratton part number 19389

1. Unpack the pump system and associated components from the container.
2. Inspect the suction hose, suction hose gasket and attached strainer for damage. Repair or replace as necessary.
3. Inspect the discharge hose and discharge hose gasket for damage. Repair or replace as necessary.
4. Position pump 10 to 15 feet above fresh water source on a level surface.
5. Check the engine oil level. If the level is low refill the crankcase to the top of the filler neck with SAE 10 W-30 engine oil. Replace the cap.
6. Pull the starter rope slowly from the recoil housing and inspect the rope for deterioration. Replace worn or damaged starter ropes.
7. Inspect the spare starter rope for deterioration. Replace worn or damaged spare starter ropes.
8. Inspect the flashlight and instruction card. Replace batteries if the light appears dim and replace cards that are not legible.
9. Inspect the fuel tank rubber retaining bands for deterioration. Replace bands as required.
10. Remove the fuel tank cap and inspect the interior of the tank for water or foreign debris. If water or foreign debris is found, drain the gasoline and clean out tank. Refill the fuel tank to 2 inches below the top with clean, fresh, regular (86 octane or higher) unleaded gasoline. Use of gasoline additive may be required depending on pump kit operating or storage environment. Use gasoline additive at maintenance supervisor's discretion.
11. Inspect the fuel tank quick connect fitting for damage that would inhibit fuel line connection. If necessary, repair tank before proceeding.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

12. Inspect the fuel hose, in-line filter and quick connect fitting assembly for damage that would inhibit fuel flow. If necessary, repair fuel line assembly before proceeding.
13. Connect the fuel line.
14. Connect the discharge hose and secure discharge hose end into the fresh water source. The discharge hose will move if not secured.
15. Connect the suction hose and completely submerge the strainer into fresh water source.
16. Turn the engine ignition switch clockwise to the "ON" position.
17. Open the fuel valve on the engine by pushing it to the right into the "ON" position.
18. Move the choke lever to the "CHOKE" position.
19. Set the throttle about 1/3 open.
20. Prime the pump by rapidly cycling the hand primer pump handle in and out until water is discharged from the primer pump cylinder cap.
21. Start the pump by pulling the recoil starter rope. Engines that require more than six pulls to start shall be tuned to achieve starts in less than six pulls. Refer to Honda service manuals for the GX series engine (Honda part number 61ZH700 and 61ZH700Y) for troubleshooting and maintenance procedures. Once the engine starts, shut off the choke.
22. Check the discharge flow output. If no flow is present, rapidly cycle the hand primer pump until water is flowing from the discharge hose.
23. Pump fresh water for approximately five minutes and adjust the throttle through its full range checking for an increase or decrease in flow output accordingly.

NOTE Steps 24 through 28 are only required annually.

CAUTION ! ACCOMPLISH STEPS 24 THROUGH 28 QUICKLY, THE IMPELLER SEAL CAN ONLY RUN DRY FOR TWO MINUTES MAXIMUM.

24. Set the throttle to the idle position.
25. Disconnect the suction hose.
26. Check the engine idle speed and, if required, adjust to 1400 RPM.
27. Set the throttle position to full open.
28. Check the engine full throttle speed and, if required, adjust to 3900 RPM.
29. Disconnect the fuel line and continue to pump water until engine shuts down from lack of fuel.
30. Close the fuel valve by pushing it to the "OFF" position.
31. Turn the engine ignition switch counter-clockwise to the "OFF" position.
32. Disconnect the suction and discharge hoses and allow them to drain completely.
33. Tip the pump towards the discharge outlet and completely drain the water from the impeller case. Cycle the hand primer pump to discharge residual water and redrain the impeller case.
34. Check the engine oil and refill as required. Refer to step 5 above.
35. Refill fuel tank. Refer to step 10 above.
36. Completely dry the engine, pump, hoses and associated kit components.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

37. Spray the interior and exterior of the pump impeller case, the engine cooling fins and throttle lever pivot point, discharge outlet and suction inlet with silicone spray.
38. Pack the pump kit into the storage container in accordance with the packing procedure at the end of this card.
39. Record monthly inspection and test run complied with on the CG-P6 maintenance log.

ITEM 3. ANNUAL RECONDITION AND ADJUSTMENT

NOTE For detailed engine maintenance procedures refer to the Honda Service Manual for the GX 120/160 engine, Honda part number 61ZH700 and the GX 200 engine Supplement, Honda part number 61ZH700Y. These publications are available at local Honda distributors.

PARTS REQUIRED

Fuel Filter	4330 01 470 3207
Paper Air Cleaner Element	2940 01 470 5487
Spark Plug	2920 01 470 3318

CONSUMABLES

Gasoline	
Gasoline Additive	6850 01 322 5201
SAE 10 W-30 Engine Oil	9150 01 413 6897
Silicone Lubricant	6858 00 294 0860

TOOLS REQUIRED

Feeler Gauge .030
Hand Tools

1. Unpack the pump system and associated components from the container.
2. Remove the engine oil drain plug and completely drain the oil. Replace the drain plug. Refill the engine crankcase to the top of the filler neck with .63 quarts of SAE 10 W-30 engine oil. Replace the cap.
3. Remove the fuel tank cap and completely drain the fuel. Refill the fuel tank to 2 inches below the top with clean, fresh, regular (86 octane or higher) unleaded gasoline. Use of gasoline additive may be required depending on pump kit operating or storage environment. Use gasoline additive at maintenance supervisor's discretion. Replace the cap.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

4. Remove the fuel system sediment cup and "O" ring seal. Drain the cup and clean any build up of debris. Clean the "O" ring seal and reinstall the sediment cup.
5. Remove and discard the inline fuel filter. Install a new fuel filter.
6. Disassemble the air cleaner assembly. Inspect the foam and paper elements for deterioration and replace as required. Wash the foam filter element in mild detergent, rinse clean with fresh water and dry completely. Soak the element in clean engine oil and squeeze out the excess oil. Reassemble the air cleaner assembly on to the engine.
7. Lubricate the hand primer pump as follows: Loosen the primer pump cap set screw. Unscrew the primer pump cap and remove the piston rod and piston cup assembly. Lubricate the outside diameter of the piston cup assembly and the inside diameter of the piston cylinder with silicone lubricant. Reassemble the hand primer pump and tighten the set screw.
8. Remove the spark plug. If required, replace the spark plug. Clean the electrode with a fine bristle wire brush. Adjust spark plug gap to .030 thousandths of an inch. If installing a new spark plug, tighten 1/2 turn after the spark plug seats to compress the washer. If reinstalling an existing spark plug, tighten 1/4 turn after the spark plug seats to compress the washer.
9. Adjust the valve clearance in accordance with the Honda service manuals for the GX series engine.
10. Record annual recondition and adjustment complied with on the CG-P6 maintenance log.
11. Perform all steps in ITEM 2.

ITEM 4. POST USE INSPECTION

NOTE This inspection is required after the dewatering pump has been used to pump fresh water or seawater during search and rescue operations.

CONSUMABLES

Detergent	7930 00 282 9699

TOOLS REQUIRED

As Required

1. Inventory all components and inspect for missing or damaged items. Repair or replace damaged components. Refer to ITEM 1 step 1 for required components.
2. Clean the pump, engine and all component parts thoroughly with fresh water and mild detergent. Rinse clean with fresh water.
3. Completely dry the engine, pump, hoses and associated kit components.

NOTE Complete teardown of the engine components for corrosion removal may not be required. The CG-P6 pump has significant corrosion resistance steps taken during the manufacturing process. Complete teardown shall be performed at maintenance supervisor's discretion.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

4. Proceed with corrosion removal as required by maintenance supervisor. Refer to Honda service manuals for the GX series engine, Honda part number 61ZH700 and 61ZH700Y.
5. Record post use inspection on the dewatering pump maintenance log.
6. Perform all steps in ITEM 3.

PACKING PROCEDURE

CONSUMABLES

Desiccant	6850 00 264 6573
Copper Breakaway Wire	9525 00 603 4115
Plastic Bag	9930 00 927 4569
Rubber Bands	1670 00 568 0323
Size “D” Batteries	6135 00 120 1020

NOTE This model pump must be stored with the fuel tank in the mounted position and the quick connect/disconnect gas line fitting disconnected from the engine.

1. Inspect the pump container. Restore the reflective tape and "NO SMOKING..." stencil as required and in accordance with the Build-Up Procedure.
2. Place one plastic packing bag into the pump container.
3. Inspect for the presence of the spare starter rope attached to the pump-lifting frame. Replace the spare starter rope as required.
4. Inspect for the presence of the discharge hose-coupling gasket to ensure it is in place. Replace the gasket as required.
5. Fold the 20-foot discharge hose into a tight flat coil approximately 10 inches long. The coupling needs to hang free from the end of the flat coil approximately 8 inches.
6. Place the flat discharge hose into the plastic bag pressed flat against the container side. Extend the coupling, pressing the hose flat against the container side.
7. Place the pump assembly into the plastic bag and onto the bottom of the container oriented so that the bulk of the discharge hose is under the fuel tank and hand primer pump and the coupling is oriented under the pump suction inlet.
8. Insert the suction hose strainer into the container routing it between the pump discharge outlet and exhaust shield and rest the strainer onto the bottom of the container. Carefully follow this step, the container lid will not seal if the coiled suction hose is higher than the top of the container.
9. Coil the remaining suction hose clockwise into the container around the outside of the fuel tank, pressing the hose down onto the lifting frame. Continue coiling the hose and stow the coupling into the center of the coil.
10. Inspect for the presence of the suction hose-coupling gasket to ensure it is in place. Replace the gasket as required.
11. Place two fresh desiccant bags into the plastic packing bag.

Maintenance Procedure Card 2-2

CG-P6 Dewatering Pump

12. Close the plastic packing bag and secure it with a rubber band.
13. Install new batteries into the flashlight and check light for proper operation.
14. Place flashlight and laminated instruction card on top of sealed plastic bag.
15. Inspect the container lid gasket. Replace as required.
16. Place the container lid on the container and secure it in place by latching the clamp ring.
17. Route one turn of .020 thousandths inch diameter copper breakaway wire through the clamp ring latch hole and secure the wire in place by tightly twisting the bitter ends. Trim away the excess wire.

Maintenance Procedure Card 2-3

Basic Stokes Litter

ITEM 1. BASIC STOKES LITTER BUILD-UP PROCEDURES

NOTE The stokes litters, ordered from Lifesaving Systems Corp. using Part number 404-F (ridged) or 406-F (folding), have the flotation and ballast installed. Part numbers for flotation and ballast, patient restraint straps and patient lift inserts are provided for litters already in stock.

PARTS REQUIRED

Stokes Litter, Part number 404-F or 406-F
Patient Restraint Strap Set, Part number 140
Flotation Kit w/ ballast, Part number 103
Patient Lift Insert, Part number 160

TOOLS REQUIRED

Wire Cutters

CAUTION ! ONLY PATIENT RESTRAINT STRAP SETS, PART NUMBER 140, FROM LIFESAVING SYSTEMS CORP. ARE AUTHORIZED.

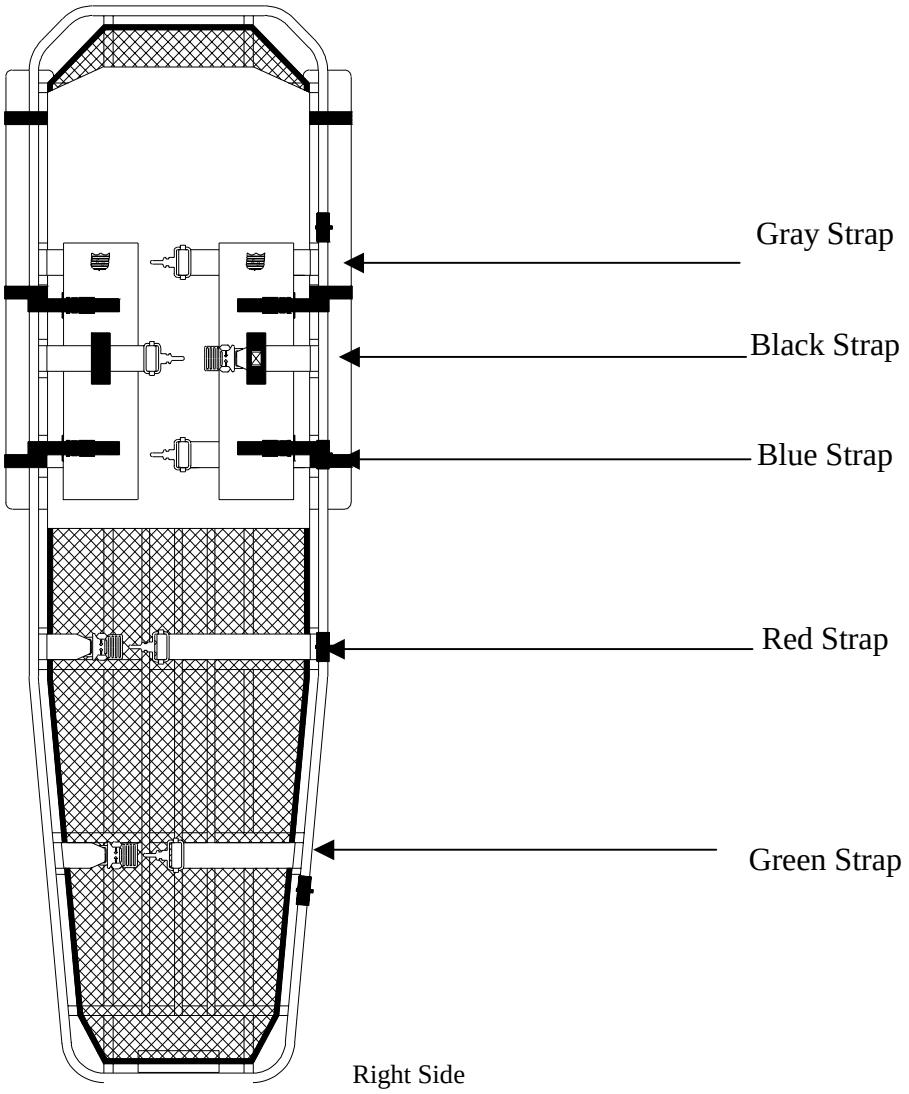
1. Install the gray restraint strap with the plastic buckle between the ½ inch flat stock rail and the black mesh liner with a larks head knot on the left side of the litter. Refer to figure below.
2. Install the gray restraint strap with the steel bayonet fitting between the ½ inch flat stock rail and the black mesh liner with a larks head knot on the right side of the litter. Refer to figure below.

NOTE The black restraint strap is installed opposite of all other straps.

3. Install the black restraint strap with the plastic buckle between the ½ inch flat stock rail and the black mesh liner with a larks head knot on the right side of the litter. Refer to figure below.
4. Install the black restraint strap with the steel bayonet fitting between the ½ inch flat stock rail and the black mesh liner with a larks head knot on the left side of the litter. Refer to figure below.
5. Repeat steps 1 and 2 above for the blue, red, and green straps respectively. Refer to figure below.

Maintenance Procedure Card 2-3

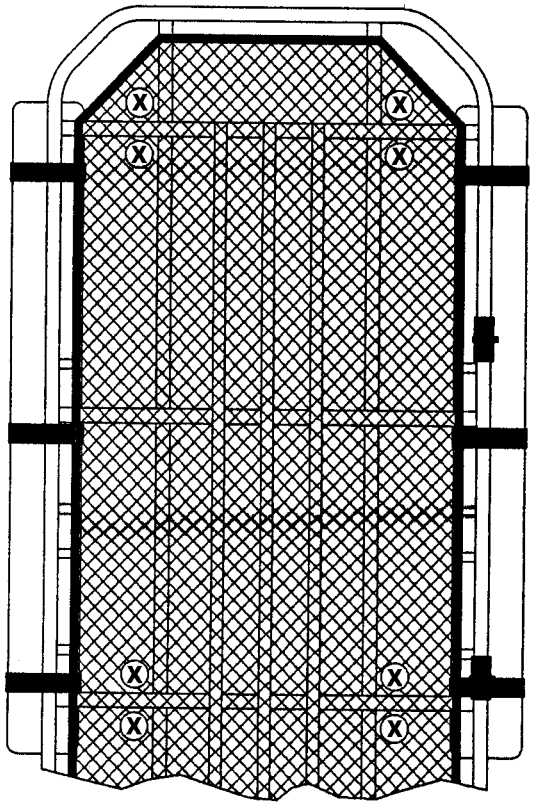
Basic Stokes Litter



BASIC LITTER CONFIGURATION

Maintenance Procedure Card 2-3

Basic Stokes Litter

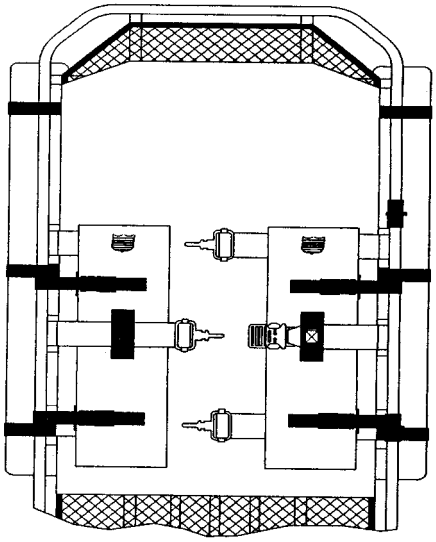


FLOTATION BACK PAD INSTALLATION

6. Trim the black plastic mesh to produce approximately a 1 inch opening at each position marked “X” in the figure above.
7. Place the back flotation pad in the litter with the angled side at the head end and the attachment straps down.
8. Pass each attachment strap through the trimmed openings and around the ½ inch flat stock transverse rail outside the ¾ inch skid tubing and fasten the buckles.

Maintenance Procedure Card 2-3

Basic Stokes Litter



Right Side

CHEST PAD INSTALLATION

9. Lay the chest pads in the litter with labels facing up and toward the head end. The right side pad has pile tape on underside of main belt loop. Refer to the figure above.
10. Install the right chest pad by lacing the adjuster end of the black retaining strap under the belt loop on front of the chest pad.
11. Attach chest pad to frame by passing chest pad buckle straps under and around the top tube frame at the positions shown in the figure above. Ensure the lower chest pad attachment strap is directly above the red patient restraint strap.
12. Pull the straps around the top tubing and pass up through the loops on the side of the pad and secure to pad attachment buckle.
13. Repeat steps 2 through 4 above for the left side pad. Open all buckles on half-logs.
14. Position the half-logs with the flat side against the frame as shown in the figure above.
15. Lace the attachment straps around top tubing and between the ½ inch flat stock rail and the mesh liner at the frame positions shown in the figure above. Pull the straps up and around outside edge of log and secure the buckles.
16. Install the ballast bar using the hardware provided in the kit to the inside or outside of the ½ inch flat stock rail at the foot end of the litter.

Maintenance Procedure Card 2-3

Basic Stokes Litter

ITEM 2. BASIC STOKES QUARTERLY AND POST USE INSPECTION

TOOLS REQUIRED

Wire Cutters

CONSUMABLES

Fluid film, non-aerosol 8030-01-381-6357

WARNING ✋ **IF THE LITTER AND/OR ASSOCIATED EQUIPMENT HAVE BEEN EXPOSED TO BODILY FLUIDS, DECONTAMINATE ALL PARTS IN ACCORDANCE WITH THE MEDICAL MANUAL COMDTINST M6000.1 (series) PRIOR TO INSPECTION.**

1. Assemble the upper and lower sections of the litter.
2. Examine all tubes and flat stock for deformation, cracks, or corrosion. Clean minor corrosion. Replace litter if cracks or deformations are found.
3. Inspect the folding litter's upper and lower four-point attachment system for alignment. Alignment adjustments are authorized to the extent of the unit's capabilities. Only applies to folding type.
4. Inspect ballast bar and attaching hardware for corrosion. Minor corrosion can be cleaned. Replace badly corroded hardware.
5. Inspect all straps and buckles. Clean and or replace as necessary.
6. Inspect fabric flotation covers for tears and cleanliness. Clean and repair or replace as necessary.
7. Inspect the plastic coated wire mesh insert for broken mesh and security of attachment. Minor breaks in mesh can be trimmed flush. Excessive tears require mesh replacement.
8. Inspect the litter insert for cleanliness. Clean or replace as necessary.
9. Lightly apply Fluid Film to the bayonet fittings on patient restraint strap buckles. Wipe off excess.
10. Operate buckles to check for proper operation. Replace defective buckles.
11. Record quarterly and post use inspection on the stokes litter maintenance log.

Maintenance Procedure Card 2-4

Hoisting Stokes Litter

ITEM 1. HOISTING STOKES LITTER BUILD-UP PROCEDURES

NOTE All build-up, inspection and maintenance procedures for the basic stokes litter must be complied with prior to performing the procedures contained in this card. Refer to maintenance procedure card 2-2 for the basic stokes litter build-up, inspection and maintenance procedure.

PARTS REQUIRED

Hoisting Sling Kit 1670 01 226 5300

WARNING **THE ONLY AUTHORIZED HOISTING SLING IS THE LIFESAVING SYSTEMS CORP. HOISTING SLING, PART NUMBER 190 AVAILABLE USING THE NATIONAL STOCK NUMBER LISTED ABOVE.**

1. Install the red reflective tapes on each side of the top tube frame of the litter above the gray restraint strap.
2. Install the white reflective tapes on each side of the top tube frame of the litter above the green restraint strap.
3. Lay the hoisting sling into the bed of the litter with the two short cables at the head end and the two long cables at the foot end.
4. Attach the red gated snap hooks onto each side of the top tube frame of the litter at the red reflective tape with the latch gates facing outboard.
5. Attach the white gated snap hooks onto each side of the top tube frame of the litter at the white reflective tape with the latch gates facing outboard.
6. Hand-tighten the locking screw on each gated snap hook.

ITEM 2. HOISTING STOKES LITTER ACCEPTANCE AND SEMI-ANNUAL LOAD TESTING

TOOLS REQUIRED

Hoist rated for 600-pound load with suitable hoist hook.
600 pounds of weight
Any caliper capable of measuring to the thousandths of an inch.

CONSUMABLES

Black Stencil Ink, 7510 00 469 7910

Maintenance Procedure Card 2-4

Hoisting Stokes Litter

1. Install the hoisting sling by following the steps in ITEM 1 of this card.
2. Evenly distribute a 600-pound load in the litter.
3. Connect the hoist hook through the hoisting sling rings.
4. Raise the litter off the deck and back to the deck a minimum of 5 times.
5. Suspend the litter 3 inches off the deck for a minimum of 15 minutes.
6. Inspect the suspended litter for deformation and signs of impending failure.
7. Inspect the hoisting sling for even load distribution.
8. Inspect the cable compression sleeves for signs of internal cable slippage, deformation, and signs of impending failure.
9. Using the caliper, measure the compressions on all cable compression sleeves. Acceptable range of compression is .375 to .405 thousandths of an inch.
10. Lower the litter to the deck.
11. Disconnect the hoist and unload the weight.
12. Stencil “LOAD TESTED” and date tested, e.g., “month/day/year,” onto one of the bottom slats.
13. The “Helicopter Hoistable” tags on the sling cables must stay attached.
14. Record semi-annual load inspection date on the stokes litter maintenance log.

ITEM 3. HOISTING STOKES LITTER QUARTERLY AND POST USE INSPECTION

TOOLS REQUIRED

Any caliper capable of measuring to the thousandths of an inch.
Wire Cutters

CONSUMABLES

Fluid film, non-aerosol 8030-01-381-6357

WARNING ✋ **IF THE LITTER AND/OR ASSOCIATED EQUIPMENT HAVE BEEN EXPOSED TO BODILY FLUIDS, DECONTAMINATE ALL PARTS IN ACCORDANCE WITH THE MEDICAL MANUAL COMDTINST M6000.1B, CHAPTER 13 PRIOR TO INSPECTION.**

WARNING ✋ **THE ONLY AUTHORIZED REPLACEMENT HOISTING SLINGS ARE PART NUMBER 190 FROM LIFESAVING SYSTEMS CORP.**

1. Assemble the upper and lower sections of the litter.
2. Examine all tubes and flat stock for deformation, cracks, or corrosion. Clean minor corrosion. Replace litter if cracks or deformations are found.

Maintenance Procedure Card 2-4

Hoisting Stokes Litter

3. Inspect the folding litter's upper and lower four-point attachment system for alignment. Alignment adjustments are authorized to the extent of the unit's capabilities. Only applies to folding type.
4. Inspect ballast bar and attaching hardware for corrosion. Minor corrosion can be cleaned. Replace badly corroded hardware.
5. Inspect all straps and buckles. Clean and or replace as necessary.
6. Inspect fabric flotation covers for tears and cleanliness. Clean and repair or replace as necessary.
7. Inspect the plastic coated wire mesh insert for broken mesh and security of attachment. Minor breaks in mesh can be trimmed flush. Excessive tears require replacement.
8. Inspect the litter insert for cleanliness. Clean or replace as necessary.
9. Lightly apply Fluid Film to the bayonet fittings on patient restraint strap buckles. Wipe off excess.
10. Operate buckles to check for proper operation. Replace defective buckles.
11. Inspect the hoisting sling cable for broken wires. Any single strand in the cable having two or less broken wires may be trimmed as needed. Any hoisting sling having three or more broken wires requires a hoisting sling change.
12. Inspect the eight cable compression sleeves for signs of internal cable slippage, deformation, and signs of impending failure. If discrepancies are found, replace the hoisting sling.
13. Using the vernier caliper, measure the compressions on all cable compression sleeves. Acceptable range of compression is .375 to .405 thousandths of an inch.
14. If any discrepancies are found, replace the hoisting sling.
15. Inspect hoisting sling cables for kinks. If kinks are found, replace hoisting sling.
16. Lightly apply Fluid Film to the hoisting sling. Wipe off excess.
17. Record quarterly and post use inspection on the stokes litter maintenance log.

Maintenance Procedure Card 2-5

Surface Stokes Litter

ITEM 1. SURFACE STOKES LITTER BUILD-UP PROCEDURES

NOTE All build-up, inspection and maintenance procedures for the basic stokes litter must be complied with prior to performing the procedures contained in this card. Refer to maintenance procedure card 2-2 for the basic stokes litter build-up, inspection and maintenance procedure.

PARTS REQUIRED

Manila Line	4020 00 289 8616	
Sail Twine	4020 00 231 5886	
Snap Hook	Part number, 667 (Lifesaving Systems Corp)	4 are required

TOOLS REQUIRED

Knife
Marlinespike
Sail Needle

CONSUMABLES

Tape

1. Cut four pieces of manila tending line, the length appropriate for use from the vessels' main deck.
2. Place a permanent whipping in one bitter end of each piece. Refer to Boat Crew Seamanship Manual, Chapter 7.
3. Reeve the unwhipped bitter end through the eye of the snap hook and finish with an eye splice. Refer to Boat Crew Seamanship Manual, Chapter 7. Finished length of tending line shall be long enough to be safely tended from the vessels' main deck.
4. Attach two tending lines on the right side of the litter, one directly above the gray strap and one directly above the green strap.
5. Attach two tending lines on the left side of the litter, one directly above the gray strap and one directly above the green strap.

Maintenance Procedure Card 2-5

Surface Stokes Litter

ITEM 2. SURFACE STOKES QUARTERLY AND POST USE INSPECTION

TOOLS REQUIRED

Wire Cutters

CONSUMABLES

Fluid film, non-aerosol 8030-01-381-6357

WARNING **IF THE LITTER AND/OR ASSOCIATED EQUIPMENT HAVE BEEN EXPOSED TO BODILY FLUIDS, DECONTAMINATE ALL PARTS IN ACCORDANCE WITH THE MEDICAL MANUAL COMDTINST M6000.1B, CHAPTER 13 PRIOR TO INSPECTION.**

1. Assemble the upper and lower sections of the litter.
2. Examine all tubes and flat stock for deformation, cracks, or corrosion. Clean minor corrosion. Replace litter if cracks or deformations are found.
3. Inspect the folding litter's upper and lower four-point attachment system for alignment. Alignment adjustments are authorized to the extent of the unit's capabilities. Only applies to folding type.
4. Inspect ballast bar and attaching hardware for corrosion. Minor corrosion can be cleaned. Replace badly corroded hardware.
5. Inspect all straps and buckles. Clean and or replace as necessary.
6. Inspect fabric flotation covers for tears and cleanliness. Clean and repair or replace as necessary.
7. Inspect the plastic coated wire mesh insert for broken mesh and security of attachment. Minor breaks in mesh can be trimmed flush. Excessive tears require mesh replacement.
8. Inspect the litter insert for cleanliness. Clean or replace as necessary.
9. Lightly apply Fluid Film to the bayonet fittings on patient restraint strap buckles. Wipe off excess.
10. Operate buckles to check for proper operation. Replace defective buckles.
11. Inspect the condition of the four manila tending lines for cuts, abrasion, fraying, and rot. Determine serviceability and replace as necessary.
12. Inspect the four snap hooks for proper operation, deformation, and cracks. Replace as necessary.
13. Record quarterly and post use inspection on the stokes litter maintenance log.

Maintenance Procedure Card 2-6

Ring Buoy

ITEM 1. BUILD-UP PROCEDURE

REFERENCES:

(a) Coating and Color Manual, COMDTINST M10360.3 series, Chapter 12
(b) Boat Crew Seamanship Manual, COMDTINST M16114.5 series, Chapter 7

PARTS REQUIRED

Ring Buoy 20 inch outside diameter	4220 00 275 3155
Ring Buoy 24 inch outside diameter	4220 00 275 3156
Ring Buoy 30 inch outside diameter	4220 00 275 3157
SOLAS Grade Reflective Tape, 3 inch	9390 01 078 8660

NOTE Units shall refer to the appropriate allowance or outfit list to determine the size and quantity of ring buoys required.

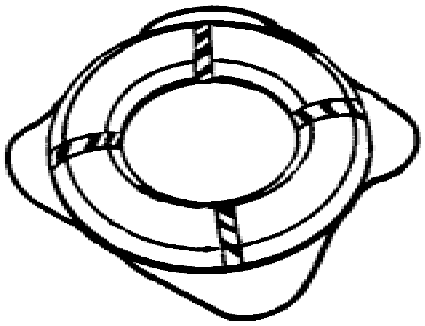
TOOLS REQUIRED

2 Inch Stencils

CONSUMABLES

Black Stencil Ink (aerosol spray), 7510 00 469 7910

1. Install four pieces of reflective tape around the ring buoy equally spaced 90 degrees apart. See figure below.



Maintenance Procedure Card 2-6

Ring Buoy

2. Stencil "U. S. COAST GUARD" on the ring buoy's lower semi-circle. Refer to reference (a).

NOTE

> Stations may substitute boat number with station name. If station name is used, all lettering will be upper-case.

3. Stencil the vessel name or number on the ring buoy's upper semi-circle using all uppercase lettering. Refer to reference (a).

ITEM 2. RING BUOY ACCEPTANCE AND SEMI-ANNUAL INSPECTION

TOOLS REQUIRED

2 Inch Stencils

CONSUMABLES

Black Stencil Ink	7510 00 469 7910

1. Inspect the ring buoy's plastic flotation for general condition, reflective tape for security of attachment and weathering and legibility of stencils. Install new reflective tape and re-stencil as required.
2. Inspect the attached line for cuts, fraying, and security of attachment. Replace line as required.
3. Restencil markings as required.
4. Record date inspection complied on the ring buoy maintenance log.

Maintenance Procedure Card 2-7

Floating Electric Marker Light

ITEM 1. FLOATING ELECTRIC MARKER LIGHT BUILD-UP PROCEDURE

PARTS REQUIRED

Floating Electric Marker Light	Part Number 314 (Lifesaving Systems Corp.)
Snap Hook	Part Number 365 (Lifesaving Systems Corp.)
Polypropylene Line 3 Feet	4020 00 968 1350
SOLAS Grade Reflective Tape, 2 inch	9390 01 292 6737

NOTE Units shall refer to the appropriate allowance or outfit list to determine the quantity of floating electric marker lights required.

1. Install reflective tape around the circumference of the light just below the case locking lugs.
2. Reeve the bitter end of the polypropylene line through the hole in the light case and finish with an eye splice.
3. Reeve the opposite bitter end through the ring of a halyard clip and finish with an eye splice.

ITEM 2. FLOTATING ELECTRIC MARKER LIGHT ACCEPTANCE AND SEMI-ANNUAL INSPECTION

TOOLS REQUIRED

½ Inch Stencils

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Battery, 6 volt with lug terminals	6135 00 100 0413

1. Fresh water rinse and wipe dry the exterior of the light case.
2. Inspect the polypropylene line for cuts, fraying, and security of attachment. Replace as necessary.
3. Inspect the reflective tape for security of attachment and weathering. Install new reflective tape as required.

NOTE Weak batteries, internal corrosion and lack of a watertight seal are major causes for failures of floating electric marker lights.

4. Open the light case and inspect the electrical contacts and interior surfaces for signs of moisture or corrosion. Clean corrosion and completely dry the inside of the light case.

Maintenance Procedure Card 2-7

Floating Electric Marker Light

5. Inspect the O-ring gasket for signs of any deterioration. Deterioration of any degree requires O-ring replacement.
6. Install a new battery, ensuring terminal lugs are tight.
7. Reassemble the light case, ensuring a tight seal.
8. Test the light by turning light lens up. Flash rate should be 50 to 70 flashes per minute. Turn light lens down, light should extinguish. Replace lights that do not flash at required rate or do not extinguish when turned lens down.
9. Stencil date of inspection on light case.
10. Optional Step - Record date inspection complied on the ring buoy/float light maintenance log.

Maintenance Procedure Card 2-8

Rescue Line Throw Bag

ITEM 1. RESCUE LINE THROW BAG BUILD UP PROCEDURE

PARTS REQUIRED

Rescue Line Throw Bag	Part Number 237P	(Lifesaving Systems Corp.)
Snap Hook	Part Number 365	(Lifesaving Systems Corp.)

1. Open the end of the throw bag and remove the bitter end of the line.
2. Untie the overhand knot.
3. Route the bitter end of the throw line through the eye of the snap hook.
4. Retie the overhand knot. See figure on page 2-20.

ITEM 2. RESCUE LINE THROW BAG ACCEPTANCE, SEMI-ANNUAL AND POST USE INSPECTION

1. Open the end of the throw line bag and remove the throw line.
2. Inspect the throw line over its entire surface for cuts and abrasions. Replace line at supervisor's discretion.
3. Inspect the interior and exterior portions of the bag for cuts, tears and wear. Replace bag at supervisor's discretion.
4. Check the integrity of the knots at each end of the throw line. Retie knots as required.
5. Repack the throw line into the bag and close bag.
6. Optional Step - Record inspection complied with on rescue line throw bag maintenance log.

Section C. Rescue Equipment Maintenance Logs

Overview

This rescue equipment maintenance logs section contains the maintenance logs for the equipment listed below. These masters should be copied and the copies should be maintained in a separate logbook. It is intended that a running history of inspections and significant maintenance procedures be captured on these logs. Maintenance logs are not required for the ring buoy or the rescue line throw bag. Units may choose to use locally generated logs to track maintenance history.

- Dewatering pump
- Stokes litter
- Floating electric marker light

Dewatering Pump Maintenance Log

PUMP TYPE_____

SERIAL NUMBER_____ INSERVICE DATE_____

Inspection Date	Inspector's Signature	Inspection Performed: Monthly, Quarterly, or Post Use

Stokes Litter Maintenance Log

SERIAL NUMBER_____ INSERVICE DATE_____

Inspection Date	Inspector's Signature	Inspection Performed: Quarterly/Post Use or Semi-Annual Load Test

Floating Electric Marker Light Maintenance Log

SERIAL NUMBER_____ INSERVICE DATE_____

Inspection Date	Inspector's Signature	Remarks

Chapter 3
Protective Clothing and Equipment

Introduction

This chapter contains information about protective clothing and equipment used on cutters and boats. The sections in this chapter reflect approved protective clothing and equipment items authorized.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Protective Clothing and Equipment Policy	3-3
B	Basic Clothing and Equipment	3-17
C	Cold Weather Clothing And Equipment	3-41
D	Additional Equipment	3-71
E	Maintenance Procedure Cards	3-81
F	Maintenance Logs	3-97

Section A. Protective Clothing and Equipment Policy

Overview

This protective clothing and equipment policy section establishes the minimum standards for outfitting all personnel carried in shore and cutter based boats. Commanding Officers, Officers in Charge, Coxswains, Crewmembers, Boarding Officers and Boarding Team Members are all responsible for compliance with directed standards to assure their personal safety and the safety of others. The policies established in this section apply to coxswains, crewmembers, boarding officers and boarding team members. Scheduled passengers that may be carried in boats from time to time such as, but not limited to, marine inspectors, other military members, members of other government organizations and the media are also required to be outfitted in accordance with these requirements. Unscheduled passengers embarked while the boat is away from the parent unit are exempt from the requirements of this chapter. However, every effort should be made to protect unscheduled passengers to the level that scheduled crew and passengers are. The following policies are established:

- Command responsibility and waiver authorization
- Thermal protection principles
- Government property and personal issue documentation

A.1 Command Responsibility and Waiver Authorization

A.1.a Command Responsibility

The Commanding Officer or Officer-In-Charge must carefully weigh the urgency of each mission. Mission planning for underway operations shall include an assessment of boat crew survivability and risk management. This analysis shall be based on the possibility that the boat crew might be forced into a survival situation during any phase of the mission. Coxswains, crewmembers, boarding officers, boarding team members and scheduled passengers carried in boats shall wear hypothermia protective devices in accordance with Table 3-1. If sea and weather conditions are unknown, coxswains, crewmembers, boarding officers and boarding team members should be prepared for the most adverse conditions by carrying extra thermal protection. Commanding Officers, Officers in Charge and Coxswains responsible for shore and cutter based boats shall ensure that crewmembers, boarding officers and boarding team members understand and comply with these requirements. Specifically, when a boat is deployed from a cutter or station, the crew shall be appropriately outfitted for the environmental conditions expected to be encountered. Regardless of weather and other equipment, personal flotation devices and boat crew survival vests with properly maintained and functional equipment shall always be worn.

A.1.b NOTE

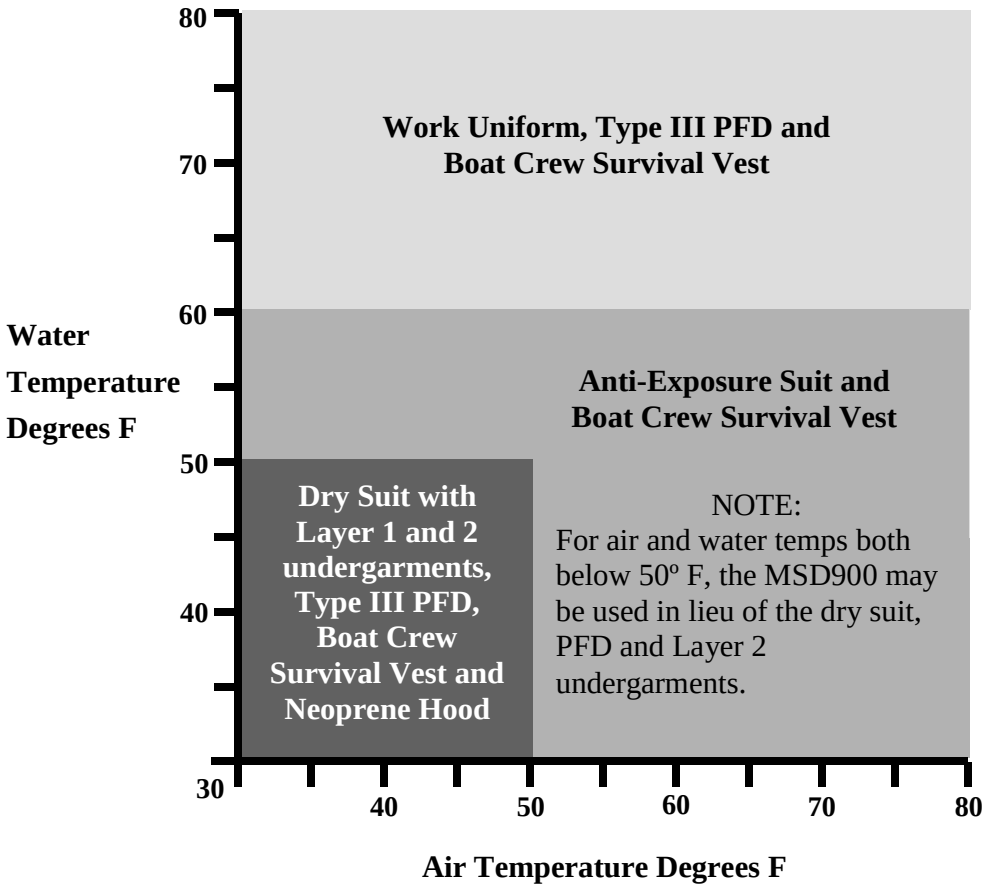
Scheduled passengers who have not been formally trained to use military specification pyrotechnics shall not wear equipment that contains MK 79 or MK 124 pyrotechnics. Scheduled passengers shall be outfitted with PFDs that contain whistles and personal marker lights or strobe lights.

A.1 Command Responsibility and Waiver Authorization

A.1.c
Table 3-1

Coxswains, crewmembers, boarding officers and boarding team members operating in or being carried by shore or cutter based boats shall wear the hypothermia protection and survival equipment indicated in the table below. The table reflects the minimum required equipment. Additional protection may be worn at the crewmembers discretion. Use the table as follows:

- Draw a horizontal line across the table that is equal to the water temperature for the mission.
- Draw a vertical line up the table that is equal to the air temperature for the mission.
- Don the equipment identified in the shaded area where the lines intersect.



A.1 Command Responsibility and Waiver Authorization

A.1.d
NOTE

The requirement to wear boat crew dry suits in accordance with Table 3-1 is waived until 1 July 2003. This waiver is granted to allow units enough time to procure and individually issue boat crew dry suits to all coxswains, crewmembers, boarding officers and boarding team members. If boat crew dry suits are available they shall be worn when required by Table 3-1.

A.1.e Hypothermia Protective Device Waivers and Documentation

Commanding Officers and Officers-In-Charge, on a single mission basis only, may waive the requirement for wearing a hypothermia protective device only after a determination that the risk associated with crew performance degradation, thermal stress, and environmental considerations are offset by the benefits associated with the waiver. Table 3-2 is provided to assist with risk management decisions associated with waiver consideration. This waiver provision is provided to ensure the unit has optimal flexibility in mission planning. However, the waiver provision is not authorization to justify granting blanket waivers as unit standard operating procedure. Documentation of the factors used to grant a waiver for wearing hypothermia protective devices shall be logged in the unit logbook for each waiver granted. Coxswains, crewmembers, boarding officers, boarding team members and scheduled passengers are required to carry hypothermia protective devices onboard during waiver conditions. Coxswains shall ensure all crewmembers and scheduled passengers don hypothermia protective devices when the conditions considered for granting the waiver are exceeded.

A.1.f
NOTE

Commanding Officers and Officers-In-Charge shall document the factors used for determining each waiver granted in unit logs.

A.1.g
NOTE

Cutter boarding officers and boarding team members are not required carry hypothermia protective devices on board cutter boats during waiver conditions authorized by the commanding officer or officer in charge.

A.1 Command Responsibility and Waiver Authorization

A.1.h Boat Crew Survival Vest Waivers and Documentation

Cutter Commanding Officers and Officers-In-Charge, for individual missions sorties only, may waive the requirement for boarding team members to wear the boat crew survival vest. This waiver provision is provided to ensure the cutter has optimal flexibility in mission planning. However, the waiver provision is not authorization to justify granting blanket waivers as standard operating procedure on cutters for mission types or units. Documentation of the factors used to grant a waiver to boarding team members from wearing boat crew survival vests shall be logged in the cutter logbook for each waiver granted. This waiver provision is provided for cutter based boarding team members only.

A.1.i NOTE

Commanding Officers and Officers-In-Charge shall document the factors used for determining each waiver granted in unit logs.

A.1.j NOTE

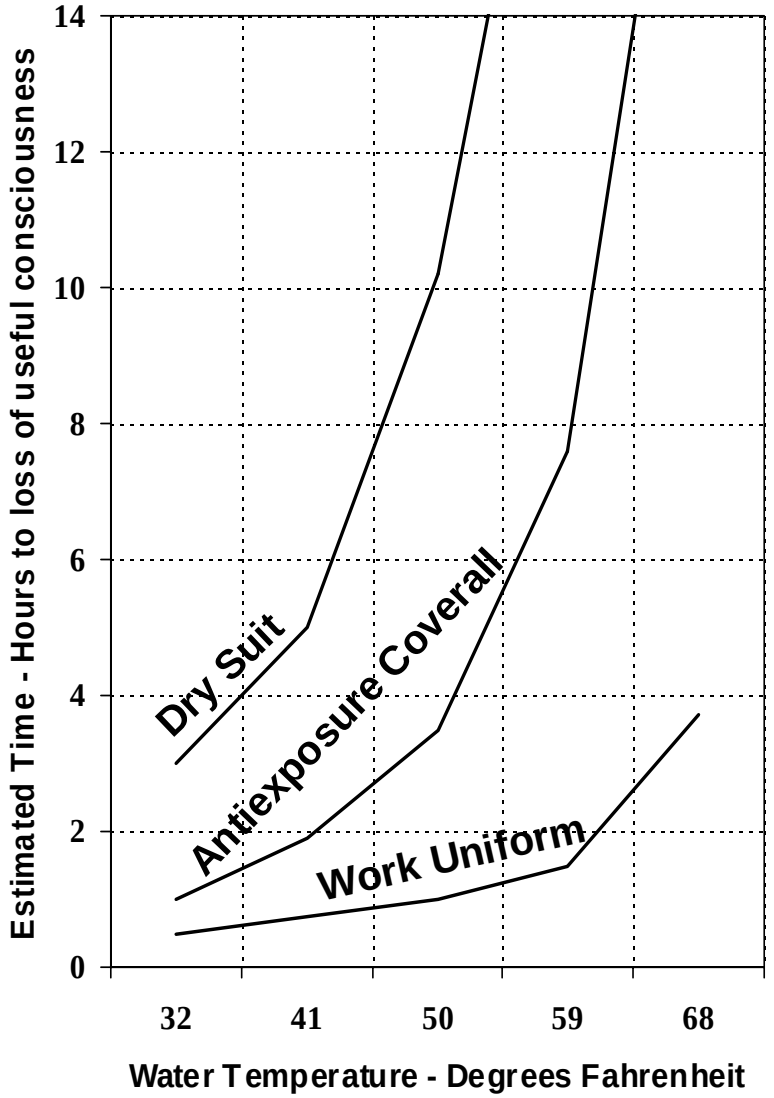
Boarding officers and boarding team members are permitted to remove the boat crew survival vest and personal flotation device only after safe embarkation and if in the opinion of the Boarding Officer, wearing these items unduly restricts their ability to safely carry out the boarding.

A.1.k NOTE

Aids to navigation teams are permitted to remove the boat crew survival vest while actively engaged in deck operations or working on structures. Upon securing from deck operations and before putting way on for transit, all personnel shall don the boat crew survival vest. For the purposes of this note only, deck operations is defined as working an aid or series of aids in a single mission. Team members would not be required to don the vest while transiting for aid to aid in a series. In addition, aids to navigation teams underway on standard boats at anchor for crew rest may relax the requirements directed by Table 3-1 at the coxswain's discretion.

A.1 Command Responsibility and Waiver Authorization

A.1.l
Table 3-2



A.2 Thermal Protection Principles

A.2.a Garment Layering

Garment layering is the method of using thinner to progressively thicker thermal undergarments and outer shell garments to achieve the protective properties necessary to slow down the hypothermia process on the body. Coxswains, crewmembers, boarding officers and boarding team members operating in cold temperatures are authorized basic and cold weather personal protective equipment. Coxswains, crewmembers, boarding officers and boarding team members shall wear layer 1 polypropylene and layer 2 fleece thermal underwear under the dry suit for added insulation. By layering underwear, crewmembers can achieve maximum protection from hypothermia under most conditions.

A.2.b Three Layer Protection

Garment layering is usually accomplished with three layers of protection. First layer protection is that layer that lies directly against the skin. Second layer protection is the layer that adds additional thermal protection. Third layer protection is the outer garment selected to stop intrusion of wind and water.

A.2.c First Layer

Staying dry is essential to warmth. Clothing worn next to the skin must carry or "wick" moisture away from the body. The first layer alone provides a minimum level of hypothermic protection when worn beneath an outer garment. Lightweight and / or medium weight polypropylene underwear shall be used as first layer protection.

A.2.d WARNING

COTTON SHALL NOT BE WORN AS FIRST LAYER PROTECTION. COTTON ABSORBS AND RETAINS MOISTURE, ROBBING BODY HEAT AND CAN CAUSE RAPID ONSET OF HYPOTHERMIA.

A.2.e Second Layer

The insulating effect of a fabric is related to how much warm air is trapped by it. Loose-knit or fuzzy material is better than one that is tightly knit. Two thin layers of a given material are better than one thick one. The second layer traps air, which will retain body heat, while absorbing and transferring excess moisture from the first layer. Exotherm ® I, II and III fleece undergarments shall be used as second layer protection.

A.2 Thermal Protection Principles

A.2.f Third Layer

Outer layer garments should stop wind and water intrusion so the inner layers can work as designed. Third layer garments include the anti-exposure coverall, dry suit, or raingear. Coxswains, crewmembers, boarding officers and boarding team members shall select the outer garment directed for use by Table 3-1 for the conditions anticipated for each mission.

A.3 Government Property and Personal Issue Documentation

A.3.a Government Property

Protective clothing and equipment issued to Coxswains, crewmembers, boarding officers and boarding team members are government properties considered to be organizational uniform items.

A.3.b Inspection

Protective clothing and equipment identified in this chapter are subject to inspection and associated maintenance procedures that ensure high quality is maintained, and prolong product longevity. Each section identifies inspection and maintenance requirements for the clothing or equipment discussed. Personnel issued protective clothing and equipment are responsible for maintaining that issue. It is intended that individuals receiving personally issued clothing and equipment perform the required inspection and associated maintenance requirements. Prior to each use, personnel who are issued protective clothing and equipment shall inspect each item for any discrepancies that would compromise integrity. Discrepancies shall be corrected prior to use. Seawater rapidly degrades protective clothing and equipment. At a minimum, after each use, protective clothing and equipment shall be fresh water rinsed to remove all traces of seawater and allowed to completely dry before stowage.

A.3.c Issue

Uniform Regulations, COMDTINST M1020.6 (series) and this manual provide authority to individually issue protective clothing and equipment as organizational clothing. The guidelines for accountability of personally issued protective clothing and equipment contained in this manual shall be strictly adhered to.

A.3.d Issue Documentation and Accountability

Personal Clothing and Equipment Record, AF Form 538, shall be used to document all issues of personal clothing and equipment. Accountability is maintained by the issuing command through periodic inventory inspections. Document inventory inspections on AF Form 538 annually. These annual inventory inspections are useful in determining unit needs for maintaining an inventory of protective clothing and equipment for issue, recurring replacement costs associated with personally issuing clothing and equipment, and to ensure that periodic inspection and associated maintenance procedures are being accomplished. The unit's Rescue and Survival Systems Petty Officer shall perform the annual inventory inspections for each set of protective clothing and equipment issued to unit personnel.

A.3 Government Property and Personal Issue Documentation

A.3.e Personnel Transfer

It is intended that personal clothing and equipment issued to personnel be transferred to the new unit when permanent change of station occurs. If the new assignment does not require the use of boat crew clothing and equipment, all items issued shall be returned to the issuing command prior to personnel transfer.

A.3.f AF Form 538

Document all issues and returns of protective clothing and equipment on AF Form 538. Lines 1 through 20 of the form are used to identify each item issued by article name, serial number (if applicable), quantity issued, size, and date of issue or turn-in. Use lines 23 through 27 to identify the unit and the individual receiving the issue. Section 28 shall be used to document annual inventory inspections and shall be signed by the individual performing the inspection and the individual accountable for the items. Maintain the unit's AF Form 538 file in a controlled area. Copy the form and forward the original to the new unit upon a member's permanent change of station. Personal Clothing and Equipment Record, AF Form 538, is available on the standard workstation in Jetform Filler.

A.3.g Returnable Items

The following items shall be returned for reissue:

- Helmet
- Raingear
- Goggles
- Parachute Bag
- Knife
- Anti-Exposure Coverall
- Layer 2 Thermal Protection
- Dry Suit
- Cold Weather Glove Layers 3 and 2

A.3 Government Property and Personal Issue Documentation

A.3.h Non-Returnable Items

The following items are non-returnable:

- Boat Shoes
- Sunglasses
- Gloves and Waterproof Inserts
- Safety Boots
- Layer 1 Thermal Protection
- Thermal Socks
- Cold Weather Glove Layer 1
- Insulated Boots

B. Basic Clothing and Equipment

Overview

This section describes the minimum outfit of basic clothing and equipment required to safely perform the duties required of coxswains, crewmembers, boarding officers and boarding team members. The basic clothing and equipment items presented in this section are the standard by which funding is justified and represent the minimum inventory of survival clothing and equipment required by individual coxswains, crewmembers, boarding officers and boarding team members. Other equipment may be required at individual units. Basic clothing and equipment are issued to all coxswains, crewmembers, boarding officers and boarding team members assigned to cutters, stations and aids to navigation teams. The following items are presented and shall be issued in the quantities shown below:

- Helmet: issue 1 (not issued to aids to navigation crewmembers)
- Raingear: issue 1 set
- Boat shoes: issue 1 pair
- Gloves and waterproof inserts: issue 1 pair of each component
- Goggles: issue 1 pair (prescription lens procured from unit funds)
- Parachute bag: issue 1
- Sunglasses: issue 1 pair (prescription lenses available from medical)
- Knife: issue 1
- Safety boots: issue 1 pair
- Anti-exposure coveralls: issue 1

B.1 Helmet

B.1.a Application

Coxswains, crewmembers, boarding officers and boarding team members shall wear kayaker's type helmets during hazardous conditions such as boat lowering detail, heavy weather, surf, and helicopter operations as defined in Boat Crew Seamanship Manual, COMDTINST M16114.5 (series). Coxswains shall ensure all crewmembers wear helmets with chinstraps securely fastened snuggly around the chin during hazardous conditions or when, in the judgment of the coxswain, the situation warrants helmet use.

B.1.b Salient Characteristics

The boat crew helmet is a red, lightweight plastic outer shell, with a closed cell foam lining and corrosion resistant hardware. SOLAS grade retro-reflective tape is applied to enhance detectability during darkness. A 2-inch by 3-inch piece of pile tape is riveted to the helmet for attaching the strobe light and a removable visor is installed. Openings allow for heat venting, hearing and rapid draining of water. The adjustable neck strap restraint system shall have a suitable fastening device centered in the chin area.

B.1.c Maintenance and Repair

Clean the helmet with mild soap and water. Repairs are limited to replacement of the visor, retro-reflective tape and pile tape.

B.1.d Inspection

Inspect the helmet shell, retention strap, visor, interior pads, hardware, retro-reflective tape and pile tape for material condition. If discrepancies are found repair or replace helmet.

B.1.f Supply Sources

The national stock number for retro-reflective tape is 9390 01 082 8927.
Units may obtain brand name or equal helmets from the following sources:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 458

MARSARS Water Rescue
155 Myrtle Street
Shelton, CT 06484
(203) 924-7315
Part Number P26-CG

B.1 Helmet

B.1.f Supply Sources continued

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

B.1.g Helmet

B.2 Rain Gear

B.2.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in a wet environment should use raingear when added thermal protection is not required.

B.2.b WARNING

RAINGEAR HAS NO INHERENT BUOYANCY. PERSONAL FLOTATION DEVICES SHALL BE WORN WITH RAINGEAR.

B.2.c Salient Characteristics

Raingear consists of a coat and pants constructed of Pantone Color® Warm Red C or 172 C waterproof and breathable tri-laminate fabric. Seams are stitched and sealed from water intrusion with seam tapes. Jackets shall have an attached hood with drawstring closure, adjustable wrist cuffs, SOLAS grade retro-reflective tape and "U. S. COAST GUARD" printed on the back in 1 ½ to 3 inch high white or black solid block lettering. Pants shall have an elastic waistband with drawstring closure and adjustable ankle cuffs.

B.2.d Maintenance and Repair

Generally raingear is replaced when worn to the point of showing discrepancies.

B.2.e Inspection

Inspect the raingear for tears or holes. Minor holes and tears can be patched. Replace badly damaged or excessively worn raingear.

B.2.f Supply Sources

Units may obtain brand name or equal rain gear from the following General Services Administration source:

Lifesaving Systems Corp. (813) 645-2748
220 Elsberry Road
Apollo Beach, FL 33572-2289 Part number 610-CG
GSA Contract Number: GS-07F-0078H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

B.3 Boat Shoes

B.3.a Application

Coxswains, crewmembers, boarding officers and boarding team members wear boat shoes when working aboard boats where non-slip traction and non-marking soles are required, such as when boarding recreational boats.

B.3.b NOTE

Boat shoes provide little protection from hypothermia and no crush protection for the toes. Commanding Officers/Officers-In-Charge shall evaluate the need to outfit boat crewmembers to meet the expected operational mission. Purchase boat shoes only if operational mission requires their use.

B.3.c Configuration

Boat shoes have skid resistant non-marking soles. The uppers shall be dark brown leather and lace closed.

B.3.d Maintenance and Repair

Maintenance is limited to cleaning and polishing. Brown shoe polish, national stock number 7930 00 205 2872, is acceptable for polishing. Laces can be replaced as needed. It is usually not cost advantageous to repair boat shoes. If repair is considered, use local repair shops but do not exceed the cost of replacement shoes. Replace boat shoes with soles worn beyond tread depths.

B.3.e Inspection

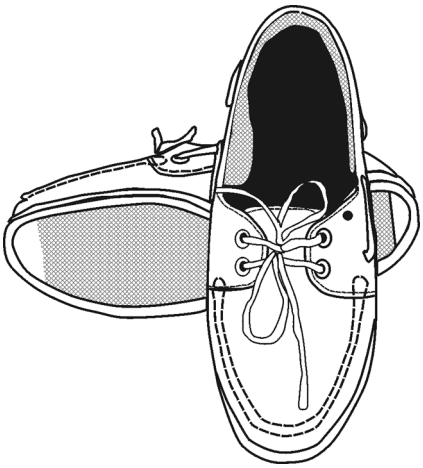
Inspect boat shoes for general condition. Replace as necessary.

B.3.f Supply Sources

Boat shoes shall be procured through the Coast Guard Uniform Distribution Center using a Procurement Request DOT Form 4200.1.2CG. The Uniform Distribution Center stock identification is listed as Boat Shoe Dark Brown Female or Boat Shoe Dark Brown Male. Sizes for female shoes range from 5 through 9½, widths of medium and wide. Sizes for male shoes range from 6 through 15, widths of medium and wide. Half sizes are available for both female and male shoes.

B.3 Boat Shoes

B.3.g
Boat Shoes



B.4 Gloves and Waterproof Inserts

B.4.a Application

Coxswains, crewmembers, boarding officers and boarding team members may use gloves and waterproof inserts as needed to provide thermal protection in intermediate cold weather.

B.4.b Configuration

Gloves are black leather outer shell and the inserts are waterproof Gore-Tex® knit material. Each has 5 fingers and short gauntlets. Gloves are available in 5 sizes and inserts are available in 5 sizes. The gloves are treated for water resistance and equipped with a cotton wrist strap.

B.4.c NOTE

The leather glove with insert will provide limited protection from hypothermia when wet inside. During operations where additional protection from hypothermia is required, the cold weather glove system shall be used.

B.4.d WARNING

THE WEARER SHOULD EXERCISE EXTREME CARE WHEN WEARING GLOVES TO AVOID CATCHING FINGERS OR HANDS BETWEEN A LINE AND A CLEAT, CAPSTAN OR BITT.

B.4.e Maintenance and Repair

Maintenance is limited to cleaning. Launder knit inserts in cold water and hang dry. Leather gloves can be cleaned with saddle soap, national stock number 7930 00 170 5467. It is usually not cost advantageous to repair gloves and inserts. Replace gloves and waterproof inserts as required.

B.4.f Inspection

Inspect the gloves and waterproof inserts for general condition. Replace as necessary.

B.4.g Supply Sources

Gloves and waterproof inserts can be procured using the following national stock numbers:

- Small 8415 01 319 5112
- Medium 8415 01 319 5113
- Large 8415 01 319 5114
- Extra large 8415 01 319 5115
- Double extra large 8415 01 319 5116

B.4 Gloves and Waterproof Inserts

B.4.h Gloves and Waterproof Inserts

B.5 Goggles

B.5.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in an environment where wind, spray and water may hamper vision, such as during helicopter operations shall use goggles.

B.5.b Salient Characteristics

Goggles consist of a black synthetic rubber or foam face frame with plastic non-fogging and 100% UV protective lenses. Goggles are universally sized and come equipped with an adjustable elastic headband. When required, the goggles shall be of a design that allows prescription lenses to be fitted.

B.5.c Prescription Lenses

Coxswains, crewmembers, boarding officers and boarding team members needing prescription eyewear are authorized to have corrective lenses procured for their goggles. Over the glasses type goggles do not provide the level of protection necessary to perform boat crew duties.

B.5.d Maintenance and Repair

Maintenance is limited to replacement of the headband and lenses. Clean lenses with lint free cloth and anti-fogging compound, national stock number 6850 00 754 2671.

B.5.e Inspection

Inspect goggle lenses for cracks and scratches and the headband for elasticity. Replace goggles as necessary.

B.5.f Supply Sources

Units may obtain brand name or equal goggles from the following sources. Corrective lenses can be procured from SPEX USA and prescription inserts can be procured from BOLLE.

BOLLE
3890 Elm Street
Denver, CO 80207
(303) 321-4300
Part number 38-500001

Lifesaving Systems Inc
220 Elsberry Road
Apollo Beach, FL 33572-2289
Part number 535

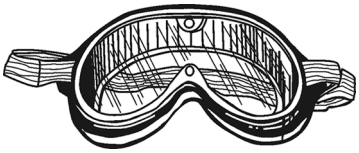
SPEX USA
2330 Newport Boulevard
Costa Mesa, CA 92627
(949) 548-1235
Model: Water-Goggle
Black, with plain black strap
Specify clear or gray
non-polarized lenses only

B.5 Goggles

B.5.f Supply Sources continued

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

B.5.g Goggles



B.6 Parachute Bag

B.6.a Application

Coxswains, crewmembers, boarding officers and boarding team members issued protective clothing and equipment shall use this bag for gear storage.

B.6.b CAUTION !

DO NOT STORE WET OR DAMP EQUIPMENT IN THE PARACHUTE BAG. DAMAGE TO EQUIPMENT WILL OCCUR. ALLOW ALL EQUIPMENT TO COMPLETELY DRY BEFORE STOWAGE.

B.6.c Configuration

The parachute bag is made of nylon or canvas duck material. It has a slide fastener opening and two webbing carrying handles. It is large enough to stow the basic and cold weather clothing.

B.6.d Maintenance and Repair

Maintenance of the bag is limited to minor repairs of holes and seams. Replace worn or damaged bags as necessary.

B.6.e Supply Sources

The national stock number for the parachute bag is 8460 00 606 8366.

B.7 Sunglasses

B.7.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in bright sunlight require eye protection. Sunglasses provide crewmembers protection from the sun's glare and reflection off the water. Use sunglasses during searches to enhance search operations.

B.7.b NOTE

Prescription sunglasses are available through the local medical officer.

B.7.c Configuration

Sunglasses consist of a metal frame, clear acetate nose pads and temple tips, and high-quality glass lenses of neutral color. They are carried in a crush-resistant carrying case.

B.7.d WARNING

SUNGLASSES ARE SHATTERPROOF. HOWEVER, THEY WILL BREAK AND DO NOT PROVIDE AN UNBREAKABLE SHIELD AGAINST EYE INJURY.

B.7.e Maintenance and Repair

Maintenance is limited to cleaning. No repairs are authorized. Clean lenses with lint free cloth and anti-fogging compound, national stock number 6850 00 754 2671.

B.7.f Inspection

Inspect lenses for cracks and scratches. Replace sunglasses as necessary.

B.7.g Supply Sources

Sunglasses are available through the national stock system using national stock number 8465 01 114 1488.

B.8 Knife

B.8.a Application

Coxswains, crewmembers, boarding officers and boarding team members are issued knives for use during daily activities as well as during operational missions.

B.8.b Configuration

Folding knives with stainless steel serrated blades of 4 inches or less provide the best service. Blades shall lock in the open position to avoid inadvertent folding during use.

B.8.c WARNING

USE CAUTION WHEN USING AND INSPECTING THE KNIFE TO AVOID INJURY.

B.8.d Maintenance and Repair

Maintenance is limited to sharpening and cleaning. No repairs to the knives are authorized. Replace worn or damaged knives.

B.8.e Inspection

Inspect the knife for general condition. Sharpen the knife when it is dull.

B.8.f Supply Sources

Acceptable knives can be procured through the national stock system using the following national stock numbers:

Gerber Easy Out	5110 01 414 4916
Spyderco C10SBK	5110 01 432 6186
Benchmade Eclipse 830S	5110 01 451 0707
Non locking folding knife with locking marlinspike	5110 00 530 1757

B.9 Safety Boots

B.9.a Application

Coxswains, crewmembers, boarding officers and boarding team members shall wear safety boots in air and water temperatures above 50 degrees Fahrenheit. The safety boot is designed to protect the wearer's foot from high impact forces and the intrusion of water.

B.9.b Configuration

The upper is constructed of high quality, tanned, full-grain leather and heavy-duty nylon fabric. It is black in color with a composite safety toe box and a breathable waterproof liner. The boot has a skid resistant, non-marking, synthetic outsole. The boot is 8 inches high with an 10-eyelet closure, and is available in sizes from 4 narrow to 16 extra-wide.

B.9.c NOTE

This boot offers protection from the cold wet environment, but is not intended to replace the insulated boot designated for use as hypothermia protective equipment in cold temperatures, heavy weather and surf.

B.9.d Maintenance and Repair

Maintenance is limited to cleaning and polishing. Black shoe polish, national stock number 7930 00 205 2874, is acceptable for polishing. Laces can be replaced as needed. It is usually not cost advantageous to repair safety boots. If repair is considered, use local repair shops but do not exceed the cost of replacement boots. Repair or replace safety boots with soles worn beyond tread depths.

B.9.e Inspection

Inspect safety boots for general condition. Replace as necessary.

B.9.f Supply Sources

Safety boots shall be procured through the Coast Guard Uniform Distribution Center using a Procurement Request DOT Form 4200.1.2CG. The Uniform Distribution Center stock number is listed as the boot size and width prefaced by "SSB". Sizes range from 4 narrow to 16 extra-wide. Width designations are "N" for narrow, "R" for regular, "W" for wide and "XW" for extra-wide. Examples of the complete stock numbers are shown below:

SSB91/2XW	Size nine and a half extra-wide boots
SSB5N	Size five narrow boots

B.9 Safety Boots

B.9.g
Safety Boot

B.10 Anti-Exposure Coveralls

B.10.a Application

Coxswains, crewmembers, boarding officers and boarding team members shall use anti-exposure coveralls when operating in conditions requiring anti-exposure coverall use. Refer to Table 3-1 to determine when anti-exposure coverall use is required. Anti-exposure coveralls are the primary layer three garment for use where exposure to intermittent sea spray or rain is encountered.

B.10.b Configuration

Anti-exposure coveralls are constructed of all orange or orange and black urethane coated nylon fabric with a closed cell foam interlining. Sleeve and leg openings can be closed tightly around the wrist and ankles, however they do not provide a watertight seal. Anti-exposure coveralls provide 22 to 45 pounds of buoyancy (depending on size) and feature an attached, orally inflated pillow to support the wearer's head in the water, an attached hood for extra thermal protection, and retro-reflective tape on the hood and shoulders for better visibility at night. Five sizes range from small to extra-extra large.

B.10.c Maintenance and Repair

Maintenance is limited to cleaning of the coverall and lubrication of slide fasteners. Repairs are authorized only to the limits of the unit’s capabilities. Commercial repairs are authorized, contact the manufacturer for repair facilities.

B.10.d Inspection

Build-up procedures and semi-annual inspections shall be performed in accordance with Maintenance Procedure Card 3-1.

B.10 Anti-Exposure Coveralls

B.10.e Supply Sources

Units may obtain Anti-exposure coveralls from the following General Services Administration sources:

Mustang Survival
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part number MS2175 version 22
Specify orange/black
GSA number: GS-07F-0065H

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 327-CG
Specify orange/black
GSA number: GS-07F-0078H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

B.10 Anti-Exposure Coveralls

B.10.f Anti-Exposure Coveralls

C. Cold Weather Clothing and Equipment

Overview

This section describes the minimum outfit of cold weather clothing and equipment required to safely perform the duties required of coxswains, crewmembers, boarding officers and boarding team members operating shore and cutter based boats in areas where the air and water temperatures both fall below 50 degrees Fahrenheit. The cold weather clothing and equipment items presented in this section are the standard by which funding is justified and represent the minimum inventory cold weather survival clothing and equipment required by individual coxswains, crewmembers, boarding officers and boarding team members. Other equipment may be required at individual units. Cold weather clothing and equipment are issued to all coxswains, crewmembers, boarding officers and boarding team members assigned to cutters, stations and aids to navigation teams operating in the following geographic regions:

- District 1, 5, 9, 11 (except Activities San Diego units), 13 and 17 station and aids to navigation units
- District 8 station and aids to navigation units located north of Louisiana
- Cutters operating in district 1, 5, 9, 11 (except Activities San Diego units), 13 and 17
- Cutters operating in district 7 north of Florida and district 8 north of Louisiana

The following items are presented and shall be issued in the quantities shown below:

- Boat Crew Dry suit: issue 1 (provides Layer III protection)

NOTE

Units may issue either the boat crew dry suit or the MSD900 Breathable Marine Survival System to unit personnel. One or the other is required to be issued. When the MSD900 is selected for issue to unit personnel, thermal undergarments are also required.

- MSD900 Breathable Marine Survival System: (provides Layer III & II protection)
- Kamik® insulated boots: issue 1 pair
- Thermal underwear: issue 2 sets, 1 set Layer I polypropylene and 1 set Layer 2 polar fleece
- Thermal socks: issue 2 pairs

C. Cold Weather Clothing and Equipment

Overview continued

- Balaclava: issue 1
- Watch cap: issue 1
- Cold weather glove layers: issue 1 pair of each component
- Neoprene hood: issue 1

C.1 Kokatat® Boat Crew Dry Suit

C.1.a Application

Coxswains, crewmembers, boarding officers and boarding team members shall use the Kokatat® boat crew dry suit when operating in conditions requiring dry suit use. Refer to Table 3-1 to determine when dry suit use is required. The Kokatat® boat crew dry suit is the primary layer three garment for use where exposure to cold temperature, wind, sea spray and rain are encountered.

C.1.b WARNING

DRY SUITS ALONE PROVIDE INADEQUATE INSULATION FOR HYPOTHERMIA PROTECTION. PERSONNEL SHALL WEAR LAYER 1 POLYPROPYLENE AND LAYER 2 FLEECE THERMAL UNDERWEAR BENEATH THE DRY SUIT TO PROVIDE PROTECTION FROM COLD TEMPERATURE, WIND, SEA SPRAY AND RAIN.

C.1.c WARNING

DRY SUITS ARE NOT INHERENTLY BUOYANT. PERSONAL FLOTATION DEVICES SHALL BE WORN WITH DRY SUITS.

C.1.d Configuration

Dry suits are constructed in accordance with the boat crew dry suit specification maintained on file at U. S. Coast Guard Headquarters, Office of Boat Forces. Dry suits are orange and black color combination, waterproof and breathable (moisture vapor permeable) fabric. Seams are stitched and sealed with seam tapes. Sleeve and neck openings maintain watertight integrity from latex rubber seals. Sock type feet are integrated into the legs. The knee and seat portions of the suit are reinforced. Dry suits are available in five sizes ranging from small to extra-extra large. The Neoprene Hood, **section C.6**, is required to be carried in the leg pocket of all boat crew dry suits.

C.1.e Maintenance and Repair

Maintenance is limited to cleaning of the dry suit, lubrication of slide fasteners and application of 303 Aerospace Protectant™ to latex seals. Repairs to the dry suit fabric are not authorized by unit personnel. Replacement of latex seals is authorized. Contact the manufacturer for gasket repair tool kits and replacement instructions.

C.1 Kokatat® Boat Crew Dry Suit

C.1.e Maintenance and Repair continued

Use the manufacturer or any of the following manufacturer recommended commercial repair facilities:

Rainy Pass Repair
5307 Roosevelt Way NE
Seattle, WA 98015
(888) 747-7867

Amigos Dry Suit Repair
c/o Nantahala Outdoor Center
13077 Hwy 19 West
Bryson, NC 28713
(828) 488-2176 x144

Mikes Specialty Repair
7380 Lakeshore Blvd.
Mentor, OH 44060
(440) 257-1865

The Dive Shop
2105 West Genesse
Syracuse, NY 13219
(315) 487-7558

The Scuba Tank
9447 Laperouse # 3
Juneau, AK 99801
(907) 789-5115

C.1.f Inspection

Personal issue build-up procedures and semi-annual inspections shall be performed in accordance with Maintenance Procedure Card 3-2.

C.1 Kokatat® Boat Crew Dry Suit

C.1.g Supply Sources

Dry suits shall be procured using the Procurement Request, DOT-Form 4200.1.2.CG. Submit the purchase request to the unit contracting officer or Fax completed forms to (202) 267-4025, attention: Commandant (G-ACS-2A/SQ) Completed forms shall include the following:

- Block 1 Ordering Unit point of contact
- Block 2 Check New Request
- Block 3 Ordering Unit
- Block 4 Kokatat Inc., 5350 Ericson Way Arcata, CA, 95521
- Block 5 Unit Accounting Certification Officers signature
- Block 6 Delivery Address
- Block 7 120 days ARO
- Block 8 No
- Block 9 Use the following contract line item numbers and prices for the date ranges shown and indicate desired sizes small, medium, large, extra-large or extra-extra-large:

10-1-2001 to 9/30/2002	CLIN 2001 boat crew dry suit	$647.50
	CLIN 2002 drop seat model	$667.50
10-1-2002 to 9/30/2003	CLIN 3001 boat crew dry suit	$672.50
	CLIN 3002 drop seat model	$692.50
10-1-2003 to 9/30/2004	CLIN 4001 boat crew dry suit	$697.50
	CLIN 4002 drop seat model	$717.50
10-1-2004 to 9/30/2005	CLIN 5001 boat crew dry suit	$722.50
	CLIN 5002 drop seat model	$742.50

- Block 10 Accounting data obligating ordering units AFC 30 funds.

Unit Contracting Officers shall place delivery orders directly with the contractor using the Headquarters managed mandatory use requirements type contract. The contract number is DTCG23-00-D-DNQ293. The contractor address is Kokatat® Inc., 5350 Ericson Way, Arcata, CA 95521. Telephone: (800) 225-9749 or (707) 822-7621.

C.1 Kokatat® Boat Crew Dry Suit

C.1.h NOTE

Existing inventories of serviceable boat crew dry suits procured prior to the mandatory use contract award (September 2000) can remain in service until the suits are no longer serviceable or until 1 July 2003, which ever occurs first.

C.1.i Donning Procedure

WARNING

USE OF COMFORT DEVICES TO STRETCH THE NECK OR WRIST SEALS AWAY FROM THE SKIN SUCH AS NECK RINGS OR O-RING COMFORT DEVICES ARE NOT AUTHORIZED AND SHALL NOT BE USED.

CAUTION !

USE EXTREME CAUTION WHEN DONNING THE DRY SUIT. PRIOR TO DONNING THE DRY SUIT, REMOVE ALL RINGS, WATCHES, EARRINGS, NECKLACES AND EYEGLASSES THAT WILL CAUSE DAMAGE TO WRIST AND NECK SEALS.

Use the following procedure to put on the boat crew dry suit. Follow the steps closely to ensure proper sealing of neck and wrist seals.

1. Lubricate inside of the neck and wrist seals with unscented talc.
2. Don layer 1 polypropylene followed by layer 2 fleece insulating undergarments.
3. Don the dry suit in the same fashion as donning coveralls, entering it one leg at a time.
4. Pull the bottom section of the suit up to the waist and place arms into the sleeves.
5. Gently push one hand through the wrist seal at a time using the index finger of the opposite hand to stretch the seal as you push your hand through. Repeat for opposite hand. Make sure insulating undergarments are not sandwiched between seal and skin and flatten any folds or rolls of the seal flat against the skin.

C.1 Kokatat® Boat Crew Dry Suit

C.1.i Donning Procedure Continued

NOTE

Use only one or two fingers to pull the entry and relief slide fasteners closed. If more force is required, the slide fastener may not be properly aligned or lubricated. If difficulty is encountered when closing slide fasteners, stop immediately, back the slide up and check for the cause of the interference. Correct the problem before proceeding. The slide fastener must be snug tight against the sealing plug. Use paraffin to lubricate the slide fastener.

6. Bring the upper portion of the suit over the head, aligning the neck opening with the top of the head. Reach inside the top of the neck seal with the fingers and gently pull the seal outward and down as you push your head through. Ensure insulating undergarments are not sandwiched between seal and skin, and flatten any folds or rolls of the seal flat against the skin.
7. Close the entry and relief slide fasteners. Have a fellow crewmember double check slide fastener to ensure it is closed completely against the sealing plug.
8. Remove excess air from the suit by sliding fingers under the neck seal and squatting down, pull arms tight against the chest and release seal.

C.1.j Doffing Procedure

Use the following procedure to take off the dry suit.

1. Remove all other equipment donned over the dry suit before removing the dry suit.
2. Wash down the dry suit while wearing it paying particular attention to entry and relief slide fasteners. Remove all traces of salt.

CAUTION !

FAILURE TO COMPLETELY OPEN SLIDE FASTENER WILL DAMAGE THE SUIT WHEN IT IS REMOVED.

3. Completely open the entry slide fastener.
4. Insert fingers between neck seal and neck. Gently stretch the seal outward and upward while pulling head from seal and shoulders and head out of the suit.

C.1 Kokatat® Boat Crew Dry Suit

C.1.j Doffing Procedure

5. Insert two fingers under wrist seal and gently pull seal outward. Cup the hand, fingertips and thumb together, and gently pull hand from seal. Repeat for other hand.
6. Remove legs from suit. Insert a wide dry suit hanger out through the neck seal, close entry slide fastener half way and hang until dry.

C.2 MSD900 Breathable Marine Survival System

C.2.a Application

Coxswains, crewmembers, boarding officers and boarding team members may use the MSD900 breathable marine survival system in lieu of the boat crew dry suit when operating in conditions requiring dry suit use. Refer to Table 3-1 to determine when the dry suit or the MSD900 is required. The MSD900 is designed for more industrial applications such as aids to navigation maintenance, buoy deck operations, fisheries boardings and other applications where damage to the suit is likely to occur. The MSD900 provides 16 pounds of buoyancy with the head pillow inflated as well as layer two thermal protection. PFDs may be worn over the MSD900 but are not required. The boat crew survival vest is required to be worn over the MSD900 and layer 1 polypropylene thermal underwear is required against the skin beneath the MSD900.

C.2.b Configuration

The MSD900 provides hypothermia protection and inherent buoyancy using three interconnected modules to form a single system. The thermal/flotation module is a breathable foam thermal liner which functions as layer two protection and provides inherent buoyancy. The immersion module is constructed of a waterproof and breathable (moisture vapor permeable) fabric that provides the suit with watertight integrity. **Sleeve openings maintain watertight integrity from neoprene seals and the neck opening is constructed of a waterproof stretch nylon material that seals water out when the elastic drawstring is pulled tight.** Sock type feet are integrated into the legs. The outer shell module is constructed with an orange and black urethane-coated nylon that provides a durable water-resistant barrier to wind, sea spray and rain. Knee and seat portions of the outer shell are reinforced and an attached foam-lined thermal hood is required to be worn if a crewmember enters the water.

C.2.c Maintenance and Repair

Maintenance is limited to cleaning and lubrication of all slide fasteners in accordance with maintenance procedure card 3-3. Stitch type repairs can be made to the outer shell and thermal/flotation module. Contact the manufacturer for repairs to the immersion module.

C.2.d Inspection

Personal issue build-up procedures and semi-annual inspections shall be performed in accordance with Maintenance Procedure Card 3-3.

C.2 MSD900 Breathable Marine Survival System

C.2.e Supply Sources

The MSD900 industrial immersion work suit is available from the following General Services Administration contractor:

Mustang Survival, Inc.
3870 Mustang Way
Bellingham, WA 98226
(800) 526-0532
Part Number MSD900 Version 22
GSA number: GS-07F-0065H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

C.2.f MSD900 Donning Procedure

WARNING

USE OF COMFORT DEVICES TO STRETCH THE NECK OR WRIST SEALS AWAY FROM THE SKIN SUCH AS NECK RINGS OR O-RING COMFORT DEVICES ARE NOT AUTHORIZED AND SHALL NOT BE USED.

WARNING

THE MSD900 SHALL BE WORN WITH ALL THREE MODULES COMPLETELY ASSEMBLED.

CAUTION !

USE EXTREME CAUTION WHEN DONNING THE MSD900. PRIOR TO DONNING THE MSD900, REMOVE ALL RINGS, WATCHES, EARRINGS, NECKLACES AND EYEGLASSES THAT WILL CAUSE DAMAGE TO WRIST AND NECK SEALS.

C.2 MSD900 Breathable Marine Survival System

C.2.f MSD900 Donning Procedure continued

Use the following procedure to put on the MSD900. **Follow the steps closely to ensure proper sealing of neck and wrist seals**.

1. Ensure the MSD900 is completely assembled in accordance with maintenance procedure card 3-3.
2. Completely loosen the neck seal.
3. Ensure the wrist, thigh and ankle adjustments are loose.
4. Completely open the chest zipper.
5. Completely open the waterproof circumference zipper.
6. Don layer 1 polypropylene undergarments.
7. Fold the upper portion of the suit forward at the waist and slide one leg at a time into the suit until your toes reach the end of the socks.
8. Pull the bottom section of the suit up to the waist and place arms into the sleeves.
9. Gently push one hand through the wrist seal at a time using the index finger of the opposite hand to stretch the seal as you push your hand through. Repeat for opposite hand. Make sure insulating undergarments are not sandwiched between seal and skin and flatten any folds or rolls of the seal flat against the skin.
10. Bring the upper portion of the suit over the head, aligning the neck opening with the top of the head. Reach inside the top of the neck seal with the fingers and gently pull the seal outward and down as you push your head through. Make sure insulating undergarments are not sandwiched between seal and skin and flatten any folds or rolls of the seal flat against the skin.
11. Fold the waterproof zipper cover out of the way.
12. Grasp the end of the waterproof zipper on your right side and the zipper pull with the opposite hand.

C.2 MSD900 Breathable Marine Survival System

C.2.f MSD900 Donning Procedure continued

WARNING

FAILURE TO COMPLETELY CLOSE THE WATERPROOF ENTRANCE AND RELEIF ZIPPERS TO THE SEALING PLUG WILL ALLOW WATER TO LEAK INTO THE SUIT RESULTING IN DRASTIC LOSS OF SURVIVAL TIME.

13. Pull the zipper closed completely around the waist circumference ensuring the zipper is tight against the sealing plug.
14. Pull relief zipper closed completely ensuring the zipper is tight against the sealing plug.
15. Fold the waterproof zipper cover closed over the zipper.
16. Buckle the waist belt and adjust to a comfortable fit.
17. Adjust and close the ankle and thigh adjustment straps.
18. Grasp and pull the neck seal drawstring to **ensure a watertight and comfortable fit**.

19. Secure the end of the neck seal drawstring to the tab under the outer collar.

C.2.g Doffing Procedure

Use the following procedure to take off the MSD900:

1. Remove all other equipment donned over the MSD900 before proceeding.

C.2 MSD900 Breathable Marine Survival System

C.2.g Doffing Procedure continued

2. Wash down the MSD900 while wearing it paying particular attention to entry and relief slide fasteners. Remove all traces of salt.
3. Unbuckle the waist belt and release the ankle, wrist and thigh adjustment straps.

CAUTION !

FAILURE TO COMPLETELY OPEN SLIDE FASTENER WILL DAMAGE THE SUIT WHEN IT IS REMOVED.

1. Fold the waterproof zipper cover out of the way. Completely open the waterproof zipper.
2. Completely loosen the neck seal drawstring and open the chest zipper.
3. Insert fingers between neck seal and neck. Gently stretch the seal outward and upward while pulling head from seal and shoulders and head out of the suit.
4. Insert two fingers under wrist seal and gently pull seal outward. Cup the hand, fingertips and thumb together, and gently pull hand from seal. Repeat for other hand.
5. Remove legs from suit. Hang the suit by the hanging loop, close waterproof zipper half way and allow to hang until dry.

C.3 Kamik® Insulated Boots

C.3.a Application

Coxswains, crewmembers, boarding officers and boarding team members working in a cold, wet environment aboard boats shall use Kamik® insulated rubber boots. Insulated boots provide a waterproof, thermal barrier for the feet.

C.3.b Salient Characteristics

Insulated boots are 14 to 16 inch high, slip on rubber boots with a drawstring top closure, steel toe/steel shank or steel toe only, and have 100% waterproof upper and a non marking/non slip waterproof outsole. A removable 8-mm felt insole provides insulation. Acceptable colors are black, navy or dark green. Insulated boots shall be available in sizes 7 through 13 minimum.

C.3.c Maintenance and Repair

Maintenance is limited to cleaning the outsole and felt inner liner. No repairs are authorized. Replace boots with holes or leaks.

C.3.d Inspection

Inspect insulated boots for holes. Replace insulated boots if discrepancies are found.

C.3.e Supply Sources

Units may obtain brand name or equal insulated boots from:

Genfoot America Inc.
Montée de Liesse
Montréal, QC H4T 1P1
800-341-3950

Kamik® Workday Steel toe steel shank part number:	BK0300
Kamik® Workday Steel toe part number:	BK0299

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

C.4 Thermal Underwear

C.4.a Application

Coxswains, crewmembers, boarding officers and boarding team members shall wear layer 1 and layer 2 thermal underwear under the dry suit. Light and/or medium weight polypropylene thermal underwear is first layer protection worn directly against the skin. Light, medium and heavy weight fleece is second layer protection worn over the first layer. Refer to Table 3-1 for policy on when to use thermal underwear.

C.4.b Configuration

First layer light and medium weight polypropylene thermal underwear are separate shirt and long drawers. Light, medium and heavy weight fleece are single piece jumper style. Two-piece fleece configurations are available for use under drop seat dry suits.

C.4.c WARNING

COTTON LONG UNDERWEAR SHALL NOT BE WORN FOR THERMAL PROTECTION UNDER THE BOAT CREW DRY SUIT. COTTON ABSORBS AND RETAINS MOISTURE, ROBBING BODY HEAT AND CAN CAUSE RAPID ONSET OF HYPOTHERMIA.

C.4.d Maintenance and Repair

Maintenance is limited to laundering. Launder in cold water and hang dry or tumble dry in cool air. Using a commercial fabric softener in the rinse cycle removes body oils during laundering. Repair to thermal underwear is not recommended. Polypropylene thermal underwear does not clean well when washed in regular laundry detergent. Disinfectant/detergent, national stock number 7930 01 346 4289, is most effective at cleaning heavily soiled polypropylene material.

C.4.e Inspection

Inspect thermal underwear for tears or holes. If discrepancies are found replace the underwear.

C.4 Thermal Underwear

C.4.f First Layer Supply Source

First layer light and medium weight polypropylene shirts and long drawers are available from the national stock system using the following stock numbers:

	light weight shirts	light weight drawers
extra-small	8415 01 415 5898	8415 01 415 5664
small	8415 01 415 5901	8415 01 415 5667
medium	8415 01 415 5906	8415 01 415 5669
large	8415 01 415 5913	8415 01 415 5672
extra-large	8415 01 415 5916	8415 01 415 5761
	medium weight shirts	**medium weight drawers**
extra-small	8415 01 227 9547	8415 01 227 9542
small	8415 01 227 9548	8415 01 227 9543
medium	8415 01 227 9549	8415 01 227 9544
large	8415 01 227 9550	8415 01 227 9545
extra-large	8415 01 227 9551	8415 01 227 9546

C.4 Thermal Underwear

C.4.g Second Layer Supply Source

Units shall obtain light, medium and heavy weight fleece from the following General Services Administration source.

USIA
1600 Railroad Avenue
St. Helens, OR 97051
(800) 247-8070
GSA Contract Number GS-07F-0209K

Exotherm I light weight underwear
Exotherm II medium weight underwear
Exotherm III heavy weight underwear

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

C.5 Thermal Socks

C.5.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in cold environments where added thermal protection to the feet is necessary shall wear thermal socks.

C.5.b WARNING

COTTON SOCKS SHALL NOT BE WORN FOR THERMAL PROTECTION. COTTON ABSORBS AND RETAINS MOISTURE, ROBBING BODY HEAT AND CAN CAUSE RAPID ONSET OF HYPOTHERMIA.

C.5.c Configuration

Thermal socks are made of a fleece material similar to the fleece jumper. Thermal socks with legs 12 inches long are preferred.

C.5.d Maintenance and Repair

Maintenance is limited to laundering. Launder in cold water and hang dry or tumble dry in cool air to avoid shrinkage. Using a commercial fabric softener in the rinse cycle removes body oils during laundering.

C.5.e Inspection

Inspect thermal socks for tears or holes. If discrepancies are found, replace the socks.

C.5.f Supply Sources

Units shall obtain light, medium and heavy weight fleece socks from the following General Services Administration source.

USIA
1600 Railroad Avenue
St. Helens, OR 97051
(800) 247-8070
GSA Contract Number GS-07F-0209K

Bootie I light weight socks
Bootie II medium weight socks
Bootie III heavy weight socks

C.5 Thermal Socks

C.5.f Supply Sources continued

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

C.6 Neoprene Hood

C.6.a Application

The neoprene hood is required to be carried by all coxswains, crewmembers, boarding officers and boarding team members in the front leg pocket of the boat crew dry suit. Neoprene hoods shall be donned anytime a crewmember enters water that is 50 degrees Fahrenheit or lower.

C.6.b Salient Characteristics

The neoprene hood is constructed of international orange, 2 to 5-millimeter closed cell neoprene fabric that covers the entire head and neck area except for the face opening. Retro-reflective tape is installed for better visibility at night. A pile tape patch is installed for attachment of the strobe light. The neoprene hood is typically available in 4 sizes based on head circumference. Contact the manufacturer for sizing requirements.

C.6.c Maintenance and Repair

Maintenance is limited to cleaning. Cleaning is required after each use. Hand-wash the cap in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289. Rinse completely and hang dry. Minor repairs are authorized to small holes or tears in the neoprene fabric. Use Aquaseal™ adhesive available through Lifesaving Systems Corp. Repairs to holes or tears across seams are not authorized. Replace hoods for damage found beyond unit repair capabilities.

C.6.d Inspection

Daily visual inspection shall be performed prior to each use. If discrepancies are found the neoprene hood shall be removed from service and discrepancies corrected prior to use. Replace neoprene hoods as required.

C.6.e Supply Sources

A brand name or equal neoprene hood is available from:

Mustang Survival, Inc. GSA number: GS-07F-0065H
3870 Mustang Way
Bellingham, WA 98226
(800) 526-0532
Part Number MA7148

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

C.7 WindStopper™ Balaclava

C.7.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in cold environments where added thermal protection for the head is necessary shall wear the WindStopper™ Balaclava.

C.7.b Configuration

The WindStopper™ Balaclava is black in color and is available in small, medium and large sizes. The balaclava is polypropylene or fleece, may be worn in conjunction with the PS50 watch cap or protective helmet and provides protection from wind, rain and sea spray.

C.7.c Maintenance and Repair

Maintenance for the balaclava is limited to cleaning. Launder in cold water and hang dry or tumble dry using cool air. Repairs are not recommended. Replace balaclavas when torn or holes appear.

C.7.d Inspection

Inspect the balaclava for tears, holes or split seams. Replace damaged balaclavas.

C.7.e Supply Sources

The WindStopper™ Balaclava, part number 83240, is available from the following General Services Administration source:

Outdoor Research
2203 1st Avenue South
Seattle, WA 98134
800-421-2421
GSA Contract Number: GS-07F-0405K

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

C.8 PS50 Watch Cap

C.8.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in cold environments where added thermal protection for the head is necessary shall wear the PS50 watch cap.

C.8.b Configuration

The PS50 watch cap is black in color and is available in small, medium and large sizes. The PS50 watch cap is stretch fleece, and may be worn in conjunction with the balaclava or protective helmet and provides protection from wind, rain and sea spray.

C.8.c Maintenance and Repair

Maintenance for the watch cap is limited to cleaning. Launder in cold water and hang dry or tumble dry using cool air. Repairs are not recommended. Replace watch caps when torn or holes appear.

C.8.d Inspection

Inspect the watch cap for tears, holes or split seams. Replace damaged watch caps.

C.8.e Supply Sources

The PS50 watch cap, part number 83930, is available from the following General Services Administration source:

Outdoor Research
2203 1st Avenue South
Seattle, WA 98134
800-421-2421
GSA Contract Number: GS-07F-0405K

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

C.9 Cold Weather Glove Layers

C.9.a Application

Coxswains, crewmembers, boarding officers and boarding team members operating in cold environments where added thermal protection for the hands is required shall use cold weather glove layers.

C.9.b Configuration

The cold weather glove layers consist of three layers of protection. Layer one is a thin lightweight liner. This liner may be worn alone in mild conditions or as a first layer. Layer two is a thermal protective layer of wind stopping fleece and is designed to provide the user with thermal protection and the ability to transfer body moisture and block out wind. Layer three is a gauntlet type moisture barrier. This layer offers protection from water, wind and sea spray.

C.9.c Maintenance and Repair

Maintenance is limited to laundering of gloves in cold water and hang dry or tumble dry in cool air. Repairs are not authorized. Components of the cold weather glove layers shall be replaced when torn or holes appear.

C.9.d Inspection

Inspect the cold weather glove layers for tears, holes or split seams. Replace system components when discrepancies are found.

C.9.e Supply Source

The three components of the cold weather glove layers are available from the following General Services Administration source:

Manzella Productions, Inc.
80 Sonwil Drive
Buffalo, NY 14225-2425
800 645-6837
GSA Contract Number: GS-07F-0340J

- TS-10 Thermolite® Lycra® light weight liner glove
- TS-40 Thermolite® Lycra® medium weight liner glove with Control Dot® palm
- TEC-250 Gore-Tex™ Thinsulate™ outer shell with Grip-Tex™ palm and wrist strap closure

C.9 Cold Weather Glove Layers

C.9.e Supply Source continued

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

D. Additional Equipment

Overview

This section describes additional equipment required to safely perform the duties required of coxswains, crewmembers, boarding officers and boarding team members operating shore and cutter based boats. The following items are presented:

- Boat crew survival vest
- Boat crew safety belt
- Immersion suit

D.1 Boat Crew Survival Vest

D.1.a Application

The boat crew survival vest is used to store survival components required during operational missions. The vest is worn by all coxswains, crewmembers, boarding officers and boarding team members over a Type I or Type III Coast Guard-approved PFD, Anti-Exposure Coverall, or Float Coat on all missions. The components of the boat crew survival vest shall not be removed to other devices.

D.1.b WARNING

THE BOAT CREW SURVIVAL VEST PROVIDES NO BUOYANCY AND SHALL BE WORN OVER A TYPE I OR TYPE III COAST GUARD-APPROVED PFD OR OVER ANTI-EXPOSURE COVERALLS.

D.1.c WARNING

WHEN DONNING THE BOAT CREW SURVIVAL VEST OVER ANTI-EXPOSURE COVERALLS ENSURE THE INFLATABLE HEAD SUPPORT OF THE ANTI-EXPOSURE COVERALL IS PLACED OUTSIDE THE VEST FABRIC.

D.1.e Configuration

The boat crew survival vest is orange nylon mesh with Coast Guard markings and retro-reflective tape for high visibility. Incorporated in the vest are 5 stowage pockets used to store a MK-124 marine smoke and illumination signal, MK-79 illumination signal kit, strobe light, signal mirror, whistle and survival knife. All survival items shall be secured to the vest pockets in accordance with Maintenance Procedure Card 3-4. The vest is available in two sizes, regular and large, and has a waist adjustment strap for fitting to individual comfort. Instructions for use of attached survival equipment can be found in Boat Crew Seamanship Manual, COMDTINST M16114.5 (series).

D.1.f Maintenance and Repair

Seawater rapidly degrades the contents of the vest. Fresh water rinsing and complete drying is required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and completely rinse and dry before re-stowing. Required maintenance shall be accomplished in accordance with Maintenance Procedure Card 3-4. Repair is limited to minor re-stitching of pockets to mesh and survival item replacement.

D.1 Boat Crew Survival Vest

D.1.g Inspection

Build-up procedures and semi-annual inspections shall be performed in accordance with Maintenance Procedure Card 3-4.

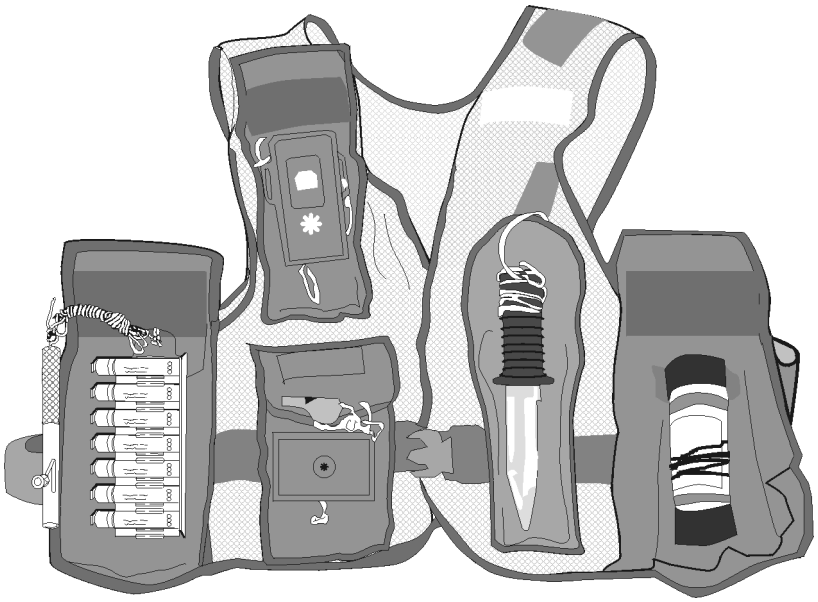
D.1.h Supply Sources

The boat crew survival vest and survival items are available from the stock system.

Regular size vest	8415 01 432 5893
Large size vest	8415 01 432 5896
Whistle	8465 21 912 7031
Strobe light	4220 01 487 2929
Signal mirror	6305 00 105 1252
Survival knife	4220 01 278 3007
Distress Signal Streamer	4240 01 451 8752 (Optional Item)

MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

D.1.i Boat Crew Survival Vest



D.2 Boat Crew Safety Belt

D.2.a Application

All MLB coxswains, crewmembers, boarding officers, boarding team members and scheduled passengers shall use the boat crew safety belt as a safety restraint system during hazardous conditions such as heavy weather and surf as defined in Boat Crew Seamanship Manual, COMDTINST M16114.5 (series). The belt is designed to restrain the user to the boat should a knockdown or rollover occur.

D.2.b Configuration

The boat crew safety belt is a padded adjustable nylon-webbing belt that is secured around the waist with a quick release buckle constructed of high strength stainless steel and molded plastic. Attached to the belt are two adjustable webbing restraint straps each with a locking snap hook used to secure the user to an anchor point. The belt is available in two sizes, small and regular.

D.2.c WARNING

A PROPERLY ADJUSTED BELT SHOULD FIT SNUGLY LOW AROUND THE HIPS WHEN BUCKLED. RESTRAINT STRAPS SHALL BE ADJUSTED TO ALLOW FREEDOM OF MOVEMENT, BUT WITHOUT EXCESSIVE SLACK.

D.2.d NOTE

The characteristics of the locking snap hook require that users be thoroughly familiar with the operation of the hook. While wearing gloves, users shall practice locking in and disconnecting the hook from all possible attachment points paying particular attention to working the latch gate release. Prior to operational use of the belt, each user shall don the belt and practice locking in and disconnecting from point to point around the boat deck. Operation should become second nature.

D.2.e Maintenance and Repair

Maintenance of the boat crew safety belt is limited to cleaning after each use and lubricating the latch gate release on the snap hook. Lubricate the latch gate release with non-aerosol fluid film corrosion preventative national stock number 8030-01-381-6357. Repair is limited to replacement of worn or damaged restraint straps.

D.2.f Inspection

Daily visual inspection shall be performed prior to each use. If discrepancies are found the belt shall be removed from service.

D.2 Boat Crew Safety Belt

D.2.g
Supply Sources

The boat crew safety belt shall be procured from the following source:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
GSA Number GS-07F-0078H

Part number 218 fits waists from 34 to 44 inches.
Part number 218-S fits waists from 27 to 36 inches.

For safety reasons, this belt is the only belt authorized for procurement.

D.2.h
NOTE

Existing inventories of part number 218 or 218-S boat crew safety belts with the Wichard® non-locking and Talon locking snap hooks may be used until no longer serviceable. All new requisitions for the 218 and 218-S boat crew safety belts will be supplied with the new Super Talon locking snap hook, part number 511.

D.3 Immersion Suit

D.3.a Application

The immersion suit is worn when abandoning ship. Immersion suits are required for each person aboard cutters operating on the ocean or Great Lakes in all areas north of 32 degrees north latitude and south of 32 degrees south latitude.

D.3.b Configuration

The immersion suit is a one-piece international orange garment constructed of 3/16-inch nylon lined neoprene or polyvinyl chloride foam. It has a front entry slide fastener for easy fast entry. The garment is hooded and gloved and is available as a one size fits all suit. The immersion suit provides 35 pounds of buoyancy.

D.3.c NOTE

Once the immersion suit is donned the mobility and dexterity of the user is somewhat diminished. During abandon ship drills don the immersion suit and practice moving about and manipulating signaling devices with gloved hands.

D.3.d Maintenance and Repair

Maintenance of the immersion suit shall be performed in accordance with Maintenance Procedure Card 3-5. Repairs of minor tears and holes are authorized. Use commercial repair facilities for damage beyond unit capabilities.

D.3.e Inspection

Build-up and post usage/semi-annual inspections shall be performed after each use and every 180 days in accordance with Maintenance Procedure Card 3-5.

D.3 Immersion Suit

D.3.f Supply Sources

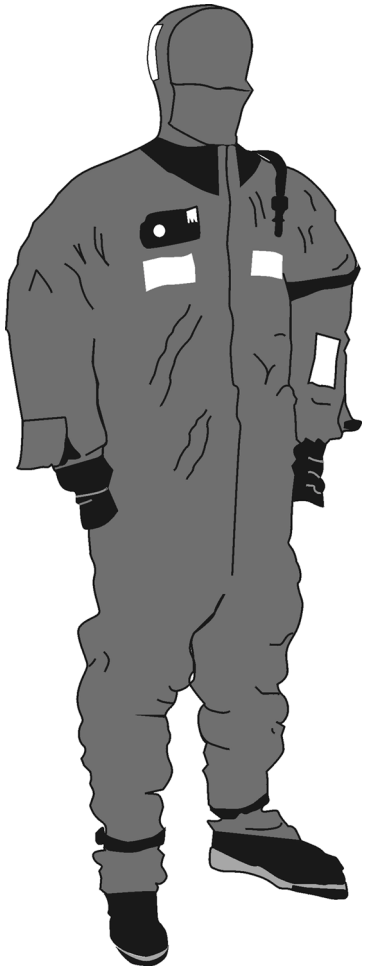
Immersion suits are available from the following General Services Administration sources:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 340
GSA number: GS-07F-0078H

Mustang Survival Inc.
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part number 0C8000
GSA number: GS-07F-0065H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

D.3.g
Immersion Suit



E. Protective Clothing and Equipment Maintenance Procedures

Overview

This protective clothing and equipment maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by the "Inspection" paragraphs in sections B, C and D. The following maintenance procedure cards are directed for use as the standard maintenance practice:

- Anti-exposure coveralls
- Kokatat® boat crew dry suit
- MSD900 breathable marine survival system
- Boat crew survival vest
- Immersion suit

Maintenance Procedure Card 3-1

Anti-Exposure Coverall

ITEM 1. ANTI-EXPOSURE COVERALL PERSONAL ISSUE BUILD UP PROCEDURE

PARTS REQUIRED

Anti-exposure coverall

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Paraffin	9160 00 285 2044
Disinfectant/detergent	7930 01 346 4289
Leak Detection Compound	6850 00 621 1820

3. Stencil a locally generated serial number on the top, inside of the slide fastener cover (marking pens with black indelible ink may be used in lieu of stenciling).
4. Perform steps 2. through 5. from Item 2 below.
5. Document personal issue by recording serial number and user information on AF Form 538.
6. Record serial number and date placed in service on anti-exposure coverall maintenance log.

ITEM 2. ANTI-EXPOSURE COVERALL SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Restore serial number marking as required.
2. Inspect the anti-exposure coverall over its entire surface for obvious signs of damage. Repair minor damage within unit capabilities, otherwise contact the manufacturer for repair facilities.
3. Inspect the entry and leg slide fasteners for ease of operation over their entire length. Lubricate slide fasteners with paraffin.
4. Inflate the head pillow with low-pressure air. Inspect entire surface for leaks using leak detection compound. Leaks shall be repaired by the manufacturer. However, do not exceed the cost of replacing the suit. Deflate and stow head pillow.

Maintenance Procedure Card 3-1

Anti-Exposure Coverall

5. Inspect the oral inflation tube over the entire length. Damaged tubes shall be repaired by the manufacturer, however do not exceed the cost of replacing the suit.

CAUTION ! DO NOT DRY THIS SUIT IN A MACHINE DRYER. HEAT WILL DAMAGE THE SUIT.

6. Hand-wash the suit as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.
7. Record date and inspection complied with on the anti-exposure suit maintenance log.

Maintenance Procedure Card 3-2

Kokatat™ Boat Crew Dry Suit

ITEM 1. KOKATAT® BOAT CREW DRY SUIT PERSONAL ISSUE BUILD UP PROCEDURE

PARTS REQUIRED

Kokatat® Boat Crew Dry Suit

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)
Scissors

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Paraffin	9160 00 285 2044
Disinfectant/detergent	7930 01 346 4289
Talcum Powder	6810 00 270 9989

CAUTION ! USE EXTREME CARE WHEN TRIMMING NECK AND WRIST SEALS. AN EVEN TRIM LINE IS ESSENTIAL TO AVOID SPLITTING THE SEAL WHEN THE SUIT IS DONNED. DO NOT TRIM MORE THAN ONE RING AT A TIME. DO NOT ATTEMPT TO TRIM THROUGH TWO LAYERS OF SEAL MATERIAL WITH ONE CUT. NICKS CAUSED BY SHARP POINTS MAY RESULT IN SPLIT SEALS WHEN THE SUIT IS DONNED.

1. Don the dry suit and determine if neck and/or wrist seal trimming is required. Remove the suit.

NOTE To avoid over trimming the seals, the user should wear the suit for two or three separate periods of long durations prior to trimming the seals to the correct sizes.

2. Trim away the outermost raised ridge, immediately below the ridge, on the neck and/or wrist seal. Don the dry suit and determine if further neck and/or wrist seal trimming is required.
3. Repeat steps 1 and 2 until the seal fits comfortably and remains in snug contact with the users neck or wrist throughout the range of normal movement.
4. Stencil a locally generated serial number on the inside of the suit adjacent to the entrance slide fastener (marking pens with black indelible ink may be used in lieu of stenciling).

Maintenance Procedure Card 3-2

Kokatat™ Boat Crew Dry Suit

CAUTION ! TALCUM POWDER USED TO LUBRICATE DRY SUIT SEALS SHALL NOT CONTAIN IMPREGNATED OILS OR SCENTS. IMPREGNATED OILS AND SCENTS WILL DAMAGE SUIT SEALS BY CAUSING PREMATURE DRY ROT AND CRACKING.

5. Lightly dust wrist and neck seals with talcum powder.
6. Perform steps 1. and 2. from the Kokatat® boat crew dry suit semi-annual inspection.
7. Document personal issue by recording serial number and user information on AF Form 538.
8. Record serial number and date placed in service on Kokatat® Boat Crew Dry Suit maintenance log.

ITEM 2. KOKATAT® BOAT CREW DRY SUIT SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Inspect the dry suit over its entire surface area for cuts, tears and seam separations. Any damage found shall be repaired prior to further use.
2. Inspect the entry slide fastener for ease of operation over the entire length. Slide fasteners with loose or missing teeth shall be repaired prior to further use. Lubricate the slide fastener with paraffin.

CAUTION ! DO NOT DRY THIS SUIT IN A MACHINE DRYER. HEAT WILL DAMAGE THE SUIT.

3. Hand-wash the suit as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.
4. Restore serial number marking as required.
5. Lightly dust wrist and neck seals with talcum powder.
6. Record date and inspection complied with on the dry suit maintenance log.

Maintenance Procedure Card 3-3

Mustang Survival Inc.™ MSD900 Breathable Marine Survival System

ITEM 1. MSD900 PERSONAL ISSUE BUILD UP PROCEDURE

PARTS REQUIRED

MSD900 Breathable Marine Survival System

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)
Scissors

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Paraffin	9160 00 285 2044
Disinfectant/detergent	7930 01 346 4289
Leak Detection Compound	6850 00 621 1820

1. Stencil a locally generated serial number on the top inside of the slide fastener cover (marking pens with black indelible ink may be used in lieu of stenciling).
2. Ensure the MSD900 is assembled in accordance with the assembly procedure, steps 36 through 59, in ITEM 2.
3. Document personal issue by recording serial number and user information on AF Form 538.
4. Record serial number and date placed in service on MSD900 maintenance log.

ITEM 2. MSD900 SEMI-ANNUAL INSPECTION AND CLEANING

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Remove the bladder from the head pillow cover through the cover split under the back.
2. Unsnap and fold open the hood.
3. Roll back the outer shell wrist material approximately 3 inches to expose the wrist interconnection zipper.
4. Unzip the interconnection zipper.
5. Repeat steps 3 and 4 for the opposite wrist.
6. Fold open the outer shell around the waist to expose the upper and lower waist interconnection zippers.
7. Unzip the upper zipper in the center of the back.

Maintenance Procedure Card 3-3

Mustang Survival Inc.™ MSD900 Breathable Marine Survival System

8. Unzip the lower zipper to completely disconnect the outer shell from the immersion module.
9. Remove the outer shell from the immersion module.
10. Empty contents from all pockets.
11. Close all vent and pocket zippers prior to washing outer shell.
12. Completely loosen the neck seal drawstring.
13. Roll back the neck seal exposing the neck thermal lining interconnection zipper.
14. Unzip the neck thermal lining interconnection zipper.
15. Unzip the waterproof zipper around the waist circumference and fold the suit open to expose the upper and lower waist interconnection zippers.
16. Unzip the upper and lower waist interconnection zippers.
17. Unzip the upper and lower interconnection zippers adjacent to the waterproof relief zipper.
18. Reach between the immersion module and thermal liner to the wrist and pull wrist cuff through inside out exposing the interconnection zipper.
19. Unzip the wrist interconnection zipper.
20. Repeat steps 18 and 19 for opposite wrist.
21. Reach between the immersion module and thermal liner to the ankle and pull the ankle cuff through inside out exposing the ankle interconnection zipper.
22. Unzip the ankle interconnection zipper.
23. Repeat steps 21 and 22 for opposite ankle.
24. Lay out the head pillow and each module for inspection.
25. Inflate the head pillow through the inflation tube to a firm test pressure and lock valve closed.
26. Apply leak detection compound to the inflation tube valve and at the base of the tube on the bladder connection point. Inspect for signs of leakage. Repair bladder leaks with Aquaseal adhesive. Leaks in inflation tube or tube base require head pillow replacement.
27. Inspect the outer shell over its entire surface area for cuts, tears and seam separations. Any damage found shall be repaired prior to further use.
28. Inspect the immersion module over its entire surface area for cuts, tears and seam tape separations. Return the immersion module to the manufacture for repairs or replacement.
29. Inspect the thermal liner over its entire surface area for cuts, tears and seam separations. Any damage found shall be repaired prior to further use.
30. Hand wash the thermal liner in disinfectant/detergent and rinse thoroughly in fresh water. Hang the thermal liner until completely dry.
31. Machine-wash the outer shell and immersion module using disinfectant/detergent in warm (100º F) water. Hang the outer shell until completely dry. The immersion module may be machine dried on a low heat setting.
32. Inspect the waterproof entry and relief zippers on the immersion module for ease of operation over the entire length. Slide fasteners with loose or missing teeth shall be repaired prior to further use. Lubricate the slide fastener with paraffin.
33. Recheck the inflation pressure on the head pillow bladder. A significant decrease in pressure requires reinflation for repair.

Maintenance Procedure Card 3-3

Mustang Survival Inc.™ MSD900 Breathable Marine Survival System

34. Ensure the outer shell, immersion module and thermal liner are completely dry before reassemble.
35. Install the bladder into the head pillow cover on the outer shell. Route the inflation tube through to the tube sleeve to the front of the shell.
36. Lay the immersion module out face down with the waterproof relief zipper face down.
37. Lay the thermal liner out face down with the seams out on top of the immersion module.
38. Reach through the leg portion of the immersion module to the foot and pull the foot out to expose the interconnection zipper.
39. Mate the thermal liner and immersion module ankle interconnection zipper and zip completely closed.
40. Pull the foot of the immersion module right side out.
41. Repeat steps 38, 39 and 40 for opposite leg.
42. Zip the upper and lower interconnection zippers adjacent to the waterproof relief zipper.
43. Reach through the arm portion of the immersion module to the wrist and pull the wrist out to expose the wrist interconnection zipper.
44. Mate the thermal liner and immersion module wrist interconnection zipper and zip completely closed.
45. Pull the wrist of the immersion module right side out.
46. Repeat steps 43, 44 and 45 for opposite wrist.
47. Zip the upper and lower waist interconnection zippers.
48. Roll back the neck seal exposing the neck thermal lining interconnection zipper.
49. Mate the thermal liner and immersion module neck interconnection zipper and zip completely closed.
50. Lay the outer shell out face down.
51. Lay the assembled immersion module and thermal liner out face down on top of the outer shell.
52. Route the leg portions of the assembled immersion module and thermal liner through the leg portions of the outer shell.
53. Route the sleeve/arm portions of the assembled immersion module and thermal liner through the sleeve/arm portions of the outer shell.
54. Roll back the outer shell wrist material approximately 3 inches to expose the wrist interconnection zipper.
55. Zip the wrist interconnection zipper.
56. Repeat steps 54 and 55 for the opposite wrist.
57. Fold open the outer shell around the waist to expose the upper and lower waist interconnection zippers.
58. Zip the lower zipper interconnection completely around the circumference of the outer shell.
59. Zip the upper interconnection zipper in the center of the back.
60. Restore serial number as required.
61. Record semi-annual inspection and cleaning on MSD900 maintenance log.

Maintenance Procedure Card 3-4

Boat Crew Survival Vest

ITEM 1. BOAT CREW SURVIVAL VEST BUILD UP PROCEDURE

PARTS REQUIRED

Regular size vest	8415 01 432 5893
Large size vest	8415 01 432 5896
Whistle	8465 21 912 7031
Strobe light	4220 01 487 2929
Signal mirror	6305 00 105 1252
Survival knife	4220 01 278 3007
Distress Signal Streamer (Optional Item)	4240 01 451 8752
MK-124 Marine Smoke and Illumination	
MK-79 Illumination Signal Kit	

NOTE MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Type I nylon cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the right hand pocket flap (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the survival knife to the webbing loop inside the knife pocket flap with a 36-inch piece of Type I nylon cord using bowline knots.
3. Attach the strobe light to the webbing loop inside the upper right chest pocket with a 36-inch piece of Type I nylon cord using bowline knots.
4. Install new batteries into the strobe light and test light for 50 to 70 flashes per minute. Replace lights that do not flash at desired rate.
5. Attach the whistle to the webbing loop inside the lower right pocket with a 36-inch piece of Type I nylon cord using bowline knots.

Maintenance Procedure Card 3-4

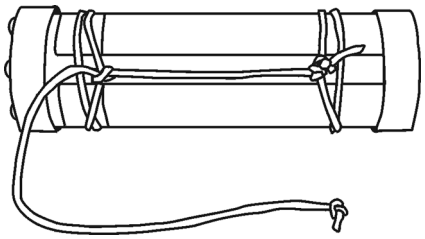
Boat Crew Survival Vest

6. Attach the signal mirror to the webbing loop inside the lower right pocket with a 36-inch piece of Type I nylon cord using bowline knots.

WARNING

VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.

7. Attach a 36-inch piece of Type I nylon cord to the bandoleer of the MK-79 illumination signal kit then to the webbing loop inside the right side pocket using bowline knots.
8. Wrap two turns of a 70 inch piece of Type I nylon cord around one end the MK-124 marine smoke and illumination flare and tie with a surgeons knot followed by an overhand knot. The turns shall overlap and the knots shall be tied snugly against each other. Route the cord to the other end and repeat the two turns followed by a surgeon's and overhand knot. Refer to figure. Attach the MK-124 marine smoke and illumination to the webbing loop inside the left side pocket with the bitter end of the cord using bowline knot around the webbing loop.



Surgeon's Knot

9. Record pyrotechnics lot numbers on the boat crew survival vest maintenance log.
10. Record serial number and date placed in service on boat crew survival vest maintenance log.
11. Perform all steps in Item 2.

ITEM 2. BOAT CREW SURVIVAL VEST SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Inspect the survival vest over its entire surface for cuts, tears, seam separations or loose pockets. Repair as required.
2. Restore serial number markings as required.
3. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.

Maintenance Procedure Card 3-4

Boat Crew Survival Vest

4. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
5. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
6. Inspect the signal mirror. Replace the mirror if the instructions are illegible or the mirror is broken.

WARNING ✋ **VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.**

7. Contact group or local servicing armories for the latest information on pyrotechnics lot number reclassifications for the MK-124 and MK-79.
8. Inspect the MK-124 in accordance with the Ordnance Manual, COMDTINST M8000.2 (series).
9. Inspect the MK-79 kit in accordance with the Ordnance Manual, COMDTINST M8000.2 (series).
10. Inspect the security of attachment for all survival equipment and retie knots as required.
11. Record date and inspection complied with on the boat crew survival vest maintenance log.

Maintenance Procedure Card 3-5

Immersion Suit

ITEM 1. IMMERSION SUIT BUILD UP PROCEDURE

PARTS REQUIRED

Immersion Suit	Commercially Procured
Whistle	8465 21 912 7031
Strobe light	4220 01 487 2929

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
(marking pens with black indelible ink may be used in lieu of stenciling)	
Type I nylon cord	4020 00 240 2154
Plastic Bags	8105 00 330 7264
Aquaseal Adhesive	Commercially procured
Paraffin	9160 00 285 2044
Leak Detection Compound	6850 00 621 1820
Disinfectant/detergent	7930 01 346 4289
Pile Fastener Tape	8315 00 926 4930
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the outside of the face flap and on the carrying case (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the whistle to the face flap with a 36-inch piece of Type 1 nylon cord, using bowline knots.
3. Attach the strobe light to the chest pocket using a 36-inch piece of Type 1 nylon cord, using bowline knots.
4. Install new batteries into the strobe light and test light for 50 to 70 flashes per minute. Replace lights that do not flash at desired rate.
5. Cut a 2-inch by 2-inch piece of pile fastener tape and install on the right side of the hood using Aquaseal adhesive.
6. Record serial number and date placed in service on immersion suit maintenance log.
7. Perform all steps in Item 2 except step 5.

Maintenance Procedure Card 3-5

Immersion Suit

ITEM 2. IMMERSION SUIT POST USE/SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Inspect the carrying case for tears, holes, split seams and security of hardware. If discrepancies are found, repair or replace carrying case.
2. Inspect the immersion suit over the entire surface area for tears, holes or split seams. Use Aquaseal adhesive for minor tears or holes within unit repair capabilities. Split seams shall be repaired by the manufacturer, however do not exceed the cost of replacing the suit.
3. Operate the entry slide fastener up and down the entire length of travel looking for damaged or missing teeth. Slide fasteners shall be repaired by the manufacturer, however do not exceed the cost of replacing the suit. Close the slide fastener and clean it with a brush and water. Lubricate the entire length of the slide fastener with paraffin.
4. Blow the whistle. Replace whistles that do not emit a highly audible tone. Inspect the whistle attachment lanyard for signs of deterioration. Replace lanyards as necessary.
5. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
6. If installed, inflate the buoyancy ring or head pillow with low-pressure air. Inspect entire surface for leaks using leak detection compound. Leaks shall be repaired by the manufacturer, however do not exceed the cost of replacing the suit.
7. Inspect the oral inflation tube over the entire length. Damaged tubes shall be repaired by the manufacturer, however do not exceed the cost of replacing the suit.
8. Hand-wash the suit as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.
9. Inspect the 2-inch by 2-inch piece of pile fastener tape for security of attachment. Reattach or replace tape if loose or missing using Aquaseal adhesive.
10. Open entry slide fastener completely. Place two plastic bags on torso. Fold arm sections in and leg sections up, onto the torso section of the suit. Roll suit from bottom to head and store in carrying case. Close case snaps.
11. Record date and inspection complied with on the immersion suit maintenance log.

F. Protective Clothing and Equipment Maintenance Logs

Overview

This protective clothing and equipment maintenance logs section contains the maintenance logs for the equipment listed below. These masters should be copied and the copies should be maintained in a separate logbook. It is intended that a running history of inspections and significant maintenance procedures be captured on these logs. Units may choose to use locally generated logs to track maintenance history.

- Anti-exposure coveralls
- Kokatat® boat crew dry suit
- MSD900 breathable marine survival system
- Boat crew survival vest
- Immersion suit

ANTI-EXPOSURE SUIT MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

KOKATAT® BOAT CREW DRY SUIT MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

MSD900 BREATHABLE MARINE SURVIVAL SYSTEM MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

BOAT CREW SURVIVAL VEST MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____
MK-79 LOT NUMBER_____MK-124 LOT NUMBER_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

IMMERSION SUIT MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

Chapter 4
Personal Flotation Devices

Introduction

This chapter contains information about personal flotation devices (PFDs) used aboard cutters and boats. The sections in this chapter reflect approved PFDs and their authorized uses.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Personal Flotation Device Policy	4-3
B	Coast Guard Approved Inherently Buoyant PFDs	4-9
C	Non-Coast Guard Approved Cutter Specific PFDs	4-21
D	Non-Coast Guard Approved Automatic/Manual Inflatable PFDs	4-29
E	Maintenance Procedure Cards	4-47
F	Maintenance Logs	4-79

Section A. Personal Flotation Device Policy

Overview

This personal flotation device policy section establishes operational polices and the minimum personal flotation requirements for specific evolutions on Coast Guard vessels. The following policies are established:

- Command responsibility and risk management
- Minimum flotation requirements

A.1 Command Responsibility and Risk Management

A.1.a Command Responsibility

All personnel embarked in shore and cutter based boats shall wear PFDs as required by United States Coast Guard Regulations, COMDTINST M5000.3 series. Personnel engaging in specific deck operations on cutters require PFDs as well. The Commanding Officer/Officer in Charge is required to ensure that the flotation requirements established by this chapter are complied with.

A.1.b Risk Management and PFD Selection

The minimum flotation standards required for most Coast Guard vessel operations can be achieved by using the inherently buoyant Coast Guard approved Type III PFD. Specific cutter deck operations require a different flotation standard. The Commanding Officer/Officer-In-Charge in conjunction with the crew shall determine the most appropriate PFD type to be used during each operational mission or evolution. Mission planning for underway operations as well as dockside maintenance periods shall include an assessment of personal survivability and risk management. This analysis shall be based on the possibility that the crew might be forced into a survival situation during any phase of operations. If the conditions are unknown, personnel shall be prepared for the most adverse conditions by selecting the inherently buoyant Coast Guard approved Type I PFD.

A.2 Minimum Flotation Requirements

A.2.a Minimum Flotation Requirements

It is not possible to identify all operational evolutions and assign or establish a minimum flotation requirement for each. However, the risks associated with some operations have been evaluated and the following minimum flotation requirements shall be complied with for the given operations identified. All operations not presented shall be evaluated for risk at the unit level and an appropriate flotation requirement shall be applied.

A.2.b Shore and Cutter Based Boat Operations

The minimum flotation requirement for shore and cutter based boat operations is established as the inherently buoyant Coast Guard approved Type III PFD. This policy includes law enforcement boarding operations. Options to this requirement include the following:

- Stearns® Model I600 Type I
- Mustang Survival MD3031 with survival equipment pocket
- SOS Inc. Ultra Light with survival equipment pouch
- Lifesaving Systems Life Preserver Survival Vest
- SOS Inc. Tactical Vest
- Anti Exposure Coveralls with boat crew survival vest
- Flotation Jacket with boat crew survival vest

A.2.c Cutter Towing Operations

The minimum flotation requirement for cutter towing is established as the inherently buoyant Coast Guard approved Type III PFD. Options to this requirement include the following:

- Stearns® Model I600 Type I
- Standard Navy PFD with Collar
- Flotation Jacket
- Anti Exposure Coveralls

A.2.d Cutter Buoy Deck Operations

The minimum flotation requirement for buoy deck operations is established as the inherently buoyant Coast Guard Approved Type III PFD. Options to this requirement include the following:

- Stearns® Model I600 Type I
- Flotation Jacket
- Anti Exposure Coveralls

Section B. Coast Guard Approved Inherently Buoyant PFDs

Overview

This section describes the Coast Guard approved inherently buoyant devices and the policies pertaining to their use. The following items are presented:

- Stearns® Model I600 Type I
- Type III
- Dynamic Strength Tested Type III
- Survivors Type I
- Type III Flotation Jacket
- Anti-Exposure Coveralls (see chapter 3)

B.1 Stearns® Model I600 Type I

B.1.a Application

The Stearns® Model I600 Type I PFD is used as the standard abandon ship PFD and is intended to replace the Navy Standard PFD with Collar on an attrition basis. In addition, this PFD may be used by Coast Guard boat and cutter crews as directed by the unit Commanding Officer/Officer-In-Charge, based on conditions encountered that may require a higher level of flotation characteristics than the Coast Guard-approved Type III device. This device provides greater mobility than the survivors Type I when the use of law enforcement or other types of gear are required. When the Stearns® model I600 is selected for use on shore and cutter based boat missions, the boat crew survival vest shall be worn over it by all coxswains, crewmembers, boarding officers and boarding team members.

B.1.b WARNING

THE STEARNS® MODEL I600 TYPE I PFD IS NOT DYNAMIC STRENGTH TESTED FOR HIGH SPEED BOAT OPERATIONS.

B.1.c Configuration

This is a low profile, inherently buoyant, and universally sized device that will turn an unconscious or exhausted crewmember face up while in the water. It provides 22 pounds buoyancy. A harness D-ring slit is cut into the back panel to facilitate the tending harness D-ring. A pocket is installed on the front to hold a strobe light and whistle. Two models are available. The Stearns® model I600 ORG NLT includes the flat orange whistle and the ACR Firefly II strobe light. The Stearns® model I600 ORG NAV does not include the strobe light or the flat orange whistle. When this PFD is used as the abandon ship PFD, the strobe light and whistle shall be attached. When this PFD is used for shore and cutter based boat missions, the boat crew survival vest shall be worn over the PFD and the strobe and whistle are not required to be attached to the PFD.

B.1.d Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the unit's capability to repair the device.

B.1 Stearns® Model I600 Type I

B.1.e Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-1.

B.1.f Supply Sources

The Stearns® Model I600 Type I PFD is available from four sources:

National Stock System:

- Stearns® Model I600 ORG NAV 4220 01 485 1135
- Stearns® Model I600 ORG NLT 4220 01 485 1138

Prime Vendors:

- MARVEL Underwater Equipment Inc. (856) 488-4499
- AMRON International Diving Supply (760) 746-3834

Lifesaving Systems Corp.
2220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
GSA Contract Number: GS-07F-0078H

- Stearns® Model I600 ORG NAV Part Number 600
- Stearns® Model I600 ORG NLT Part Number 600-1

The Stearns® Model I600 is the only Coast Guard-Approved Type I PFD authorized for military law enforcement/boat crewmember's use. The flotation characteristics will keep the crewmembers head and airway above water while wearing law enforcement equipment such as weapons and ballistic panel inserts.

B.2 Type III

B.2.a Application

The Coast Guard-approved Type III PFD is used by Coast Guard boat and cutter crews as directed by the unit Commanding Officer/Officer-In-Charge, based on conditions encountered that will not require the use of a Type I device. This device provides the best mobility for cutter crewmembers working over the side and boat crewmembers as the normal outfit. When the Type III is selected for use on shore and cutter based boat missions, the boat crew survival vest shall be worn over it by all coxswains, crewmembers, boarding officers and boarding team members.

B.2.b WARNING

THE COAST GUARD-APPROVED TYPE III PFD WILL NOT TURN AN UNCONSCIOUS OR EXHAUSTED CREWMEMBER FACE UP IN THE WATER.

B.2.c Configuration

This is a low profile, vest type and inherently buoyant PFD that provides the most mobility. It provides 15 1/2 pounds buoyancy. A personal marker light or strobe light and whistle are not required to be attached when worn in conjunction with the boat crew survival vest. If the boat crew survival vest is not worn over this PFD, a personal marker light or strobe light and the whistle are required.

B.2.d Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the unit's capability to repair the device.

B.2.e Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-1.

B.2 Type III

B.2.f Supply Sources

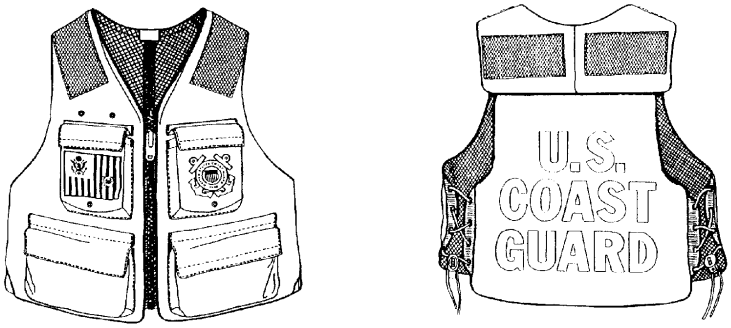
The only Coast Guard-approved Type III PFDs authorized for use are available from the following General Services Administration sources:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number: 320-CG and 460-CG (mesh top)
The 460-CG is dynamic strength tested to 50 statute miles per hour.
GSA Contract Number: GS-07F-0078H

Mustang Survival Inc.
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part numbers MV3128 and MV1254 (mesh top) version 22
GSA number: GS-07F-0065H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

B.2.g Type III



B.3 Dynamic Strength Tested Type III

B.3.a Application

Dynamic Strength tested Type III PFDs may be used for high speed boat operations at the discretion of the Commanding Officer/Officer In Charge. The dynamic strength rating is indicated on the Coast Guard approval label in statute miles per hour. Dynamic strength ratings certify that the PFD has been tested by Underwriters Laboratories®, at the request of the manufacturer, to determine if the PFD will come off of the wearer after impact with the water up to the speed indicated on the Coast Guard approval label. Dynamic strength ratings are not indications of impact protection for the wearer. When dynamic strength tested type III PFDs are selected for use on shore and cutter based boat missions, all coxswains, crewmembers, boarding officers and boarding team members shall wear the boat crew survival vest over it.

B.3.b WARNING

THE DYNAMIC STRENGTH TESTED TYPE III PFD WILL NOT TURN AN UNCONSCIOUS OR EXHAUSTED CREWMEMBER FACE UP IN THE WATER.

B.3.c Configuration

Dynamic strength tested Type III PFDs are typically configured the same as those PFDs that are not dynamic strength tested with the some or all of the following additions:

- Full torso length zippers
- Additional torso circumference belts
- Crotch straps

Generally, the more secure the PFD is when worn the higher the dynamic strength rating. Dynamic strength tested Type III PFDs provide 15 1/2 pounds buoyancy.

B.3.d Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the unit's capability to repair the device.

B.3 Dynamic Strength Tested Type III

B.3.e Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-1.

B.3.f Supply Sources

Dynamic strength tested Type III PFDs are available from the following General Services Administration source:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
GSA Contract Number: GS-07F-0078H

The 320-CG is dynamic strength tested to 35 statute miles per hour.

The 460-CG is dynamic strength tested to 50 statute miles per hour.

The 430-CG is dynamic strength tested to 100 statute miles per hour.

Mustang Survival Inc.
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
GSA number: GS-07F-0065H

The MV3128 and MV1254 are is dynamic strength tested to 35 statute miles per hour.

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

B.4 Survivors Type I

B.4.a Application

The Coast Guard-approved survivors Type I PFD is intended for use by survivors, passengers, prisoners, and others. Coast Guard boat and cutter crews shall not use this device for the performance of their normal duties because of the mobility-restricting nature of this device.

B.4.b Salient Characteristics

Any reversible Coast Guard Approved Type I PFD certified in accordance with 46 CFR 160.001.

B.4.c Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the unit's capability to repair the device.

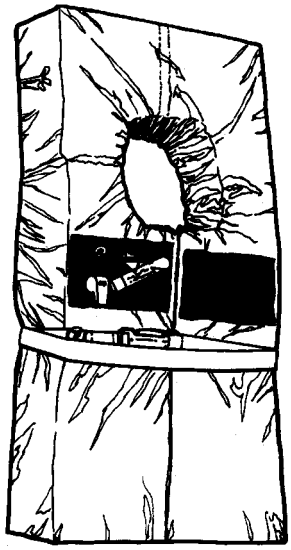
B.4.d Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-1.

B.4.e Supply Sources

Equipment Lists, COMDTINST M16714.3 series, contains numerous commercial listings for manufacturers of reversible Type I PFDs.

B.4.d Survivors Type I



B.5 Type III Flotation Jacket

B.5.a Application

The Coast Guard-approved Type III flotation jacket (Float Coat) may be used by Coast Guard personnel working on or near the water. Although specific requirements for its use have not been established, this jacket can be used in lieu of vest type, Type III PFDs when air and water temperatures are not cold enough to warrant the use of anti-exposure coveralls or dry suits. Refer to Table 3-1. When Type III flotation jackets are selected for use on shore and cutter based boat missions, all coxswains, crewmembers, boarding officers and boarding team members shall wear the boat crew survival vest over it.

B.5.b Configuration

The Type III flotation jacket is a bomber style, waist length and inherently buoyant jacket that provides 15 1/2 pounds buoyancy. The jacket is available in international orange or international orange and black combination with retro-reflective tape installed for increased visibility at night. A personal marker light or strobe light and whistle are not required to be attached when worn with the boat crew survival vest. If the boat crew survival vest is not worn over this PFD, a personal marker light or strobe light and the whistle are required.

B.5.c NOTE

Floatation jackets shall be orange or orange / black color combination. Colors other than orange or orange / black color combination are specifically not authorized for procurement and/or use as personal protective equipment for the Coast Guard.

B.5.d WARNING

THE TYPE III FLOTATION JACKET WILL NOT TURN AN UNCONSCIOUS OR EXHAUSTED CREWMEMBER FACE UP IN THE WATER.

B.5.e WARNING

THE TYPE III FLOTATION JACKET IS NOT DYNAMIC STRENGTH TESTED FOR HIGH SPEED BOAT OPERATIONS.

B.5.f Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the units' capability to repair the device.

B.5 Type III Flotation Jacket

B.5.g Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-1.

B.5.h Supply Sources

The Coast Guard-approved Type III flotation jacket is available from the following General Services Administration sources:

Mustang Survival
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part number MJ6214 T1
GSA number: GS-07F-0065H

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 344-CG
GSA number: GS-07F-0078H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

Section C. Non-Coast Guard Approved Cutter Specific PFDs

Overview

This section describes the Non-Coast Guard approved inherently buoyant devices and the policies pertaining to their use. The following items are presented:

- Standard Navy PFD with Collar
- Navy Standard Inflatable PFD

C.1 Standard Navy PFD with Collar

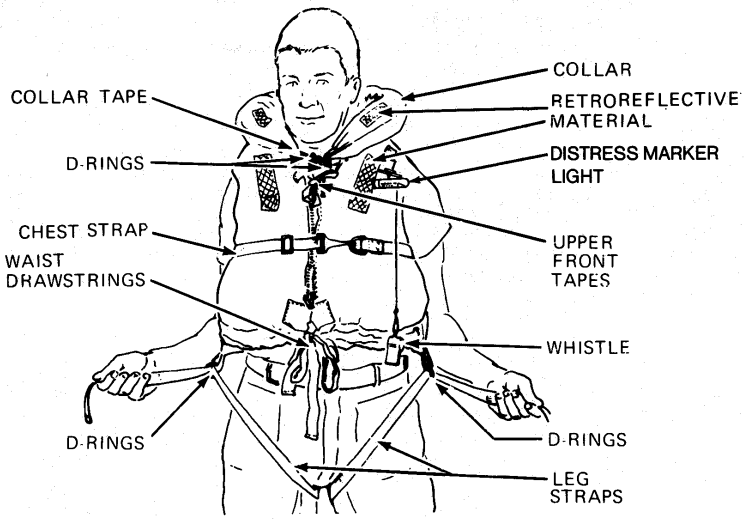
C.1.a Application

The standard Navy PFD with collar is required for use by cutter crewmembers at general quarters or engaged in underway replenishment, towing, and abandon ship operations. When available, ship's personnel are required to use survival suits during abandon ship operations. The standard Navy PFD with collar is also routinely used on weather decks during heavy weather.

C.1.b Configuration

The standard Navy PFD with collar is an inherently buoyant international orange, sleeveless, vest type PFD constructed of a nylon or cotton outer shell filled with removable unicellular plastic pads or kaypok. Adjustment straps and ties allow for sizing over a wide range. Leg straps are incorporated to keep the PFD from riding up on the wearer and keeping the PFD on when jumping into the water from high freeboard vessels. It provides 32 pounds buoyancy and will turn an exhausted or unconscious crewmember face up while in the water. This PFD allows for complete relaxation while in the water and enables the wearer to assume positions that preserve body heat and extend survival time. A personal marker light or strobe light and a whistle shall be attached to the device. See figure below.

C.1.c Standard Navy PFD w/ Collar

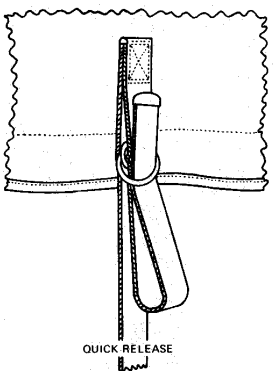


C.1 Standard Navy PFD with Collar

C.1.d Donning

Use the following procedure to put on the standard Navy PFD with collar:

1. Put on the PFD as you would a vest.
2. Secure the chest-strap snap hook on the right side to the D-ring on the left and pull strap tight around the chest.
3. Extend the leg straps hanging from the rear waist area and route through legs from the rear to the front.
4. Insert the right leg strap through the right double D-rings hanging from the side waist area and route the bitter end over the top D-ring and through the bottom D-ring pulling all slack from the strap. Rig strap for quick release as shown in the figure below. Repeat for the left leg strap.



5. Pull waist drawstrings tight and secure with a bowknot.
6. Tie upper front tapes together with a bowknot.
7. Secure collar tapes through collar D-rings and tie with a bowknot.

C.1.e Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Remove unicellular plastic flotation pads prior to cleaning. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are limited to the unit's capability to repair the device.

C.1.f Inspection

Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-2.

C.1 Standard Navy PFD with Collar

C.1.g Supply Sources

The standard Navy PFD with collar is no longer available for procurement. The Stearns® model I600 is the replacement. See Section B.1 above.

C.2 Navy Standard Inflatable PFD

C.2.a Application

The Navy standard inflatable yoke type PFD is used by cutter crewmembers in high heat areas and/or confined spaces during general emergency conditions.

C.2.b Configuration

The Navy standard inflatable yoke type PFD is a single chambered, manual CO_2 or orally inflated device constructed of neoprene coated nylon cloth. When properly donned and fully inflated this preserver provides 29 pounds buoyancy and will turn an exhausted or unconscious crewmember face up while in the water. The assembly consists of an integrated waist belt with buckle, storage pouch, bladder, and nylon webbing lift strap. Attached to the waist belt is a toggle line and loop assembly used for securing survivors together or securing the wearer to a liferaft. A personal marker light or strobe light and a whistle shall be attached to the device.

C.2.c Donning, Adjusting and Inflating

Use the following procedures to put on, adjust and inflate the Navy Standard Inflatable PFD:

1. Buckle the waist belt around the waist with the pouch to the rear.
2. Adjust the waist belt to allow rotation of the pouch to the stomach area.
3. When required, unsnap the pouch, unroll the bladder, and pass head through yoke opening.
4. Inflate the preserver by pulling the inflation lanyard with a slow steady pull until the inflation assembly actuates.
5. If the CO_2 inflation assembly fails, orally inflate preserver by unscrewing the knurled ring, depressing the mouthpiece, and blowing into the oral inflation tube.

C.2.d Maintenance and Repair

Maintenance is limited to cleaning after use or as required. Cleaning in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289, is most effective for heavily soiled PFDs. Fresh water rinse and allow to hang dry completely before storing. Repairs are not authorized.

C.2.e Inspection

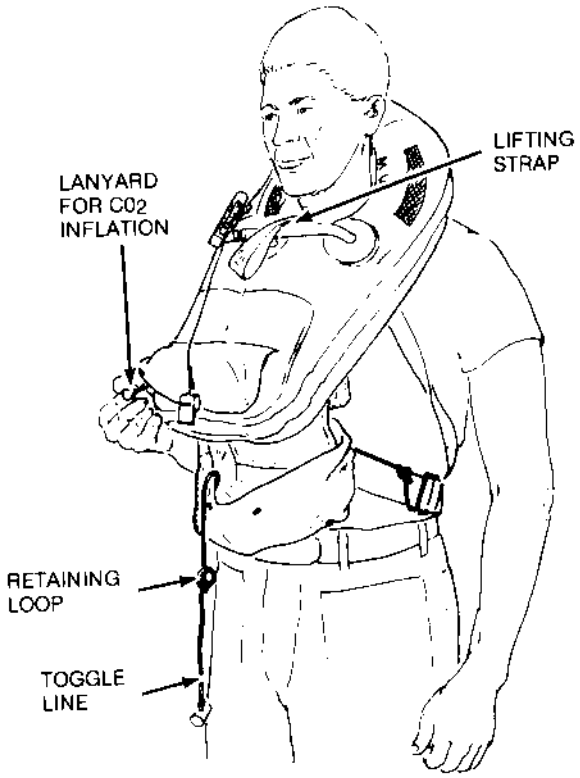
Build-up and semi-annual/post use inspection shall be accomplished in accordance with Maintenance Procedure Card 4-3.

C.2 Navy Standard Inflatable PFD

C.2.f Supply Sources

The Navy standard inflatable yoke type PFD is available through the national stock system using national stock number4220 00 289 1891.

C.2.g Navy Standard Inflatable PFD



Section D. Non-Coast Guard Approved Automatic/Manual Inflatable PFDs

Overview

This section describes the Non-Coast Guard approved automatic/manual inflatable devices and the policies pertaining to their use. Each of the devices presented requires completion of an associated performance qualification standard that is unique to the specific device. The performance qualification standard shall be completed and placed in the members training record prior to using the PFD. In addition, the items presented have been approved for use by boat crewmembers and boarding team members only after meeting established functional and configuration requirements. Similar products from other vendors may be available. However, prior to procurement and use, products from other vendors shall be evaluated and approved for use by the Rescue and Survival Systems Program Manager. The following items are presented:

- Mustang Survival MD3031 w/ survival equipment pocket
- SOS Inc. Ultra Light w/ survival equipment pouch
- Lifesaving Systems Life Preserver Survival Vest
- SOS Inc. Tactical Vest

WARNING

THE NON-COAST GUARD APPROVED AUTOMATIC/MANUAL INFLATABLE PFDS PRESENTED IN THIS SECTION ARE NOT DYNAMIC STRENGTH TESTED FOR HIGH SPEED BOAT OPERATIONS.

D.1. Mustang Survival MD3031 w/ Survival Equipment Pocket

D.1.a Application

The Mustang Survival MD3031 w/ survival equipment pocket may be used on shore and cutter based boat missions by coxswains, crewmembers, boarding officers and boarding team members who have completed the Mustang Survival MD3031 performance qualification standard. The Mustang Survival MD3031 is optional equipment that can be used in lieu of inherently buoyant PFDs and boat crew survival vest combination. The Mustang Survival MD3031 is an automatic / manual inflatable PFD and survival equipment pocket for carrying survival items required during operational missions. The Mustang Survival MD3031 can be worn over working blue, anti-exposure coveralls, dry suits or float coats on all missions. The survival items of the Mustang Survival MD3031 survival equipment pocket shall not be removed to other devices.

D.1.b WARNING

HARNESSES OF ALL TYPES, SUCH AS THE BOAT SWIMMER HARNESS AND OTHER CLIMBING SAFETY HARNESSES, SHALL NOT BE USED WITH AUTOMATICALLY INFLATING PFDS. HARNESSES WORN OVER INFLATABLE PFDS CAN RESTRICT THE OUTWARD INFLATING ACTION AND MAY PREVENT BREATHING OR CAUSE CRUSHING INJURIES TO THE UPPER TORSO

D.1.c Configuration

The Mustang Survival MD3031 is a low profile inflatable buoyancy chamber and a survival equipment pocket attached to a nylon webbing support harness. The buoyancy chamber and equipment pocket are orange nylon material with Coast Guard markings and retro-reflective tape for high visibility. An automatic / manual inflatable flotation bladder provides 35 pounds of buoyant lift capability. The inflation assembly is a carbon dioxide cylinder actuator that is manually inflated by pulling the beaded inflation lanyard or automatically inflates upon submersion in fresh water or seawater. All survival items shall be secured to the survival equipment pocket in accordance with the maintenance procedure card 4-4. The Mustang Survival MD3031 is available as one size fits all and has a waist adjustment strap for fitting to individual comfort.

D.1. Mustang Survival MD3031 w/ Survival Equipment Pocket

D.1.d Maintenance and Repair

Seawater rapidly degrades the survival items of this device. Fresh water rinsing and complete drying of the survival items may be required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and fresh water rinse and completely dry before re-stowing. Required maintenance shall be accomplished in accordance with maintenance procedure card 4-4. No repairs are authorized to this PFD or equipment pocket. Bladder and inflation assembly repairs are not authorized; contact the manufacturer for repairs and replacement parts.

D.1.e Inspection

Build-up / acceptance procedure, monthly chemical pill change, semi-annual inspection and annual functional testing shall be performed in accordance with maintenance procedure card 4-4.

D.1.f Supply Sources

The Mustang Survival MD3031 and the survival equipment pocket are available from the following General Services Administration source:

Mustang Survival Inc.
3870 Mustang Way
Bellingham, WA, 98226
(360) 676-1782
GSA number: GS-07F-0065H

PFD part number:	MD3031
Survival equipment pocket part number	MA6000

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

D.1. Mustang Survival MD3031 w/ Survival Equipment Pocket

D.1.g Performance Qualification Standard

Crewmember:_____ Date:_____

In some weather conditions, the chemical bobbin may deteriorate in less than 30 days. Commanding Officers/Officers in Charge should consider training their crews to deflate, rearm and stow the bladder after inadvertent inflations. In addition, inadvertent inflations can cause a user to become temporarily disoriented. Training should include donning the vest and inflating to ensure users are aware of how rapidly the bladder expands.

PERFORMANCE CRITERIA	INITIAL
State the PFDs flotation characteristics.	_____
Locate and explain the following items:	
Personal Marker Light	_____
Survival Knife	_____
MK 124 MOD O	_____
Strobe Light	_____
MK 79 MOD 2	_____
Signal Mirror	_____
Whistle	_____
Oral Inflator	_____
Manual Inflator Cap and Spare CO2 Cylinder	_____
CO2 Cylinder	_____
Inflator Bobbin	_____
Don the vest and adjust waist belt as needed.	_____
Explain the 3 different methods of inflation.	_____
Demonstrate the procedures for re-arming the inflation assembly for manual use after inflation.	_____
Explain 2 indications of an armed and charged inflation assembly.	_____
Remove and install the equipment pocket using the “pull the dot” snaps.	_____
Grasp and draw all equipment from the law enforcement equipment belt while the bladder is fully inflated.	_____

D.2 SOS Inc. Ultra Light w/ survival equipment pouch

D.2.a Application

The Ultra Light PFD with survival equipment pocket may be used on shore and cutter based boat missions by coxswains, crewmembers, boarding officers and boarding team members who have completed the Ultra Light PFD performance qualification standard. The Ultra Light PFD is optional equipment that can be used in lieu of the inherently buoyant PFD and survival vest combination. The Ultra Light PFD is an automatic / manual inflatable PFD and survival equipment pocket for carrying survival items required during operational missions. The Ultra Light PFD can be worn over working blue, anti-exposure coveralls, dry suits or float coats on all missions. The survival items of the Ultra Light PFD survival equipment pouch shall not be removed to other devices.

D.2.b WARNING

HARNESSES OF ALL TYPES, SUCH AS THE BOAT SWIMMER HARNESS AND OTHER CLIMBING SAFETY HARNESSES, SHALL NOT BE USED WITH AUTOMATICALLY INFLATING PFDS. HARNESSES WORN OVER INFLATABLE PFDS CAN RESTRICT THE OUTWARD INFLATING ACTION AND MAY PREVENT BREATHING OR CAUSE CRUSHING INJURIES TO THE UPPER TORSO

D.2.c Configuration

The Ultra Light PFD is a low profile inflatable buoyancy chamber and a survival equipment pocket attached to a nylon webbing support harness. The buoyancy chamber and equipment pocket are high visibility nylon material with Coast Guard markings and retro-reflective tape for high visibility at night. In addition, a crotch strap pocketed on the rear waist belt is available. An automatic / manual inflatable flotation bladder provides 38 pounds of buoyant lift capability. The inflation assembly is a carbon dioxide cylinder actuator that is manually inflated by pulling the beaded inflation lanyard or automatically inflates upon submersion in fresh water or seawater. All survival items shall be secured to the survival equipment pocket in accordance with maintenance procedure card 4-5. The Ultra Light PFD is available as one size fits all and has a waist adjustment strap for fitting to individual comfort.

D.2 SOS Inc. Ultra Light w/ survival equipment pouch

D.2.d Maintenance and Repair

Seawater rapidly degrades the survival items of this device. Fresh water rinsing and complete drying of the survival items may be required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and fresh water rinse and completely dry before re-stowing. Required maintenance shall be accomplished in accordance with maintenance procedure card 4-5. No repairs are authorized to the PFD or equipment pocket. Bladder and inflation assembly repairs are not authorized; contact the manufacturer for repairs and replacement parts.

D.2.e Inspection

Build-up / acceptance procedure, semi-annual inspection and 5-year functional and rearming shall be performed in accordance with maintenance procedure card 4-5.

D.2.f Supply Sources

The Ultra Light PFD and equipment pouch is available from:

Yakima Products Customer Service
1385 8th Street
Arcata, CA 95518
(707) 826-8339

Ultra Light PFD part number	38HUL/9
Survival equipment pouch part number	AKP1000/9

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

D.2 SOS Inc. Ultra Light w/ survival equipment pouch

D.2.g Ultra Light PFD w/ equipment pouch

D.2 SOS Inc. Ultra Light w/ survival equipment pouch

D.2.h Performance Qualification Standard

Crewmember:_____ Date:_____

PERFORMANCE CRITERIA	INITIAL
State the PFDs flotation characteristics.	_____
Locate and explain the following items:	
Personal Marker Light	_____
Survival Knife	_____
MK 124 MOD O	_____
Strobe Light	_____
MK 79 MOD 2	_____
Signal Mirror	_____
Whistle	_____
Oral Inflator	_____
Manual Inflator	_____
Don the vest and adjust waist belt as needed.	_____
Explain the 3 different methods of inflation.	_____
Explain the 1 indication of an armed and charged inflation assembly.	_____
Grasp and draw all equipment from the law enforcement equipment belt while the bladder is fully inflated.	_____

D.3 Lifesaving Systems Life Preserver Survival Vest

D.3.a Application

The Life Preserver Survival Vest (LPSV) may be used on shore and cutter based boat missions by coxswains, crewmembers, boarding officers and boarding team members who have completed the LPSV performance qualification standard. The LPSV is optional equipment that can be used in lieu of the inherently buoyant PFD and survival vest combination. The LPSV in an automatic/manual inflatable PFD with pockets for carrying survival items required during operational missions. The LPSV can be worn over working blue, anti-exposure coveralls, dry suits or float coats on all missions. The survival items of the LPSV shall not be removed to other devices.

D.3.b WARNING

HARNESSES OF ALL TYPES, SUCH AS THE BOAT SWIMMER HARNESS AND OTHER CLIMBING SAFETY HARNESSES, SHALL NOT BE USED WITH AUTOMATICALLY INFLATING PFDS. HARNESSES WORN OVER INFLATABLE PFDS CAN RESTRICT THE OUTWARD INFLATING ACTION AND MAY PREVENT BREATHING OR CAUSE CRUSHING INJURIES TO THE UPPER TORSO

D.3.c Configuration

The LPSV is an orange nylon mesh vest with Coast Guard markings and retro-reflective tape for high visibility. Incorporated in the vest are 2 stowage pockets used to store a MK-124 marine smoke and illumination signal, MK-79 illumination signal kit, strobe light, signal mirror and whistle. A survival knife mounting strap is sandwiched between the bladder and the vest's mesh carrier. An automatic manual inflatable flotation bladder provides 35 pounds of buoyant lift capability. The inflation assembly is a carbon dioxide cylinder actuator that is manually inflated by pulling the beaded inflation lanyard or automatically inflates upon submersion in fresh water or seawater. All survival items shall be secured to the vest pockets in accordance with maintenance procedure card 4-6. The vest is available as one size fits all and has a waist adjustment strap for fitting to individual comfort.

D.3 Lifesaving Systems Life Preserver Survival Vest

D.3.d Maintenance and Repair

Seawater rapidly degrades the survival items of the vest. Fresh water rinsing and complete drying of the survival items may be required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and fresh water rinse and completely dry before re-stowing. Required maintenance shall be accomplished in accordance with maintenance procedure card 4-6. Repair is limited to minor re-stitching of pockets to mesh and survival item replacement. Bladder and inflation assembly repairs are not authorized; contact the manufacturer for bladder or inflation assembly replacements.

D.3.e Inspection

Build-up / acceptance procedure, monthly chemical pill change, semi-annual inspection and annual functional testing shall be performed in accordance with maintenance procedure card 4-6.

D.3.f Supply Sources

The LPSV is available from the following General Services Administration source:

Lifesaving Systems Corp.
220 Elsberry Road
Apollo Beach, FL 33572
(813) 645-2748
GSA number: GS-07F-0078H

LPSV part number 485-CG

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

D.3 Lifesaving Systems Life Preserver Survival Vest

D.3.g
LPSV

D.3 Lifesaving Systems Life Preserver Survival Vest

D.3.h Performance Qualification Standard

Crewmember:_____ Date:_____

In some weather conditions, the chemical pill may deteriorate in less than 30 days. Commanding Officers/Officers in Charge should consider training their crews to deflate, rearm and stow the bladder after inadvertent inflations. In addition, inadvertent inflations can cause a user to become temporarily disoriented. Training should include donning the vest and inflating to ensure users are aware of how rapidly the bladder expands.

PERFORMANCE CRITERIA	INITIAL
State the PFDs flotation characteristics.	_____
Locate and explain the following items:	
Personal Marker Light	_____
Survival Knife	_____
MK 124 MOD O	_____
Strobe Light	_____
MK 79 MOD 2	_____
Signal Mirror	_____
Whistle	_____
Oral Inflator	_____
Manual Inflator	_____
CO2 Cylinder	_____
Inflator Pill	_____
Don the vest and adjust waist belt as needed.	_____
Explain the 3 different methods of inflation.	_____
Demonstrate the procedures for re-arming the inflation assembly for manual use after inflation.	_____
Explain the 3 indications of an armed and charged inflation assembly.	_____
Grasp and draw all equipment from the law enforcement equipment belt while the bladder is fully inflated.	_____

D.4 SOS Inc. Tactical Vest

D.4.a Application

The Tactical Vest PFD may be used on shore and cutter based boat missions by coxswains, crewmembers, boarding officers and boarding team members who have completed the Tactical Vest PFD performance qualification standard. The Tactical Vest PFD is optional equipment that can be used in lieu of the inherently buoyant PFD and survival vest combination. The Tactical Vest PFD is an automatic / manual inflatable PFD vest. The Tactical Vest PFD can be worn over working blue, anti-exposure coveralls, dry suits or float coats on all missions. The survival items of the Tactical Vest PFD shall not be removed to other devices

D.4.b WARNING

HARNESSES OF ALL TYPES, SUCH AS THE BOAT SWIMMER HARNESS AND OTHER CLIMBING SAFETY HARNESSES, SHALL NOT BE USED WITH AUTOMATICALLY INFLATING PFDS. HARNESSES WORN OVER INFLATABLE PFDS CAN RESTRICT THE OUTWARD INFLATING ACTION AND MAY PREVENT BREATHING OR CAUSE CRUSHING INJURIES TO THE UPPER TORSO

D.4.c Configuration

The Tactical Vest PFD is an orange nylon mesh vest with Coast Guard markings and retro-reflective tape for high visibility. Incorporated in the vest are 2 stowage pockets used to store a MK-124 marine smoke and illumination signal, MK-79 illumination signal kit, strobe light, signal mirror and whistle. In addition, a crotch strap pocketed on the rear waist belt is available. A survival knife mounting strap is sandwiched between the bladder and the vest's mesh carrier. An automatic manual inflatable flotation bladder provides 38 pounds of buoyant lift capability. The inflation assembly is a carbon dioxide cylinder actuator that is manually inflated by pulling the beaded inflation lanyard or automatically inflates upon submersion in fresh water or seawater. All survival items shall be secured to the vest pockets in accordance with maintenance procedure card 4-7. The vest is available as one size fits all and has a waist adjustment strap for fitting to individual comfort.

D.4 SOS Inc. Tactical Vest

D.4.d Maintenance and Repair

Seawater rapidly degrades the survival items of this device. Fresh water rinsing and complete drying of the survival items may be required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and fresh water rinse and completely dry before re-stowing. Required maintenance shall be accomplished in accordance with maintenance procedure card 4-7. Bladder and inflation assembly repairs are not authorized; contact the manufacturer for repairs and replacement parts.

D.4.e Inspection

Build-up / acceptance procedure, semi-annual inspection and 5-year functional and rearming shall be performed in accordance with maintenance procedure card 4-7.

D.4.f Supply Sources

The Tactical Vest PFD is available from:

Yakima Products Customer Service
1385 8th Street
Arcata, CA 95518
(707) 826-8339

Tactical Vest PFD part number	38HTV/9

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

D.4 SOS Inc. Tactical Vest

D.4.g
Tactical Vest
PFD

D.4 SOS Inc. Tactical Vest

D.4.h Performance Qualification Standard

Crewmember:_____ Date:_____

PERFORMANCE CRITERIA	INITIAL
State the PFDs flotation characteristics.	_____
Locate and explain the following items:	
Personal Marker Light	_____
Survival Knife	_____
MK 124 MOD O	_____
Strobe Light	_____
MK 79 MOD 2	_____
Signal Mirror	_____
Whistle	_____
Oral Inflator	_____
Manual Inflator	_____
Don the vest and adjust waist belt as needed.	_____
Explain the 3 different methods of inflation.	_____
Explain the 1 indication of an armed and charged inflation assembly.	_____
Grasp and draw all equipment from the law enforcement equipment belt while the bladder is fully inflated.	_____

Section E. Personal Flotation Device Maintenance Procedures

Overview

This personal flotation device maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by the "Inspection" paragraphs in sections B, C, D and E. The following maintenance procedure cards are directed for use as the standard maintenance practice:

- Coast Guard Approved Type I and III PFDs
- Standard Navy PFD with Collar
- Navy Standard Inflatable PFD
- Mustang Survival MD3031 with Survival Equipment Pocket
- SOS Inc. Ultra Light with Survival Equipment Pouch
- Lifesaving Systems Life Preserver Survival Vest
- SOS Inc. Tactical Vest

Maintenance Procedure Card 4-1

Coast Guard Approved Type I and III PFDs

ITEM 1. COAST GUARD-APPROVED TYPE I AND III BUILD-UP PROCEDURE

PARTS REQUIRED

Selected Type I or III PFD	
Personal Marker Light	6260 01 086 8077
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929
Whistle	8465 21 912 7031

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Disinfectant/detergent	7930 01 346 4289
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the Coast Guard approval label (marking pens with black indelible ink may be used in lieu of stenciling).

NOTE Steps 2 and 3 only apply to PFDs that will be worn without the boat crew survival vest.

2. Attach the whistle to the PFD with a 24-inch piece of Type I nylon cord using bowline knots.

NOTE PFDs that will be used in temperatures below 50 degrees Fahrenheit shall use the strobe light in lieu of the personal marker light.

3. Clip the personal marker light to the PFD or attach the strobe light with a 36-inch piece of Type I nylon cord using bowline knots. Install new batteries in the strobe light.
4. Complete all steps in ITEM 2.
5. Record serial number and date placed in service on the Type I or III PFD maintenance log.

Maintenance Procedure Card 4-1

Coast Guard Approved Type I and III PFDs

ITEM 2. COAST GUARD-APPROVED TYPE I AND III SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Restore serial number marking as required.
2. Inspect the PFD over its entire surface for obvious signs of damage. Repair minor damage within unit capabilities. Replace PFDs damaged beyond unit capabilities.
3. Inspect the personal marker light tube seal and expiration date. If the seal is broken or 3 years from date of manufacture will elapse within the next 180 days, replace the light.
4. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
5. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.

CAUTION ! DO NOT DRY PFDS IN A MACHINE DRYER. DRYER HEAT WILL CAUSE DAMAGE**.**

6. Hand-wash the PFD as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.
7. Record date and inspection complied with on the Type I or III PFD maintenance log.

Maintenance Procedure Card 4-2

Standard Navy PFD with Collar

ITEM 1. STANDARD NAVY PFD WITH COLLAR BUILD-UP PROCEDURE

PARTS REQUIRED

Standard Navy PFD w/Collar	
Personal Marker Light	6260 01 086 8077
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929
Whistle	8465 21 912 7031

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Disinfectant/detergent	7930 01 346 4289
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845
Retro-Reflective Tape	9390 01 082 8660
Adhesive Primer	8040 01 068 2423

1. Stencil a locally generated serial number on the inside of the back section fabric (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the whistle to the PFD with a 24-inch piece of Type I nylon cord using bowline knots.

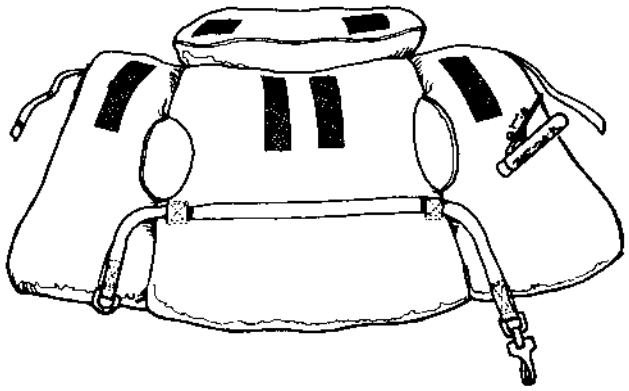
NOTE PFDs that will be used in temperatures below 50 degrees Fahrenheit shall use the strobe light in lieu of the personal marker light.

3. Clip the personal marker light to the PFD or attach the strobe light with a 36-inch piece of Type I nylon cord using bowline knots and install new batteries in the strobe light.

Maintenance Procedure Card 4-2

Standard Navy PFD with Collar

4. Clean all traces of foreign matter from designated areas of the fabric shown in the figure below.



5. Apply a thin uniform coat of adhesive primer to the cleaned areas and allow to dry for 20 minutes.
6. Peel away the paper carrier from six 6-inch by 2-inch strips of retro-reflective tape and apply the strips to the PFD over the adhesive removing air bubbles as the tape is applied. After tape is applied, the PFD must remain undisturbed for a 12-hour cure time.
7. Complete all steps in ITEM 2.
8. Record serial number and date placed in service on the Standard Navy PFD w/Collar maintenance log.

ITEM 2. SEMI-ANNUAL/POST USE INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Restore serial number marking as required.
2. Inspect the PFD over its entire surface for obvious signs of damage. Repair minor damage within unit capabilities. Replace PFDs damaged beyond unit capabilities.

CAUTION ! DO NOT DRY PFDS IN A MACHINE DRYER. DRYER HEAT WILL CAUSE DAMAGE**.**

3. Remove the unicellular plastic pads from their pockets and hand-wash the PFD as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry. Replace unicellular plastic pads
4. Replace loose or missing retro-reflective tape.

Maintenance Procedure Card 4-2

Standard Navy PFD with Collar

5. Inspect the personal marker light tube seal and expiration date. If the seal is broken or 3 years from date of manufacture will elapse within the next 180 days, replace the light.
6. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
7. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
8. Record date and inspection complied with on the Standard Navy PFD w/Collar maintenance log.

Maintenance Procedure Card 4-3

Navy Standard Inflatable PFD

ITEM 1. NAVY STANDARD INFLATABLE YOKE TYPE PFD BUILD-UP PROCEDURE

PARTS REQUIRED

Navy Standard Inflatable PFD	4220 00 289 1891
Carbon Dioxide Cartridge	4220 00 543 6693
Personal Marker Light	6260 01 086 8077
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929
Whistle	8465 21 912 7031

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845
Retro-Reflective Tape	9390 01 082 8660
Adhesive Primer	8040 01 068 2423
Leak Detection Compound	6850 00 621 1820
Size AA Alkaline Batteries	6135 00 985 7845
Yellow Nylon Thread Size E	8310 00 263 9931

1. Stencil a locally generated serial number on the bladder assembly below the whistle pocket (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the whistle to the loop on the upper left side of the bladder with a 24-inch piece of Type I nylon cord using bowline knots.

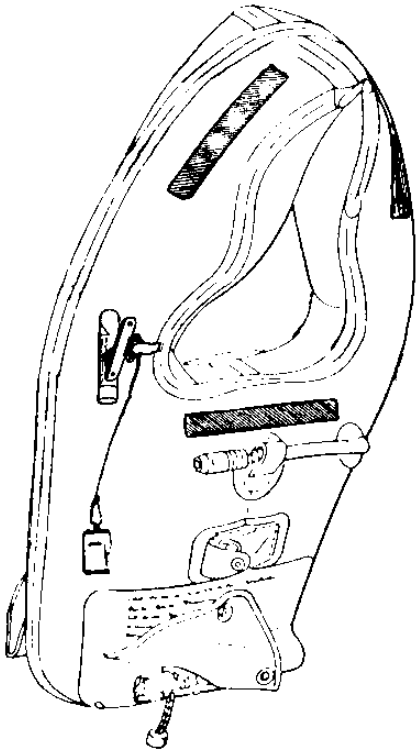
NOTE PFDs that will be used in temperatures below 50 degrees Fahrenheit shall use the strobe light in lieu of the personal marker light.

3. Clip the personal marker light to the loop on the upper left side of the bladder or attach the strobe light with a 36-inch piece of Type I nylon cord using bowline knots to the waist belt inside the pouch. Install new batteries in the strobe light.
4. Remove the CO_2 cylinder from the inflation assembly.

Maintenance Procedure Card 4-3

Navy Standard Inflatable PFD

5. Inflate the life preserver through the oral inflation valve to a firm test pressure using dry shop air regulated to below 40 PSI.
6. Clean all traces of foreign matter from designated areas of the bladder shown in the figure below



7. Apply a thin uniform coat of adhesive primer to the cleaned areas and allow to dry for 20 minutes.
8. Peel away the paper carrier from three 8-inch by 1-inch strips of retro-reflective tape and apply the strips to the bladder over the adhesive removing air bubbles as the tape is applied. After tape is applied, the bladder must remain undisturbed for a 12-hour cure time.
9. Deflate bladder and screw the CO_2 cylinder into the inflation valve until fully seated.
10. Complete all steps in ITEM 3.

Maintenance Procedure Card 4-3

Navy Standard Inflatable PFD

ITEM 2. SEMI-ANNUAL/POST USE INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Inspect the storage container and/or pouch for damage. Repair or replace PFD.
2. Restore serial number markings as required.
3. Open pouch, remove bladder, and lay out in an area free of obstructions.
4. Remove CO_2 cylinder.
5. Unlock oral inflation valve and inflate bladder to a firm test pressure using dry shop air regulated to below 40 PSI and lock oral inflation valve closed. Apply leak detection compound to the inflation assembly and oral inflation valve areas. If any leakage is found, replace PFD.
6. Inspect the bladder for obvious signs of damage or leakage. Replace PFD if leakage is found.
7. Replace loose or missing retro-reflective tape.
8. Inspect inflation assembly for corrosion, lanyard fraying, presence of rubber gasket, and proper actuation of the CO_2 cylinder-puncturing pin when the lever is actuated. Replacing the lanyard and cleaning of minor corrosion are authorized. Replace PFD if corrosion is excessive, the rubber gasket is missing or the CO_2 cylinder-puncturing pin does not move freely in valve body.
9. Inspect the personal marker light tube seal and expiration date. If the seal is broken or 3 years from date of manufacture will elapse within the next 180 days, replace the light.
10. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
11. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
12. Two hours after inflation, check the bladder pressure for firm pressure. Bladders showing signs of leakage shall be replaced.
13. Deflate bladder through oral inflation valve with a vacuum source to remove all air and lock oral inflation valve closed.
14. Reset inflation valve actuator and safe tie in place with yellow size "E" nylon thread passed through the holes in the lever and valve body. Tie thread with a surgeon's knot followed by a square knot.
15. Weigh a new CO_2 cylinder and compare the scale weight to the stamped weight indicated on the cylinder. Scale weight shall be within 2 grams of stamped weight.
16. Screw the new cylinder into the inflation valve until fully seated.
17. Route inflation lanyard down between cover and bladder for easy access to knob and snap inflation valve cover closed over inflation valve.

Maintenance Procedure Card 4-3

Navy Standard Inflatable PFD

18. Insert waist belt through channel on back of bladder and route each end of belt through the slit in the back of the pouch.
19. Fold each bladder side into the width of the pouch. Roll the bladder from top to bottom into pouch and snap pouch closed. Wrap belt around pouch and store in container.
20. Record date and inspection complied with on the Navy Standard Inflatable Yoke Type PFD maintenance log.

ITEM 3. ANNUAL FUNCTIONAL TEST

1. Open pouch, remove bladder, and lay out in an area free of obstructions.
2. Pull inflation lanyard to actuate inflation assembly. The bladder shall inflate to design shape without evidence of restriction within 30 seconds. PFD replacement is required for any failures.
3. Remove and discard the expended CO_2 cylinder and inspect the lanyard for fraying. If any signs of fraying are found, replace lanyard knob with a 6-inch piece of Type I nylon cord using bowline knots.
4. Deflate bladder with a vacuum source to remove all CO_2.
5. Record date and inspection complied with on the Navy Standard Inflatable Yoke Type PFD maintenance log.
6. Perform all steps in ITEM 2.

Maintenance Procedure Card 4-4

Mustang Survival MD3031 w/Survival Equipment Pocket

ITEM 1. BUILD-UP / ACCEPTANCE PROCEDURE

PARTS REQUIRED

Life Preserver, MD3031 version 22		
Survival Equipment Pocket MA6000		
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929	
Whistle	8465 21 912 7031	
Signal mirror	6305 00 105 1252	
Survival knife	4220 01 278 3007	
Distress Signal Streamer	4240 01 451 8752	Optional Item
MK-124 Marine Smoke and Illumination		
MK-79 Illumination Signal Kit		

WARNING **VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.**

NOTE Items listed as "commercially procured" are available from Mustang Survival Inc. 3870 Mustang Way, Bellingham, WA, 98226. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

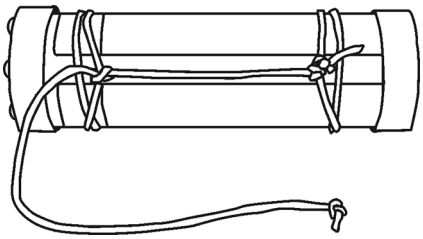
Black Stencil Ink	7510 00 469 7910
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the yellow portion of the inflation cell (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the MA6000 equipment pocket to the MD3031 waist strap.

Maintenance Procedure Card 4-4

Mustang Survival MD3031 w/Survival Equipment Pocket

3. Attach the survival knife sheath to the equipment pocket. Insert the survival knife into the sheath and secure the knife to the loop inside the pocket with a 36-inch piece of Type I nylon cord using bowline knots.
4. Install two fresh size AA batteries in the strobe light.
5. Attach the strobe light to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
6. Attach the whistle to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
7. Attach the signal mirror to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
8. Attach a 36-inch piece of Type I nylon cord to the bandoleer of the MK-79 illumination signal kit then to the loop inside the equipment pocket using bowline knots.
9. Wrap two turns of a 70 inch piece of Type I nylon cord around one end the MK-124 marine smoke and illumination flare and tie with a surgeons knot followed by an overhand knot. The turns shall overlap and the knots shall be tied snugly against each other. Route the cord to the other end and repeat the two turns followed by a surgeon's and overhand knot. Refer to figure. Attach the MK-124 marine smoke and illumination to the loop inside the equipmet pocket with the bitter end of the cord using bowline knot around the webbing loop.



10. Record pyrotechnics lot numbers on the life preserver maintenance log.
11. Record acceptance / build-up procedure complied with on the life preserver maintenance log.
12. Complete all steps in ITEM 4.

Maintenance Procedure Card 4-4

Mustang Survival MD3031 w/Survival Equipment Pocket

ITEM 2. MONTHLY CHEMICAL BOBBIN CHANGE

CONSUMABLES

12 pack of bobbins, MA7157

1. Unfold the bladder to gain access to the inflation assembly.
2. Remove the carbon dioxide cylinder and inspect the cylinder puncture seal for punctures. Discard punctured cylinders.
3. Remove the automatic capsule cap and discard the chemical bobbin.
4. Insert a fresh chemical bobbin onto the spring loaded plunger and install the assembly into the inflator. Screw the automatic capsule cap onto the inflator hand tight until the green indicator shows at the bottom of the cap.
5. Screw the carbon dioxide cylinder completely into the inflator. If installing a new cylinder, weigh the new cylinder and compare the scale weight to the stamped weight indicated on the cylinder. Scale weight shall be within 2 grams of the stamped weight.
6. Visually inspect for the two green indicators of a rearmed inflation assembly: green pin installed through inflator housing and manual inflation lever, green indicator visible at base of inflator capsule cap.
7. Record chemical bobbin change on the life preserver maintenance log and return the vest to service.

ITEM 3. SEMI ANNUAL INSPECTION

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

Rearm Kit, MA7170
Leak Detection Compound 6850 00 621 1820
See list in Item 1 above.

1. Lay out the life preserver in a clean area free from obstructions.
2. Inspect the life preserver and equipment pocket over its entire surface for cuts, tears, seam separations or loose patches. Contact the manufacturer for repairs or replacement parts.
3. Restore serial number marking as required.

Maintenance Procedure Card 4-4

Mustang Survival MD3031 w/Survival Equipment Pocket

4. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.
5. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
6. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
7. Inspect the signal mirror. Replace the mirror if the instructions are illegible or the mirror is broken.
8. Contact group or local servicing armories for the latest information on pyrotechnics lot number reclassifications for the MK-124 and MK-79. Ensure installed pyrotechnics are condition code Alpha or Charlie. Inspect the MK-79 kit, ensuring the trigger screw is in the angular safety slot and that cartridges can screw into the launcher properly. Replace pyrotechnics that show signs of corrosion.
9. Inspect the security of attachment for all survival equipment and retie knots as required.
10. Stow all survival equipment.
11. Unfold the life preserver.
12. Remove the carbon dioxide cylinder and inspect the cylinder puncture seal for punctures. Replace cylinders that have been punctured.
13. Remove the automatic capsule cap and discard the chemical bobbin.
14. Inflate the bladder through the oral inflation tube to a firm test pressure taking care not to over inflate.
15. Apply leak detection compound to the inflator cap nut area and between the inflator and bladder. Leakage requires inflator reinstallation with new gaskets. Completely dry the inflator especially inside the chemical bobbin cap.
16. Inspect inflator assembly for corrosion, lanyard fraying, presence of cylinder seat o-ring, and proper actuation of the cylinder puncturing pin when the lever is actuated. Clean away minor corrosion. Replace the inflator if corrosion is excessive or the cylinder puncturing pin does not move freely in valve body.
17. Reseat the manual inflation lever into the inflator housing and install a new green pin indicator.
18. Two hours after inflation, recheck for firm pressure, excessive pressure loss requires bladder replacement.
19. Deflate the bladder with a vacuum source to remove all air.
20. Insert a fresh chemical bobbin into the automatic capsule cap.
21. Screw the carbon dioxide cylinder completely into the inflator. If installing a new cylinder, weigh the new cylinder and compare the scale weight to the stamped weight indicated on the cylinder. Scale weight shall be within 2 grams of the stamped weight.
22. Visually inspect for the two green indicators of a rearmed inflation assembly: green pin installed through inflator housing and manual inflation lever, green indicator visible at base of inflator capsule cap.

Maintenance Procedure Card 4-4

Mustang Survival MD3031 w/Survival Equipment Pocket

23. Repack the bladder.
24. Record semi-annual inspection complied with on the life preserver maintenance log and return the preserver to service.

ITEM 4. ANNUAL FUNCTIONAL TEST

CONSUMABLES

Rearm Kit, MA7170

1. Lay out the life preserver in a clean area free of obstructions.
2. Pull the manual beaded inflation lanyard to actuate the inflation assembly. The bladder shall inflate to design shape without evidence of restriction within 30 seconds. If the inflator fails to actuate, determine the cause of failure. Possible causes may be the cylinder not fully screwed into the inflator or internal inflator malfunction. Internal inflator malfunctions require inflator replacement. Refer to manufacturers instructions or return the life preserver to the manufacturer for inflator replacement.
3. Remove and discard the expended carbon dioxide cylinder.
4. Inspect the manual beaded inflation lanyard for fraying or other damage. Replace inflators with frayed or damaged lanyards.
5. Deflate bladder with a vacuum source to remove all carbon dioxide.
6. Reset the manual inflation lever into the inflator housing and insert a new green pin indicator through the inflator and lever until it is fully seated.
7. Attach the beaded manual inflation lanyard in place.
8. Record date and functional test complied with on the life preserver maintenance log.
9. Perform all steps in ITEM 3.

Maintenance Procedure Card 4-5

SOS Inc. Ultra Light w/ Survival Equipment Pouch

ITEM 1. ULTRALIGHT WITH SURVIVAL EQUIPMENT POUCH BUILD UP AND ACCEPTANCE PROCEDURE

PARTS REQUIRED

Ultra Light Life Preserver, 38HUL/9	Commercially Procured	
Survival Equipment Pocket AKP1000/9	Commercially Procured	
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929	
Whistle	8465 21 912 7031	
Signal mirror	6305 00 105 1252	
Survival knife	4220 01 278 3007	
Distress Signal Streamer	4240 01 451 8752	Optional Item
MK-124 Marine Smoke and Illumination		
MK-79 Illumination Signal Kit		

WARNING **VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.**

NOTE Items listed as "commercially procured" are available from Yakima Products Customer Service 1385 8th Street, Arcata, CA 95518. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

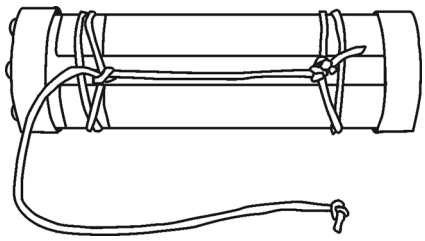
Black Stencil Ink	7510 00 469 7910
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the rear portion of the inflation cell adjacent to the zipper (marking pens with black indelible ink may be used in lieu of stenciling).
2. Insert the survival knife sheath to the equipment pocket. Insert the survival knife into the sheath and secure the knife to the loop inside the pocket with a 36-inch piece of Type I nylon cord using bowline knots.

Maintenance Procedure Card 4-5

SOS Inc. Ultra Light w/ Survival Equipment Pouch

3. Install two fresh size AA batteries in the strobe light.
4. Attach the strobe light to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
5. Attach the whistle to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
6. Attach the signal mirror to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
7. Attach a 36-inch piece of Type I nylon cord to the bandoleer of the MK-79 illumination signal kit then to the loop inside the equipment pocket using bowline knots.
8. Wrap two turns of a 70 inch piece of Type I nylon cord around one end the MK-124 marine smoke and illumination flare and tie with a surgeons knot followed by an overhand knot. The turns shall overlap and the knots shall be tied snugly against each other. Route the cord to the other end and repeat the two turns followed by a surgeon's and overhand knot. Refer to figure. Attach the MK-124 marine smoke and illumination to the loop inside the equipment pocket with the bitter end of the cord using bowline knot around the webbing loop.



9. Attach the AKP1000/9 equipment pocket to the 38HUL/9 waist strap.
10. Record pyrotechnics lot numbers on the life preserver maintenance log.
11. Record acceptance / build-up procedure complied with on the life preserver maintenance log.
12. Complete all steps in ITEM 2.

Maintenance Procedure Card 4-5

SOS Inc. Ultra Light w/ Survival Equipment Pouch

ITEM 2. SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Lay out the life preserver in a clean area free from obstructions.
2. Inspect the life preserver and equipment pocket over its entire surface for cuts, tears, seam separations or loose patches. Contact the manufacturer for repairs or replacement parts.
3. Restore serial number marking as required.
4. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.
5. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
6. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
7. Inspect the signal mirror. Replace the mirror if the instructions are illegible or the mirror is broken.
8. Contact group or local servicing armories for the latest information on pyrotechnics lot number reclassifications for the MK-124 and MK-79. Ensure installed pyrotechnics are condition code Alpha or Charlie. Inspect the MK-79 kit, ensuring the trigger screw is in the angular safety slot and that cartridges can screw into the launcher properly. Replace pyrotechnics that show signs of corrosion.
9. Inspect the security of attachment for all survival equipment and retie knots as required.
10. Stow all survival equipment.
11. Unfold the life preserver.
12. Inflate the bladder through the oral inflation tube to a firm test pressure taking care not to over inflate.
13. Two hours after inflation, recheck for firm pressure, excessive pressure loss requires bladder replacement.
14. Deflate the bladder with a vacuum source to remove all air.
15. Access the inflation assembly through the zipper on the bladder case.
16. Inspect inflator assembly for damage, lanyard fraying and green indication of a charged inflation assembly.
17. Inspect the bladder inflation assembly gasket around the base of the inflator for deterioration and cracking. Gaskets that show signs of deterioration or cracking require replacement.
18. Close the bladder case zipper.
19. Refold the bladder.

Maintenance Procedure Card 4-5

SOS Inc. Ultra Light w/ Survival Equipment Pouch

20. Record semi-annual inspection complied with on the life preserver maintenance log and return the preserver to service.

ITEM 3. 5-YEAR FUNCTIONAL INSPECTION / INFLATION ASSEMBLY REARMING

PARTS REQUIRED

Rearm Kit CMH38ARP	Commercially Procured

NOTE Items listed as "commercially procured" are available from Yakima Products Customer Service, 1385 8th Street, Arcata, CA 95518. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

1. Lay out the life preserver in a clean area free of obstructions.
2. Pull the manual beaded inflation lanyard to actuate the inflation assembly. The bladder shall inflate to design shape without evidence of restriction within 30 seconds. Report failures to Commandant (G-OCS-2) via message.
3. Deflate bladder.
4. Access the inflation assembly through the zipper on the bladder case.
5. Disassemble the inflation assembly and discard all components in accordance with manufacturers instructions.
6. Inspect the bladder inflation assembly gasket for deterioration and cracking. Gaskets that show signs of deterioration or cracking require bladder replacement.
7. Install a new CMH38ARP inflation system on to the bladder in accordance with manufacturers instructions.
8. Route the beaded inflation lanyard through the slit in the bladder case and attach to pile tape on rear of bladder case.
9. Close the bladder case zipper.
10. Record date of 5-year functional and inflation assembly rearming complied with on the life preserver maintenance log.

Maintenance Procedure Card 4-6

Lifesaving Systems Life Preserver Survival Vest

ITEM 1. BUILD-UP / ACCEPTANCE PROCEDURE

PARTS REQUIRED

Life Preserver Survival Vest, 485-CG		
Carbon Dioxide Cylinder, 33 Gram, 484		
Green "A" Pin Indicator, 470-1		
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929	
Whistle	8465 21 912 7031	
Signal mirror	6305 00 105 1252	
Survival knife	4220 01 278 3007	
Distress Signal Streamer	4240 01 451 8752	Optional Item
MK-124 Marine Smoke and Illumination		
MK-79 Illumination Signal Kit		

WARNING **VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.**

NOTE Items listed as "commercially procured" are available from Lifesaving Systems Corp., 220 Elsberry Road, Apollo Beach, FL 33572. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

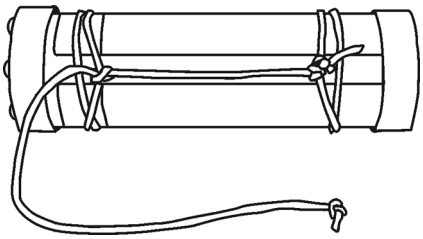
Black Stencil Ink	7510 00 469 7910
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the right hand pocket flap (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the survival knife sheath to the webbing strap located between the bladder cover and the vests mesh and snap the strap to the mesh. Insert the survival knife into the sheath and secure the knife to the mesh vest with a 36-inch piece of Type I nylon cord using bowline knots.

Maintenance Procedure Card 4-6

Lifesaving Systems Life Preserver Survival Vest

3. Install two fresh size AA batteries in the strobe light.
4. Attach the strobe light to the loop inside the equipment pocket with a 36-inch piece of Type I nylon cord using bowline knots.
5. Attach the whistle to the webbing loop inside the right side pocket with a 36-inch piece of Type I nylon cord using bowline knots.
6. Attach the signal mirror to the webbing loop inside the right side pocket with a 36-inch piece of Type I nylon cord using bowline knots.
7. Attach a 36-inch piece of Type I nylon cord to the bandoleer of the MK-79 illumination signal kit then to the webbing loop inside the left side pocket using bowline knots.
8. Wrap two turns of a 70 inch piece of Type I nylon cord around one end the MK-124 marine smoke and illumination flare and tie with a surgeons knot followed by an overhand knot. The turns shall overlap and the knots shall be tied snugly against each other. Route the cord to the other end and repeat the two turns followed by a surgeon's and overhand knot. Refer to figure. Attach the MK-124 marine smoke and illumination to the webbing loop inside the left side pocket with the bitter end of the cord using bowline knot around the webbing loop.



9. Record pyrotechnics lot numbers on the life preserver survival vest maintenance log.
10. Record acceptance / build-up procedure complied with on the life preserver survival vest maintenance log.
11. Complete all steps in ITEM 4.

ITEM 2. MONTHLY CHEMICAL PILL CHANGE

CONSUMABLES

Chemical Pill, 471
See list in Item 1 above.

1. Open the inflator cover flap.
2. Remove the carbon dioxide cylinder and inspect the cylinder puncture seal for punctures. Replace cylinders that have been punctured.
3. Open the inflator cocking lever to the full open position, you will hear and audible click.

Maintenance Procedure Card 4-6

Lifesaving Systems Life Preserver Survival Vest

4. Remove and discard the chemical pill. Tension on the pill is released when the cocking lever is pressed to the full open position until it stops.
5. Insert a fresh chemical pill into the pill housing. Press the cocking lever to the full open position to insert the pill.
6. Move the cocking lever to the fully closed position.
7. Inspect the green "A" pin indicator to the left of the "A" and ensure the pin is securing the manual inflation lever into the inflator housing. If the green "A" pin indicator is missing, reseat the manual inflation lever and install a new green "A" pin indicator.
8. Route the carbon dioxide cylinder through the web retaining loop and screw it completely into the inflator until the red indicator below the "C" fully turns green. If installing a new cylinder, weigh the new cylinder and compare the scale weight to the stamped weight indicated on the cylinder. Scale weight shall be within 2 grams of the stamped weight.
9. Visually inspect for the three green indicators of a rearmed inflation assembly: "A" green pin installed through inflator housing and manual inflation lever, "B" green indicator visible at base of inflator and "C" green indication through slot on front of housing.
10. Snap the beaded manual inflation lanyard in place and close the inflator cover flap.
11. Record chemical pill change on the life preserver survival vest maintenance log and return the vest to service.

ITEM 3. SEMI ANNUAL INSPECTION

TOOLS and CONSUMABLES

See list in item 1 above.
Chemical Pill, 471
Green "A" Pin Indicator, 470-1

1. Lay out the life preserver survival vest in a clean area free from obstructions.
2. Inspect the life preserver survival vest over its entire surface for cuts, tears, seam separations or loose patches and pockets. Repair as required.
3. Restore serial number marking as required.
4. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.
5. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
6. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
7. Inspect the signal mirror. Replace the mirror if the instructions are illegible or the mirror is broken.

Maintenance Procedure Card 4-6

Lifesaving Systems Life Preserver Survival Vest

8. Contact group or local servicing armories for the latest information on pyrotechnics lot number reclassifications for the MK-124 and MK-79. Ensure installed pyrotechnics are condition code Alpha or Charlie. Inspect the MK-79 kit, ensuring the trigger screw is in the angular safety slot and that cartridges can screw into the launcher properly. Replace pyrotechnics that show signs of corrosion.
9. Inspect the security of attachment for all survival equipment and retie knots as required.
10. Stow all survival equipment.
11. Open the inflator cover flap.
12. Remove the carbon dioxide cylinder and inspect the cylinder puncture seal for punctures. Replace cylinders that have been punctured.
13. Open the inflator cocking lever to the full open position, you will hear and audible click.
14. Remove and discard the chemical pill. Tension on the pill is released when the cocking lever is pressed to the full open position against the stop. Move the cocking lever to the closed position.
15. Unsnap and unfold the bladder cover. Three snaps, one on each side and one on the back.
16. Completely close the bladder case zipper.
17. Inflate the bladder through the oral inflation tube to a firm test pressure taking care not to over inflate.
18. Apply leak detection compound to the inflator cap nut area and between the inflator and bladder. Leakage requires inflator reinstallation with new gaskets. Completely dry the inflator especially inside the chemical pill housing.
19. Inspect inflator assembly for corrosion, lanyard fraying, presence of cylinder seat o-ring, and proper actuation of the cylinder puncturing pin when the lever is actuated. Clean away minor corrosion. Replace the inflator if corrosion is excessive or the cylinder puncturing pin does not move freely in valve body.
20. Reseat the manual inflation lever into the inflator housing and install a new green “A” pin indicator.
21. Two hours after inflation, recheck for firm pressure, excessive pressure loss requires bladder replacement.
22. Deflate the bladder with a vacuum source to remove all air.
23. Open the inflator cocking lever to the full open position, you will hear and audible click.
24. Insert a fresh chemical pill into the pill housing. Press the cocking lever to the full open position to insert the pill.
25. Move the cocking lever to the fully closed position.
26. Route the carbon dioxide cylinder through the web retaining loop and screw it completely into the inflator until the red indicator below the “C” fully turns green. If installing a new cylinder, weigh the new cylinder and compare the scale weight to the stamped weight indicated on the cylinder. Scale weight shall be within 2 grams of the stamped weight.

Maintenance Procedure Card 4-6

Lifesaving Systems Life Preserver Survival Vest

27. Visually inspect for the three green indicators of a rearmed inflation assembly: "A" green pin installed through inflator housing and manual inflation lever, "B" green indicator visible at base of inflator and "C" green indication through slot on front of housing.
28. Snap the beaded manual inflation lanyard in place.
29. Close the inflator cover flap.
30. Fold the left and right lobes of the bladder cover under and between the vests mesh and snap them in place. Snap the back portion of the bladder cover in place.
31. Record semi-annual inspection complied with on the life preserver survival vest maintenance log and return the vest to service.

ITEM 4. ANNUAL FUNCTIONAL TEST

CONSUMABLES

Green "A" Pin Indicator, 470-1

1. Lay out the life preserver survival vest in a clean area free of obstructions.
2. Pull the manual beaded inflation lanyard to actuate the inflation assembly. The bladder shall inflate to design shape without evidence of restriction within 30 seconds. If the inflator fails to actuate, determine the cause of failure. Possible causes may be the cylinder not fully screwed into the inflator or internal inflator malfunction. Internal inflator malfunctions require inflator replacement. Refer to manufacturers instructions or return the life preserver survival vest to the manufacturer for inflator replacement.
3. Remove and discard the expended carbon dioxide cylinder.
4. Inspect the manual beaded inflation lanyard for fraying or other damage. Replace inflators with frayed or damaged lanyards.
5. Deflate bladder with a vacuum source to remove all carbon dioxide.
6. Reset the manual inflation lever into the inflator housing and insert a new green "A" pin indicator through the inflator and lever until it is fully seated.
7. Snap the beaded manual inflation lanyard in place.
8. Record date and functional test complied with on the life preserver survival vest maintenance log.
9. Perform all steps in ITEM 3.

Maintenance Procedure Card 4-7

SOS Inc. Tactical Vest

ITEM 1. BUILD UP AND ACCEPTANCE PROCEDURE

PARTS REQUIRED

Tactical Vest Life Preserver, 38HTV/9	Commercially Procured	
ACR ® Firefly 2 ™ Strobe light	4220 01 487 2929	
Whistle	8465 21 912 7031	
Signal mirror	6305 00 105 1252	
Survival knife	4220 01 278 3007	
Distress Signal Streamer	4240 01 451 8752	Optional Item
MK-124 Marine Smoke and Illumination		
MK-79 Illumination Signal Kit		

WARNING **VERIFY THAT THE INSTALLED PYROTECHNICS ARE CONDITION CODE ALPHA OR CHARLIE.**

NOTE Items listed as "commercially procured" are available from Yakima Products Customer Service, 1385 8th Street, Arcata, CA 95518. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

TOOLS REQUIRED

1/2 Inch Stencils (marking pens with black indelible ink may be used in lieu of stenciling)

CONSUMABLES

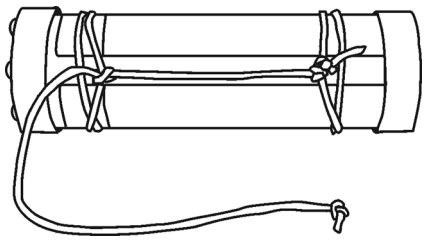
Black Stencil Ink	7510 00 469 7910
Type I Nylon Cord	4020 00 240 2154
Size AA Alkaline Batteries	6135 00 985 7845

1. Stencil a locally generated serial number on the rear portion of the inflation cell adjacent to the zipper (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the survival knife sheath to the webbing strap located between the bladder cover and the vests mesh and attach the Velcro strap to the mesh. Insert the survival knife into the sheath and secure the knife to the mesh vest with a 36-inch piece of Type I nylon cord using bowline knots.
3. Install two fresh size AA batteries in the strobe light.

Maintenance Procedure Card 4-8

SOS Inc. Tactical Vest

4. Attach the strobe light to the webbing loop inside the right side pocket with a 36-inch piece of Type I nylon cord using bowline knots.
5. Attach the whistle to the webbing loop inside the right side pocket with a 36-inch piece of Type I nylon cord using bowline knots.
6. Attach the signal mirror to the webbing loop inside the right side pocket with a 36-inch piece of Type I nylon cord using bowline knots.
7. Attach a 36-inch piece of Type I nylon cord to the bandoleer of the MK-79 illumination signal kit then to the webbing loop inside the left side pocket using bowline knots.
8. Wrap two turns of a 70 inch piece of Type I nylon cord around one end the MK-124 marine smoke and illumination flare and tie with a surgeons knot followed by an overhand knot. The turns shall overlap and the knots shall be tied snugly against each other. Route the cord to the other end and repeat the two turns followed by a surgeon's and overhand knot. Refer to figure. Attach the MK-124 marine smoke and illumination to the webbing loop inside the left side pocket with the bitter end of the cord using bowline knot around the webbing loop.



9. Record pyrotechnics lot numbers on the tactical vest maintenance log.
10. Record acceptance / build-up procedure complied with on the tactical vest maintenance log.
11. Complete all steps in ITEM 2.

ITEM 2. SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Lay out the tactical vest life preserver in a clean area free from obstructions.
2. Inspect the life preserver vest assembly over its entire surface for cuts, tears, seam separations or loose patches. Contact the manufacturer for repairs or replacement parts.
3. Restore serial number marking as required.
4. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.

Maintenance Procedure Card 4-7

SOS Inc. Tactical Vest

5. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
6. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
7. Inspect the signal mirror. Replace the mirror if the instructions are illegible or the mirror is broken.
8. Contact group or local servicing armories for the latest information on pyrotechnics lot number reclassifications for the MK-124 and MK-79. Ensure installed pyrotechnics are condition code Alpha or Charlie. Inspect the MK-79 kit, ensuring the trigger screw is in the angular safety slot and that cartridges can screw into the launcher properly. Replace pyrotechnics that show signs of corrosion.
9. Inspect the security of attachment for all survival equipment and retie knots as required.
10. Stow all survival equipment.
11. Unfold the life preserver.
12. Inflate the bladder through the oral inflation tube to a firm test pressure taking care not to over inflate.
13. Two hours after inflation, recheck for firm pressure, excessive pressure loss requires bladder replacement.
14. Deflate the bladder with a vacuum source to remove all air.
15. Access to the inflation assembly through the zipper on the bladder case.
16. Inspect inflator assembly for damage, lanyard fraying and green indication of a charged inflation assembly.
17. Inspect the bladder inflation assembly gasket around the base of the inflator for deterioration and cracking. Gaskets that show signs of deterioration or cracking require replacement.
18. Close the bladder case zipper.
19. Refold the bladder.
20. Record semi-annual inspection complied with on the life preserver maintenance log and return the preserver to service.

Maintenance Procedure Card 4-7

SOS Inc. Tactical Vest

ITEM 3. 5-YEAR FUNCTIONAL INSPECTION / INFLATION ASSEMBLY REARMING

PARTS REQUIRED

Rearm Kit CMH38ARP	Commercially Procured

NOTE Items listed as "commercially procured" are available from Yakima Products Customer Service, 1385 8th Street, Arcata, CA 95518. Commercial part numbers are listed under parts required. MK-124 and MK-79 pyrotechnics can be obtained from group or local servicing armories.

1. Lay out the life preserver vest in a clean area free of obstructions.
2. Pull the manual beaded inflation lanyard to actuate the inflation assembly. The bladder shall inflate to design shape without evidence of restriction within 30 seconds. Report failures to Commandant (G-OCS-2) via message.
3. Deflate bladder.
4. Access to the inflation assembly through the zipper on the bladder case.
5. Disassemble the inflation assembly and discard all components in accordance with manufacturers instructions.
6. Inspect the bladder inflation assembly gasket for deterioration and cracking. Gaskets that show signs of deterioration or cracking require bladder replacement.
7. Install a new CMH38ARP inflation system on to the bladder in accordance with manufacturers instructions.
8. Route the beaded inflation lanyard through the slit in the bladder case and attach to pile tape on rear of bladder case.
9. Close the bladder case zipper.
10. Record date of 5-year functional and inflation assembly rearming complied with on the life preserver maintenance log.

Section F. Personal Flotation Device Maintenance Logs

Overview

This personal flotation device maintenance logs section contains the maintenance logs for the equipment listed below. These masters should be copied and the copies should be maintained in a separate logbook. It is intended that a running history of inspections and significant maintenance procedures be captured on these logs. Units may choose to use locally generated logs to track maintenance history.

- Coast Guard Approved Type I and III PFDs
- Standard Navy PFD w, Collar
- Navy Standard Inflatable PFD
- Mustang Survival MD3031 w/ Survival Equipment Pocket
- SOS Inc. Ultra Light w/ Survival Equipment Pouch
- Lifesaving Systems Life Preserver Survival Vest
- SOS Inc. Tactical Vest

NOTE

Units with large quantities of inherently buoyant PFDs that are not personally issued to individual personnel are not required to track maintenance history for each PFD separately. One maintenance log may be used for each type of PFD maintained. All maintenance history for inflatable and individually issued PFDs shall be tracked on a separate maintenance log for each PFD in service.

COAST GUARD-APPROVED TYPE I OR III PFD MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

INDICATE TYPE: (Type I, Type III (vest, dynamic strength tested or float coat) or Type I Survivors) _____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

STANDARD NAVY PFD W/ COLLAR MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

NAVY STANDARD INFLATABLE PFD MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Annual/Semi-Annual Inspection Date	Inspector's Signature	Remarks: indicate annual or semi-annual inspection

MUSTANG SURVIVAL MD3031 W/ SURVIVAL EQUIPMENT POCKET MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____
MK-79 LOT NUMBER_____MK-124 LOT NUMBER_____

Inspection Date	Indicate Inspection Type: ITEM 1, 2, 3, or 4	Inspector's Signature	Remarks

SOS INC. ULTRA LIGHT W/ SURVIVAL EQUIPMENT POUCH MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____
MK-79 LOT NUMBER_____MK-124 LOT NUMBER_____

Inspection Date	Indicate Inspection Type: ITEM 1, 2, or 3	Inspector's Signature	Remarks

LIFESAVING SYSTEMS LIFE PRESERVER SURVIVAL VEST MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____
MK-79 LOT NUMBER_____MK-124 LOT NUMBER_____

Inspection Date	Indicate Inspection Type: ITEM 1, 2, 3, or 4	Inspector's Signature	Remarks

SOS INC. TACTICAL VEST LIFE PRESERVER MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____
MK-79 LOT NUMBER_____MK-124 LOT NUMBER_____

Inspection Date	Indicate Inspection Type: Item 1, 2, or 3	Inspector's Signature	Remarks

Chapter 5
Life Rafts, Gripes, Releases, Life Float and Multiple Person Recovery System

Introduction

This chapter contains information about life rafts, gripes, releases, embarkation nets, life floats and the multiple person recovery system.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	41 Foot Utility Boat Life Raft	5-3
B	8, 15 and 25 person Coast Guard Approved Cutter Life Rafts	5-7
C	Navy MK VI 25 Person Life Rafts **To Be Developed**	5-11
D	Cutter Specific Gripes and Hydrostatic Releases	5-13
E	Life Floats	5-15
F	Multiple Person Recovery System (MPRS)	5-17
G	Maintenance Procedure Cards	5-23
H	Maintenance Logs	5-27

Section A. 41 Foot Utility Boat Life Raft

A.1.a Application

The 41 foot UTB life raft is used aboard the UTB for crew survival in the event the boat is rendered not seaworthy. In addition, the raft may be used for rescue and assistance at the coxswain's discretion.

A.1.b Configuration

The UTB life raft is a 6 person life raft packed in a rectangular fiberglass container. The raft is not Coast Guard approved. However, it meets or exceeds all requirements for Coast Guard approval in accordance with 46 CFR 160.051 with the following exceptions:

- Coast Guard approved pyrotechnics have been replaced with 6 MK 124 Marine Smoke and Illumination Signals and 2 MK 79 Illumination Signal Kits
- A ballast system has been added to increase stability
- A furled canopy has been added for exposure protection
- The interior light has been removed
- The sea drogue must be deployed manually

A.1.c Deployment for Crew Survival

Use the following procedure to deploy the raft for use by the crew.

1. Cut or untie the painter line from the weak link.
2. Disconnect the shock retaining cord and remove the raft container from the stowage rack.
3. Attach the painter line to a cleat on the boat.
4. Drop the raft into the water on the leeward side of the boat.
5. Pull the remaining painter line (approximately 50 feet) from the raft container to actuate the inflation assembly. As the raft inflates, tend the painter line to keep the raft close. Fend off the inflating raft to prevent damage to the raft from the boat.
6. Time permitting; place extra equipment and supplies aboard the raft such as signals, portable radios, immersion suits, water and food.
7. If practical, pull the raft alongside the boat and board the raft directly from the boat.
8. Deploy sea anchor.
9. Pull the canopy over the support tubes and secure in place.
10. Set a watch on the boat and painter line. If the boat begins to sink, cut the painter line to free the raft to drift.

Section A. 41 Foot Utility Boat Life Raft

A.1.d Deployment for Rescue and Assistance

The crew's raft may be used for rescue and assistance at the coxswain's discretion. Follow steps 1 through 5 in paragraph A.1.c. Tie two lines to the raft tow bridle. Heave one line to survivors and retain the other for tending. Deployment of the swimmer may be required to assist survivors into the raft.

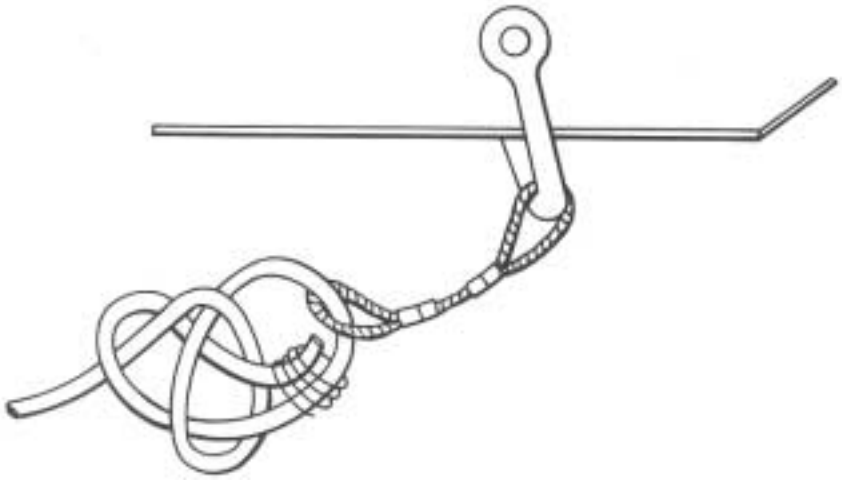
A.1.e Maintenance and Repair

Maintenance is limited to cleaning the container exterior. Repairs are not authorized.

A.1.f Inspection

Perform the weekly inspection once every seven calendar days as follows:

1. Visually inspect the exterior of the life raft container for damage to case or seal.
2. Inspect the stowage rack for general condition.
3. Inspect the painter line for cuts, fraying, and proper attachment of weak link. Refer to figure below.



4. Record weekly inspection date on the life raft maintenance log.

Annual inspection and recertification is required every year or anytime the raft container is opened. Use Coast Guard approved local servicing facilities to perform the annual inspection and recertification. Record annual recertification date, servicing facility and certificate number on life raft maintenance log.

Section A. 41 Foot Utility Boat Life Raft

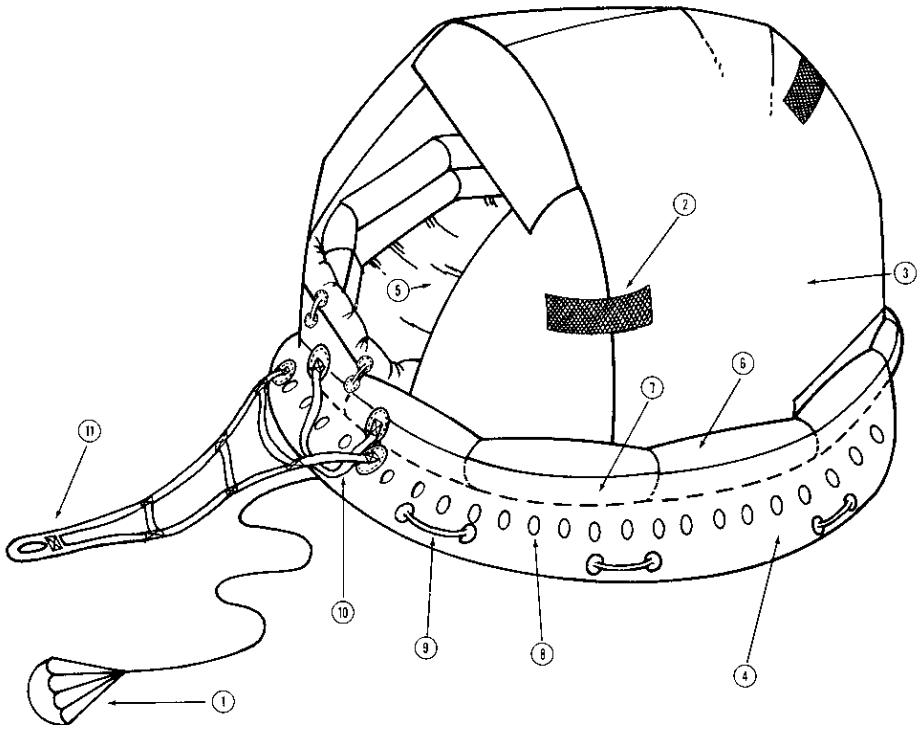
A.1.g Supply Sources

The 41 foot UTB life raft is available from Engineering Logistics Center using the following national stock numbers:

- Life raft packed in container 4220 01 130 4781
- Container only 4220 01 224 6335

A.1.h UTB Life Raft typical

1. SEA ANCHOR
2. RETRORELECTIVE MATERIAL
3. CANOPY COVER
4. BALLAST BAG
5. FLOOR
6. BUOYANCE TUBE (UPPER)
7. BUOYANCE TUBE (LOWER)
8. BALLASTING PORT
9. DEBALLASTING HANDLE
10. BOARDING LADDER
11. TOWING BRIDLE



Section B. 8, 15 and 25 person Coast Guard Approved Cutter Life Rafts

B.1.a Application

8, 15 and 25 person Coast Guard approved life rafts are used aboard most of the cutter fleet for crew survival in the event the cutter is rendered not seaworthy. In addition, the rafts may be used for rescue and assistance at the commanding officer's discretion.

B.1.b NOTE

Some of the WHEC and WMEC fleet have been transitioned to the Navy MK VI life raft. See Section C for policy and guidance for the MK VI life raft.

B.1.c Configuration

8, 15 and 25 person Coast Guard approved life rafts are configured in various ways. All are Coast Guard approved and meet the requirements of 46 CFR 160.151. Specific configurations and arrangements for each cutter class may be obtained from the Engineering Logistics Center Platform Management Branch.

B.1.d Service Life Limit

8, 15 and 25 person Coast Guard approved life rafts have a service life of 20 years. No life raft or component part of a life raft shall remain in service after 20 years from the date of manufacture. If a life raft will exceed the 20 year service life prior to the expiration of the annual recertification sticker, it shall be removed from service and replaced.

Section B. 8, 15 and 25 person Coast Guard Approved Cutter Life Rafts

B.1.e Deployment for Crew Survival

Use the following procedure to deploy the raft for use by the crew.

1. Cut or untie the painter line from the weak link.
2. Trigger the hydrostatic release and remove the raft container from the stowage rack.
3. Secure the painter line to a cleat or bitt.
4. Drop the raft into the water on the leeward side of the cutter.
5. Pull the remaining painter line (approximately 50 feet) from the raft container to actuate the inflation assembly. As the raft inflates, tend the painter line to keep the raft close. Fend off the inflating raft to prevent damage to the raft from the cutter.
6. Time permitting; place extra equipment and supplies aboard the raft such as signals, portable radios, immersion suits, water and food.
7. If practical, pull the raft alongside the embarkation net and board the raft directly from the net.

Set a watch on the cutter and painter line. If the cutter begins to sink, cut the painter line to free the raft to drift.

B.1.f Deployment for Rescue and Assistance

The crew's rafts may be used for rescue and assistance at the commanding officer's discretion. Follow steps 1 through 5 in paragraph B.1.e. Tie two lines to the raft tow bridle. Heave one line to survivors and retain the other for tending. Launching of the cutters boat or deployment of the swimmer may be required to assist survivors into the raft.

B.1.g Maintenance and Repair

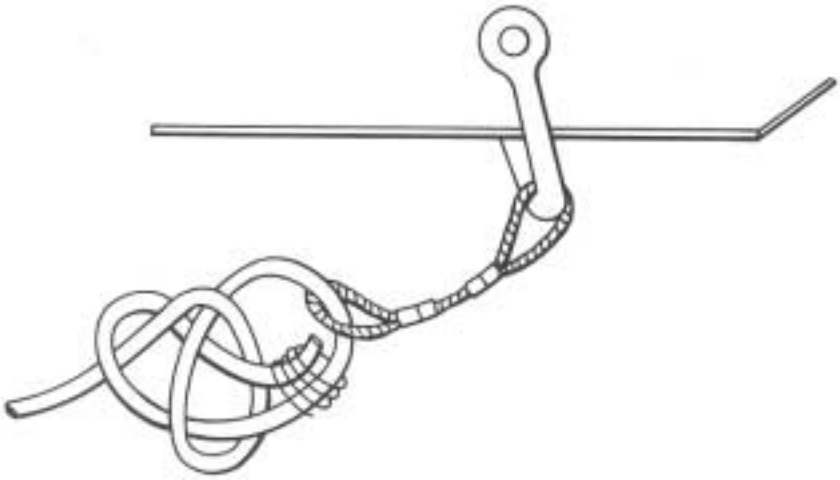
Maintenance is limited to cleaning the container exterior. Repairs are not authorized. Refer to Section D for maintenance and repair guidance on gripes and hydrostatic releases.

Section B. 8, 15 and 25 person Coast Guard Approved Cutter Life Rafts

B.1.h Inspection

Perform the weekly inspection once every seven calendar days as follows:

1. Visually inspect the exterior of the life raft container for damage to case or seal.
2. Inspect the stowage rack for general condition.
3. Inspect the painter line for cuts, fraying, and proper attachment of weak link. Refer to figure below.



4. Inspect the hydrostatic release for proper attachment and general condition. See Section D or contact Engineering Logistics Center Platform Management Branch for guidance.
5. Record weekly inspection date on the life raft maintenance log.

Annual inspection and recertification is required every year prior to the raft certification sticker expiration or anytime the raft container is opened. Use Coast Guard approved local servicing facilities to perform the annual inspection and recertification. For new life rafts, the annual inspection and recertification may be extended up to two years if the survival equipment packed inside will not expire prior to the raft certification sticker expiration. Refer to 46 CFR 160.151-57. Annual life raft inspections shall be recorded on the Cutter Engineering Report (CG-4874).

Section B. 8, 15 and 25 person Coast Guard Approved Cutter Life Rafts

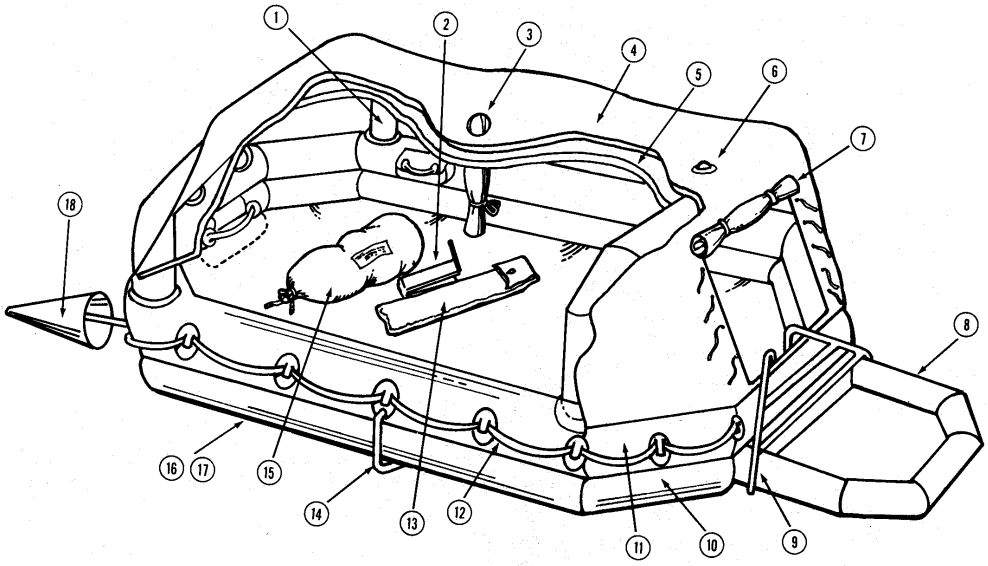
B.1.i Supply Sources

8, 15 and 25 person Coast Guard approved life rafts are available from Engineering Logistics Center using the following national stock numbers:

- 8 person packed cylindrical 4220 01 096 2549
- 8 person packed rectangular 4220 01 096 2550
- 15 person packed 4220 01 104 7085
- 25 person packed 4220 01 083 8535
- 15 or 25 person container only 4220 01 095 6091

B.1.j Typical Life Raft

1. Canopy Arch
2. Pump
3. Rain Catcher with Tie-Down Line
4. Exterior Canopy
5. Inner Canopy
6. Outside Light (Recognition)
7. Canopy Closure
8. Boarding Ramp
9. Boarding Handles
10. Hull Tube
11. Gunwale Tube
12. Life Line
13. Paddle Bag
14. Righting Line
15. Equipment Container
16. Hull CO_2 Bottle
17. Gunwale CO_2 Bottle
18. Sea Anchor



Section C. Navy MK VI 25 Person Life Rafts

This section will be developed and promulgated at a later date.

C.1.a
NOTE

WHEC and WMEC cutters that have been transitioned to the Navy MK VI life raft may obtain policy and guidance for periodic inspection and maintenance of the Mark VI life rafts from Engineering Logistics Center Platform Management Branch.

Section D. Cutter Specific Gripes and Hydrostatic Releases

D.1.a
Life Raft Gripes

Life raft gripes shall be configured and installed in accordance with the Naval Engineering Manual, COMDTINST M9000.6 (series) Chapter 583. Gripes shall be plastic covered corrosion resistant steel or nylon covered stainless steel strap. Coast Guard Drawing FL-8201-86 shall be used as the standard installation guidance. View Coast Guard drawing FL-8201-86 at the following Naval Engineering Technical Information Management System web site:

- http://10.38.16.120:1088/NE-Tims/index.html

D.1.b
NVIC 4 86

Life raft release systems used aboard all cutters shall be configured in accordance with Navigation and Vessel Inspection Circular (NVIC) Number 4-86, titled "Hydraulic Release Units For Life Rafts, Life Floats and Buoyant Apparatus, and Alternative Float-Free Arrangements". The circular summarizes the requirements for installing and maintaining Coast Guard approved hydraulic release units used with life rafts. Units may obtain NVIC 4-86 from the following world wide web site:

- http://www.uscg.mil/hq/g-m/nvic/

D.1.c
NOTE

Specific configurations for each cutter class may be obtained from Engineering Logistics Center Platform Management Branch.

Section E. Life Floats

E.1.a Application

The life float is used as an alternative to the life raft and provides a means of crew flotation after abandoning ship. Life floats are used on WLR class cutters on inland navigable water where the cutter's operating area obviates the need for a life raft.

E.1.b Configuration

The 6 person life float provides 240 pounds buoyancy and is constructed of either fiberglass reinforced plastic laminate around a rigid cellular polyurethane core or unicellular plastic foam with a fiberglass or vinyl cover. The platform has a polyethylene mesh netting strung on an aluminum frame suspended from the float by straps of fiberglass or metal. Retro-reflective tape is installed for better visibility at night.

E.1.c Maintenance and Repair

Maintenance and repairs shall be limited to replacement of lifelines and retro-reflective tape.

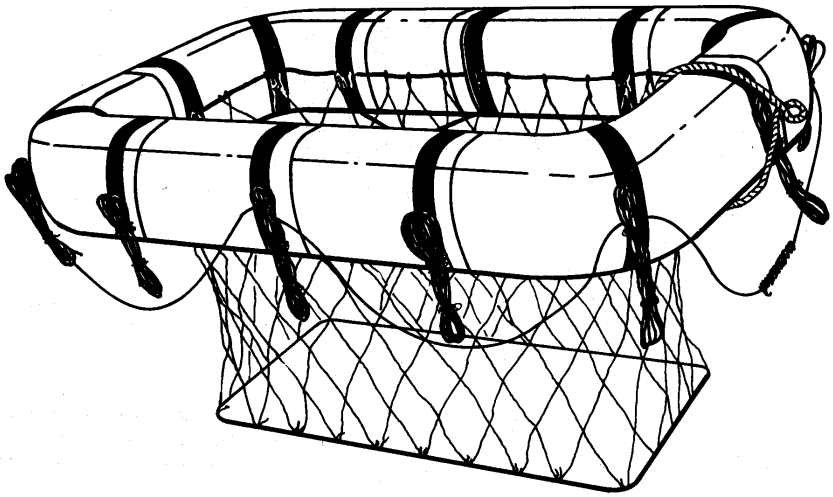
E.1.d Inspection

Acceptance and semi-annual inspections, as well as a 24-month buoyancy test are accomplished in accordance with Maintenance Procedure Card 5-1.

E.1.e Supply Sources

Life floats are available from the Engineering Logistics Center using national stock number 4220 01 118 5450.

E.1.f Life Float



Section F. Multiple Person Recovery System (MPRS)

F.1.a Application

The multiple person recovery system (MPRS) is an inflatable rescue device specifically designed to assist in the retrieval of multiple survivors from the water to the deck of the 41 foot UTB. When installed and operated correctly, the MPRS will inflate in less than 10 seconds and be ready for use. Design characteristics will enable rescuers to descend the ramp to assist non-ambulatory survivors.

F.1.b Salient Characteristics

The MPRS is comprised of two inflatable sections, the lower platform and the stairway. The lower platform of the MPRS is in contact with the water at all times and is stabilized by two water pockets, one located at the boarding area and one at the attachment of the lower platform and the stairway. Located on the floor of the lower platform are handholds that enable the survivors to pull themselves up onto the MPRS. The stairway is outfitted with handholds and steps that assist a survivor in boarding the vessel. Two recovery assist straps are provided along each side allowing crewmembers to rotate the lower platform and stairway upwards and inboard. The recovery assist straps also serve as handholds for survivors. Both lower platform and stairway are fitted with retro-reflective tape and boarding instructions. The MPRS is packaged in a container from which the attachment "girt" extends. The girt is equipped with a girt bar which secures the MPRS to stanchions on each vessel. Inflation of the MPRS is accomplished by carbon dioxide from an inflation system attached to the bumper tube.

F.1.c Maintenance and Repair

Maintenance is limited to cleaning. Minor repair to the container is authorized.

F.1.d Inspection

Annual inspection and recertification shall be performed by one of the following authorized facilities:

F.1.d.1 Alaska

Eagle Enterprises Inc.
700 West International Airport Road
Anchorage, AK 99502

Nets OSS
325 Sheilakoff
Kodiak, AK 99615

Joycrafts Marine Safety Equipment
445 Shahfka Road
Kodiak, AK 99615-2396

Section F. Multiple Person Recovery System (MPRS)

F.1.d.2 California

J. M. Costello Supply Company Inc.
221 North Avalon Boulevard
Wilmington, CA 90774

Pacific Marine Supply Inc.
2804 Canan Street
San Diego, CA 92106

Coast Marine & Industrial Supply Inc.
398 Jefferson Street
San Francisco, CA 94133

F.1.d.3 Connecticut

Life Raft & Survival Outfitters Inc.
2000 Boston Post Road
Westbrook, CT 06498

F.1.d.4 Florida

Datrex Inc.
681 Tallyrand Road
Jacksonville, FL 32202

Willian H. Swan & Sons Inc.
2336 Liberty Street
Jacksonville, FL 32206

A Sailor's Place
2389 South Dixie Highway
Stuart, FL 34996

Inflatable Services Inc.
990 W. State Road 84
Fort Lauderdale, FL 33315

Datrex Inc.
3795 N. W. 25th Street
Miami, FL 33142

Bonanni Ship Supply Inc.
107 North 11th Street
Tampa, FL 33601

The Boat Dock Inc.
4971 110th Avenue
Clearwater, FL 34602

F.1.d.5 Georgia

River Services Inc.
2827 River Drive
Thunderbolt, GA 31404

F.1.d.6 Illinois

Black Industrial Supply
3200 East 92nd Street
Chicago, IL 60617

Chicago Yachting & Navigation
1661 North Eison Avenue
Chicago, IL 60622

Section F. Multiple Person Recovery System (MPRS)

F.1.d.7 **Louisiana**	Offshore Suppliers Inc. 413 North Causeway Service Road Metairie, LA 70001	
F.1.d.8 **Massachusetts**	Westerbeke Fishing Gear Company Inc. Fish Pier Road Boston, MA 02210	
F.1.d.9 **Maryland**	USA Services Inc. Paxton Company 1818 Margaret Avenue Annapolis, MD 21401	Vane Brothers Ship Chandlery 4209 Newgate Avenue Baltimore, MD 21224
F.1.d.10 **Maine**	Chase, Leavitt Company 10 Dana Street Portland, ME 04112	Hamilton Marine Route 1 East Main Street Searsport, ME 04974
F.1.d.11 **North Carolina**	William H. Swan & Sons Inc. 1320 Castle Hayne Road Wilmington, NC 28401	
F.1.d.12 **New Jersey**	Marine Safety Corp. 5050 Industrial Road Farmingdale, NJ 07727	Sea Safety International 10 Wood Avenue Secaucus, NJ 07094
F.1.d.13 **New York**	Atlantic Inflatable Boats 218 East Main Street Babylon, NY 11702	
F.1.d.14 **Ohio**	Samsel Rope & Marine Supply Co. 1285 Old River Road Cleveland, OH 44133	General Fire Sales & Service Inc. 707 First Street Toledo, OH 43605-0056
F.1.d.15 **Oregon**	Pacific Marine Distributors 2320 Northwest 21st Street Portland, OR 97201	Englund Marine Supply Foot of 15th Street Astoria, OR 97103

Section F. Multiple Person Recovery System (MPRS)

F.1.d.16 **Rhode Island**	Liferaft & Survival Equipment Inc. 3 Maritime Drive Portsmouth, RI 02871	
F.1.d.17 **South Carolina**	River Services Inc. 47 S. Windemere Charleston, SC 29407	
F.1.d.18 **Texas**	Shorline Marine & Aviation 8305 Monroe Houston, TX 77061	Fire Protection Service Inc. Division of Texas Marine and Industrial Supply 8050 Harrisburg Boulevard Houston, TX 77012
F.1.d.19 **Virginia**	USA Services Inc. Paxton Company 1111 Ingleside Road Norfolk, VA 23502	William H. Swan & Sons Inc. 1330 Azalea Garden Road Norfolk, VA 23502
F.1.d.20 **Washington**	Westpac Marine Services 2316 S. Jefferson Tacoma, WA 98402	
F.1.d.21 **Wisconsin**	American Marine Company 4301 East 1st Street Superior, WI 54880-4256	

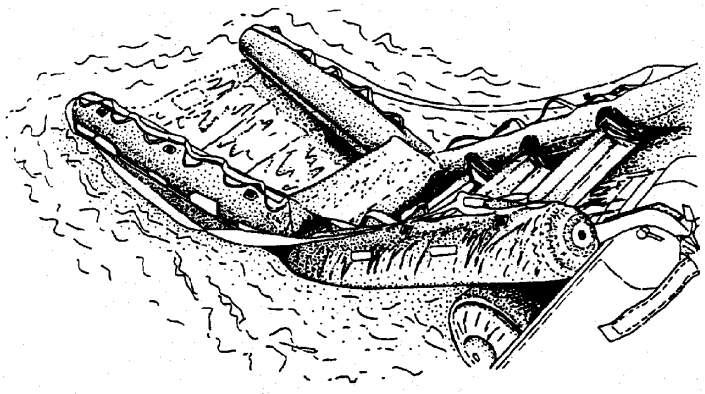
Section F. Multiple Person Recovery System (MPRS)

F.1.e
Supply Sources

Brand name or equal Multiple Person Recovery Systems can be purchased from:

Survival Systems International
8005 Purfoy Road
Fuquay-Varina, NC 27526
(919) 552-9177

F.1.f
MPRS



Section G. Maintenance Procedures

Overview

This maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by Section E for the Life Float as the standard maintenance practice.

Maintenance Procedure Card 5-1

Life Float

ITEM 1. LIFE FLOAT BUILD-UP PROCEDURE

PARTS REQUIRED

Life Float 4220 01 118 5450

TOOLS REQUIRED

1/2 Inch Stencils

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Retro-Reflective Tape	9390 01 078 8660

1. Stencil a locally generated serial number on the top of the life float.
2. Install 12 pieces of retro-reflective tape around the life float at approximately 20-inch intervals.
3. Perform the buoyancy test in ITEM 3.
4. Record acceptance inspection complied with on the life float maintenance log.

ITEM 2. LIFE FLOAT SEMI-ANNUAL INSPECTION

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Restore serial number marking as required.
2. Inspect all exterior surfaces for condition of covering, straps, lifeline, platform, and seine floats where applicable.
3. Inspect the body of float for any cracks or structural failure. Life floats with hairline cracks or minor damage shall be removed from service and repaired. Life floats showing signs of structural failure shall be replaced.
4. Inspect lifelines and mesh netting for condition and security of attachment. Nets and lifelines showing signs of deterioration shall be replaced.
5. Inspect the platform for condition. Ensure that each platform part, including surfaces, edges, and rivets are smooth and free of cutting surfaces, points and splinters that may injure personnel. Wooden platforms with defects shall be sanded smooth and at least two coats of water-resistant spar varnish shall be applied. Platform slats may be replaced as needed.
6. Record date and inspection complied with on the life float maintenance log.

Maintenance Procedure Card 5-1

Life Float

ITEM 3. LIFE FLOAT BUOYANCY TEST

TOOLS REQUIRED and CONSUMABLES

See lists in ITEM 1 above.

1. Weigh the dry life float and record the weight.
2. Place the life float in water and evenly distribute a 240-pound load.
3. Allow the float to remain undisturbed for 12 hours.
4. Remove the weight.
5. Weigh the wet life float. If the weight exceeds the weight recorded in step 1 by more than 12 pounds, replace the life float. If the life float failed to remain above water during the 12-hour test, replace the life float.
6. Record buoyancy test complied with on the life float maintenance log.

Section H. Maintenance Logs

Overview

This maintenance logs section contains the maintenance logs for the UTB life raft, life float and multiple person recovery system. Units may choose to use locally generated logs to track maintenance history.

UTB LIFE RAFT MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

MK-79 LOT NUMBERS_____ MK-124 LOT NUMBERS_____

Certificate Number_____ Servicing Facility_____

WEEKLY INSPECTIONS

DATE/INITIALS	DATE/INITIALS	DATE/INITIALS	DATE/INITIALS
/	/	/	/
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MPRS MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Annual Inspection Date	Inspector's Signature	Remarks

LIFE FLOAT MAINTENANCE LOG

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual or 24-Month Buoyancy Inspection Date	Inspector's Signature	Remarks (Indicate type of inspection.)

Chapter 6
Surface Swimmer Equipment

Introduction

This chapter contains information about equipment used by surface swimmers. The sections in this chapter reflect the approved surface swimmer equipment items authorized for use. In some instances, the cutter swimmer equipment is different than the boat swimmer equipment. Refer to the appropriate section B or C below. Cutter and boat surface swimmer equipment issued to personnel are government properties considered to be organizational uniform items. The principles, concepts and procedures discussed in Chapter 3 of this manual apply to cutter and boat surface swimmer equipment. Refer to the Chapter 3 sections labeled Inspection, Issue, Issue Documentation and Accountability, and AF Form 538 for management of cutter and boat surface swimmer equipment. All issued items of cutter and boat surface swimmer equipment shall be returned to the unit stock when cutter and boat surface swimmers are reassigned to other duties or units. Cutter and boat surface swimmers shall wear thermal undergarments appropriate for the climate conditions expected to be encountered during a deployment. Thermal undergarments described in Chapter 3 of this manual shall be issued and used when appropriate. Refer to Chapter 3 sections labeled Thermal Underwear and Thermal Socks for maintenance and supply information.

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	Generic Surface Swimmer Equipment	6-3
B	Cutter Specific Swimmer Equipment	6-15
C	Boat Specific Swimmer Equipment	6-27
D	Maintenance Procedure Cards	6-31
E	Maintenance Logs	6-41

Section A. Generic Surface Swimmer Equipment

Overview

This generic surface swimmer equipment policies section establishes the operational requirements, describes the salient characteristics and discusses maintenance requirements and procurement information for equipment that shall be used by both cutter and boat surface swimmers:

- Surf cap
- Booties
- Neoprene gloves
- Mask and snorkel
- Fins

A.1 Surf Cap

A.1.a Application

The surf cap is worn by surface swimmers during all deployments at night and when the water temperature is below 72 degrees Fahrenheit. Use of the surf cap is optional for all other deployments.

A.1.b Salient Characteristics

The surf cap is constructed of an international orange, 2-millimeter neoprene fabric that covers the top of the head and ears. The neck strap uses a hook and pile type or other suitable closure and retro-reflective tape is installed for better visibility at night. A pile tape patch is installed for attachment of the strobe light. The surf cap is available in 8 sizes based on head circumference. Contact the manufacturer for sizing requirements.

A.1.c Maintenance and Repairs

Maintenance is limited to cleaning. Cleaning is required after each use. Hand-wash the cap in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289. Rinse completely and hang dry. Minor repairs are authorized to small holes or tears in the neoprene fabric. Use Aquaseal™ adhesive available through Lifesaving Systems Corp. Repairs to holes or tears across seams are not authorized. Replace caps for damage found beyond unit repair capabilities.

A.1.d Inspection

Daily visual inspection shall be performed prior to each use. If discrepancies are found the cap shall be removed from service and discrepancies corrected prior to use. Replace caps as required.

A.1.e Supply Sources

A brand name or equal surf cap is available from:

Henderson Aquatics Inc.
301 Orange Street
Millville, NJ 08332
(800) 222-0347
Part number T-CG01

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.2 Booties

A.2.a Application

Booties are worn by surface swimmers over the dry suit sock foot or over the bare foot on all deployments. Two pairs of different size booties may need to be issued, one pair for over the bare foot and a larger pair for over the dry suit sock foot and any thermal socks worn under the dry suit.

A.2.b Salient Characteristics

Booties are constructed of black 5-millimeter neoprene fabric welded to hard rubber traction soles. The booties use a slide fastener type closure and are nominally 5 inches high. Booties are available in 9 sizes. Contact the manufacturer for sizing requirements.

A.2.c Maintenance and Repair

Maintenance is limited to cleaning and lubrication of the slide fastener. Cleaning is required after each use. Hand-wash the booties in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289. Rinse completely and hang dry. Minor repairs are authorized to small holes or tears in the neoprene fabric. Use Aquaseal™ adhesive available through Lifesaving Systems Corp. Repairs to holes or tears across seams or slide fasteners are not authorized. Replace booties for damage found beyond unit repair capabilities. Lubricate the slide fastener with paraffin, national stock number 7930 01 346 4289.

A.2.d Inspection

Daily visual inspection shall be performed prior to each use. If discrepancies are found the booties shall be removed from service and discrepancies corrected prior to use. Replace booties as required.

A.2.e Supply Sources

Brand name or equal booties are available from:

Henderson Aquatics Inc.
301 Orange Street
Millville, NJ 08332
(800) 222-0347
Part number NB30Z

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.3 Neoprene Gloves

A.3.a Application

Neoprene gloves are worn by surface swimmers during all deployments where the water temperature is below 72 degrees Fahrenheit.

A.3.b Salient Characteristics

Any suitable 3 or 5-millimeter neoprene five-finger glove locally procured is authorized.

A.3.c Maintenance and Repair

Maintenance is limited to cleaning. Cleaning is required after each use. Hand-wash the gloves in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289. Rinse completely and hang dry.

A.3.d Inspection

Daily visual inspection shall be performed prior to each use. Replace gloves as required.

A.3.e Supply Sources

Brand name or equal neoprene gloves are available from the following sources:

Henderson Aquatics Inc.	Lifesaving Systems Corp
301 Orange Street	220 Elsberry Road
Millville, NJ 08332	Apollo Beach, FL 33572-2289
(800) 222-0347	(813) 645-2748
Part number NG50Z	Part number 476

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.4 Mask and Snorkel

A.4.a Application

The mask and snorkel are used by the surface swimmer for all deployments. This equipment is considered boat or cutter outfit and is not personally issued.

A.4.b Salient Characteristics

The mask is a low-volume, clear silicone split window design with unbreakable, UV protected lenses and has an attached chemical light bar. The snorkel is a black or clear silicone straight plastic tube with corrugated mouthpiece that hangs free. The top of the tube is wrapped with red retro-reflective tape.

A.4.c Prescription Lenses

Cutter swimmers requiring prescription eyewear are authorized to have corrective lenses procured for their mask. Contact the manufacturer for prescription requirements.

A.4.d Maintenance and Repairs

Maintenance is limited to cleaning. Fresh water rinse after each use. Repairs are not authorized. Apply red retro-reflective tape to the top of the snorkel tube. Red retro-reflective tape is available using national stock number 4240 01 250 2610.

A.4.e Inspection

Daily visual inspection shall be performed prior to each use. If discrepancies are found the mask and snorkel shall be removed from service and discrepancies corrected prior to use. Replace as required. Lenses that are scratched or broken shall be replaced. Mask straps and snorkel keepers are available from the manufacturer.

A.4 Mask and Snorkel

A.4.f Supply Sources

A brand name or equal mask and snorkel as well as prescription lenses can be procured from:

Sea Vision USA
4399 35th Street North
St. Petersburg, FL 33714
(727) 525-6906

Part numbers:	Mask	PF1202C
	Prescription Mask	SV1202C
	Snorkel	SN1200C

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

A.5 Fins

A.5.a Application	Fins are used by the surface swimmer for all deployments. This equipment is considered boat or cutter outfit and is not personally issued.
A.5.b Configuration	Fins are black rubber open heel design. Adjustable straps allow for a wide range of foot sizes.
A.5.c Maintenance and Repair	Maintenance is limited to cleaning. Fresh water rinse after each use. Repair is limited to strap replacement.
A.5.d Inspection	Daily visual inspection shall be performed prior to each use. If discrepancies are found the fins shall be removed from service and discrepancies corrected prior to use. Fins straps are susceptible to rapid deterioration. Spare straps should be maintained in unit stock for rapid replacement when required. Replace fins as required.
A.5.e Supply Sources	Fins are available from the national stock system using the following national stock number: • 4220 01 015 6762

Section B. Cutter Specific Swimmer Equipment

Overview

This cutter specific swimmer equipment policies section establishes the operational requirements, describes the salient characteristics and discusses maintenance requirements and procurement information for the following equipment:

- Cutter swimmer dry suit
- Cutter swimmer rapid don rescue suit
- Cutter swimmer wet suit
- Harness Flotation Vest

B.1 Cutter Swimmer Dry Suit

B.1.a Application

The cutter swimmer dry suit is worn by cutter swimmer personnel when deployed into water that is 55 degrees Fahrenheit and below.

B.1.b Configuration

The swimmer dry suit is constructed of black waterproof tri-laminate fabric that provides excellent mobility and superior environment protection for the swimmer. The dry suit incorporates a front entry slide fastener, wear area padding, sock type feet and latex neck and wrist seals. The sizing is universal and incorporates internal suspenders that adjust to fit women and men in ranges from 5 feet 5 inches, 125 pounds to 6 feet 3 inches, 250 pounds.

B.1.c WARNING

DRY SUITS ALONE PROVIDE INADEQUATE INSULATION FOR HYPOTHERMIA PROTECTION. PERSONNEL SHALL WEAR THERMAL UNDERWEAR BENEATH THE DRY SUIT TO PROVIDE PROTECTION FROM COLD TEMPERATURE, WIND, SEA SPRAY AND RAIN. DRY SUITS ARE NOT INHERENTLY BUOYANT. THE HARNESS FLOTATION VEST SHALL BE WORN OVER THE DRY SUIT FOR ALL CUTTER SWIMMER DEPLOYMENTS.

B.1.d Maintenance and Repair

Maintenance is limited to cleaning of the dry suit and lubrication of slide fasteners. Repairs are not authorized at the unit level unless the unit has personnel specifically trained for dry suit repair and that training is documented on a certificate from the training facility. Contact the manufacturer for commercial repair facilities.

B.1.e Inspection

Build-up and semi-annual inspections shall be performed in accordance with Maintenance Procedure Card 6-1.

B.1 Cutter Swimmer Dry Suit

B.1.f Supply Sources

Cutter swimmer dry suits are available from the following General Services Administration source:

Mustang Survival
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part number MSD560
GSA contract number: GS-07F-0065H

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

B.1.g CAUTION !

USE EXTREME CAUTION WHEN DONNING THE DRY SUIT. PRIOR TO DONNING THE DRY SUIT, REMOVE ALL RINGS, WATCHES, EARRINGS, NECKLACES AND EYEGLASSES THAT WILL CAUSE DAMAGE TO WRIST AND NECK SEALS.

B.1.h Donning Procedure

Use the following step to put on the cutter swimmer dry suit.

1. Lubricate the inside of the neck and wrist seals with unscented talcum power.
2. Don insulating undergarments as required.
3. Pull the bottom section of the suit up to the waist and place arms into the sleeves.
4. Gently push one hand through the wrist seal at a time using the index finger of the opposite hand to stretch the seal as the hand pushes through. Repeat for opposite hand. Make sure insulating undergarments are not sandwiched between seal and skin and flatten any folds or rolls of the seal flat against the skin.

B.1 Cutter Swimmer Dry Suit

B.1.h Donning Procedure continued

5. Bring the upper portion of the suit over the head, aligning the neck opening with the top of the head. Reach inside the top of the neck seal with the fingers and gently pull the seal outward and down as the head pushes through. Make sure insulating undergarments are not sandwiched between seal and skin and flatten any folds or rolls of the seal flat against the skin.

NOTE

Use only one or two fingers to pull the entry and relief slide fasteners closed. If more force is required, the slide fastener may not be properly aligned or lubricated. If difficulty is encountered when closing slide fasteners, stop immediately, back the slide up and check for the cause of the interference. Correct the problem before proceeding. The slide fastener must be snug tight against the sealing plug. Use paraffin to lubricate the slide fastener.

6. Close the entry and relief slide fasteners. Have a fellow crewmember double check slide fastener to ensure it is closed completely against the sealing plug.
7. Remove excess air from the suit by sliding fingers under the neck seal and squatting down, pull arms tight against the chest and release seal.

B.1.i Doffing Procedure

Use this procedure to take off the cutter swimmer dry suit.

1. Remove all other equipment before removing the dry suit.
2. Wash down the dry suit while wearing it; pay particular attention to entry and relief slide fasteners. Remove all traces of salt.

CAUTION !

FAILURE TO COMPLETELY OPEN SLIDE FASTENER WILL DAMAGE THE SUIT WHEN IT IS REMOVED.

3. Completely open the entry slide fastener.
4. Insert fingers between neck seal and neck. Gently stretch the seal outward and upward while pulling head from seal and shoulders and head out of the suit.

B.1 Cutter Swimmer Dry Suit

B.1.i Doffing Procedure continued

5. Insert two fingers under wrist seal and gently pull seal outward. Cup the hand, fingertips and thumb together, and gently pull hand from seal. Repeat for other hand.
6. Remove legs from suit.

B.2 Cutter Swimmer Rapid Don Rescue Suit

B.2.a Application

The cutter swimmer rapid don rescue suit may be used by cutter swimmers in lieu of the dry suit and harness flotation vest combination. This suit is faster to don because the inherent thermal insulating properties alleviate the need to don thermal undergarments. The primary use for this suit would be for very cold water environments where immediate retrieval of a person overboard is necessary to prevent death.

B.2.b WARNING

THE RAPID DON RESCUE SUIT HAS PERMANENTLY ATTACHED BULKY 5-FINGER GLOVES THAT LIMIT DEXTERITY. SWIMMERS WILL NOT BE ABLE TO MANIPULATE LITTER STRAPS OR OTHER TOOLS THAT REQUIRE FINE DEXTERITY TO OPERATE.

B.2.c Configuration

The cutter swimmer rapid don rescue suit is constructed of closed cell neoprene foam or welded urethane coated nylon outer shell with closed cell foam inner lining insulation. The suit has an integrated lifting harness, 5 finger gloves and neoprene padding for the knees.

B.2.d Maintenance and Repair

Maintenance is limited to cleaning of the suit and lubrication of slide fasteners. Repairs are not authorized at the unit. Contact the manufacturer for commercial repair facilities.

B.2.e Inspection

Inspect rapid don rescue suits at least every 180 days. The cutter swimmer shall ensure the rapid don rescue suit is ready for immediate use at all times. Individual units may change the inspection intervals to less than 180 days.

B.2 Cutter Swimmer Rapid Don Rescue Suit

B.2.f Supply Sources

Cutter swimmer rapid don rescue suits are available from the following General Services Administration source:

Mustang Survival
3870 Mustang Way
Bellingham, WA 98226
(360) 676-1782
Part number IC9000
GSA contract number: GS-07F-0065H

The Stearns® Ice Rescue Suit is also authorized for use as a rapid don rescue suit and is available from:

Lifesaving Systems Corp.
220 Elsberry Rd.
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 341

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

B.3 Cutter Swimmer Wet Suit

B.3.a Application

The shorty or the full-length portion of the wet suit ensemble is worn by cutter swimmer personnel at their discretion when required to deploy into water that is 55 degrees Fahrenheit and above.

B.3.b Salient Characteristics

The wet suit ensemble consists of the full-length 5-millimeter wet suit and the 2-millimeter shorty wet suit constructed of an international orange/black color combination neoprene fabric. Both suits incorporate rear entry slide fasteners that can be closed by the wearer. Retro-reflective tape is installed for high visibility at night. Contact the manufacturer for sizing requirements.

B.3.c Maintenance and Repair

Maintenance is limited to cleaning and lubrication of the entry slide fastener. Cleaning is required after each use. Hand-wash the suit in a solution of water and disinfectant/detergent, national stock number 7930 01 346 4289. Rinse completely and hang dry. Minor repairs are authorized to small holes or tears in the neoprene fabric. Use Aquaseal adhesive available through Lifesaving Systems Corp. Repairs to holes or tears across seams or slide fasteners are not authorized. Contact the manufacturer for repairs beyond unit capabilities. Lubricate the slide fastener with paraffin, national stock number 7930 01 346 4289.

B.3.d Inspection

Inspection is required prior to each use. Any discrepancies found shall be corrected prior to use. Replace wet suits as required.

B.3.e Supply Sources

A brand name or equal wet suit ensemble is available from:

Henderson Aquatics Inc.
301 Orange Street
Millville, NJ 08332
(800) 222-0347
Part number T-CG1850, Shorty Wet Suit
Part number T-CG1920, Full Wet Suit

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonably priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing.

B.4 Cutter Swimmer Harness Flotation Vest

B.4.a Application

The harness flotation vest is worn by the cutter swimmer on all deployments. The vest provides flotation and holds items of equipment that may be used during the deployment.

B.4.b Configuration

The harness flotation vest serves as the swimmer's tethered harness and flotation. The harness is constructed of heavy-duty nylon webbing and stainless steel hardware. Slide fasteners and snaps are corrosion resistant, high strength plastic. The swimmer's tending line is attached to a quick releasing snap shackle that is released by a beaded handle. The flotation cell is installed inside an abrasion and puncture resistant nylon case that is attached to the harness. The cell is manually inflated by actuating a CO_2 cylinder beaded handle or orally inflated using the oral inflation tube. Fully inflated, the cell provides 35 pounds buoyancy.

B.4.c WARNING

DO NOT JUMP INTO THE WATER WITH THE HARNESS FLOTATION VEST INFLATED. IF THE FLOTATION CELL HAS BEEN ORALLY INFLATED, ACTUATING THE BEADED INFLATION LANYARD WILL CAUSE THE CELL TO RUPTURE, POSSIBLY CAUSING INJURY TO THE SWIMMER.

B.4.d Maintenance and Repair

Seawater rapidly degrades the contents of the vest. Fresh water rinsing and complete drying is required after each use. Particular attention should be given to the pyrotechnics. Remove pyrotechnics and completely rinse and dry before re-stowing. Required maintenance shall be accomplished in accordance with Maintenance Procedure Card 6-3. Repairs are not authorized. Contact the manufacturer for repairs.

B.4.e Inspection

Build-up, post use/semi-annual inspection and annual functional inspection shall be accomplished in accordance with Maintenance Procedure Card 6-3.

B.4 Cutter Swimmer Harness Flotation Vest

B.4.f Supply Sources

The harness flotation vest is available from the following General Services Administration source:

Lifesaving Systems Corp.
220 Elsberry Rd.
Apollo Beach, FL 33572-2289
(813) 645-2748
Part number 486-CG
GSA contract number: GS-07F-0078H.

Listing this source is not meant to limit competition, and other sources may be available. For purchases not exceeding $2500, one quote is acceptable if deemed reasonable priced. Such purchases must be equally distributed among qualified suppliers. For purchases in excess of $2500, the request must be submitted to your servicing Contracting Officer for processing. If purchasing from a Federal Supply Schedule, the regulatory requirement is to consider at least three supply schedule vendors.

Section C. Boat Specific Swimmer Equipment

Overview

This boat specific swimmer equipment policies section establishes the operational requirements, describes the salient characteristics and discusses maintenance requirements and procurement information for the following equipment:

- Boat swimmer harness and tending line

Surface swimmers deployed from shore-based boats are deployed wearing the same organizational clothing and PFD they get underway with.

C.1 Boat Swimmer Harness and Tending Line

C.1.a Application

The boat swimmer harness and tending line is worn by the boat swimmer on all deployments.

C.1.b WARNING

HARNESSES OF ALL TYPES, SUCH AS THE BOAT SWIMMER HARNESS AND OTHER CLIMBING SAFETY HARNESSES, SHALL NOT BE USED WITH AUTOMATICALLY INFLATING PFDS. HARNESSES WORN OVER INFLATABLE PFDS CAN RESTRICT THE OUTWARD INFLATING ACTION AND MAY PREVENT BREATHING OR CAUSE CRUSHING INJURIES TO THE UPPER TORSO

C.1.c Configuration

The boat swimmer harness is constructed of black nylon webbing. The harness has torso and shoulder straps with stainless steel adjustment hardware. A rescue knife is attached to the harness waist strap. A quick release snap shackle is incorporated into the shoulder strap for quick release of the attached tending line. The tending line is 70 feet long and has a tender's hand loop spliced in one end and a stainless steel ring spliced into the other.

C.1.d Maintenance and Repair

Fresh water rinsing and complete drying is required after each use. Repairs to the harness webbing are not authorized. Contact the manufacturer for repairs.

C.1.e Inspection

Daily inspection shall be accomplished during routine boat outfit checks. If discrepancies are found the harness and tending line shall be removed from service. Correct all discrepancies prior to use.

C.1 Boat Swimmer Harness and Tending Line

C.1.f Supply Sources	Procure the boat swimmer harness and tending line from: Lifesaving Systems Corp. 220 Elsberry Rd. Apollo Beach, FL 33572-2289 (813) 645-2748 Part number 202
C.1.g Standard D&F	The source listed is the only known source of supply. Determinations and Findings of the Standardization approved by the Director of Finance and Procurement is provided in Appendix B and shall be copied to the procurement file.

Section D. Surface Swimmer Equipment Maintenance Procedures

Overview

This surface swimmer equipment maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by the "Inspection" paragraphs in sections B and C. The following maintenance procedure cards are directed for use as the standard maintenance practice:

- Cutter swimmer dry suit
- Cutter swimmer rapid don rescue suit
- Cutter swimmer harness flotation vest

Maintenance Procedure Card 6-1

Cutter Swimmer Dry Suit

ITEM 1. CUTTER SWIMMER DRY SUIT BUILD-UP PROCEDURE

PARTS REQUIRED

Cutter Swimmer Dry Suit

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Paraffin	9160 00 285 2044
Disinfectant/detergent	7930 01 346 4289
Talcum Powder	6810 00 270 9989

TOOLS REQUIRED

1/2 Inch stencils (marking pens with black indelible ink may be used in lieu of stenciling)

1. Stencil a locally generated serial number on the inside of the suit adjacent to the entrance slide fastener (marking pens with black indelible ink may be used in lieu of stenciling).

CAUTION ! **TALCUM POWDER USED TO LUBRICATE SWIMMER DRY SUIT SEALS SHALL NOT CONTAIN IMPREGNATED OILS OR SCENTS. IMPREGNATED OILS AND SCENTS WILL DAMAGE SUIT SEALS BY CAUSING PREMATURE DRY ROT AND CRACKING.**

2. Lightly dust wrist and neck seals with talcum powder.

ITEM 2. CUTTER SWIMMER DRY SUIT SEMI-ANNUAL INSPECTION

1. Inspect the swimmer dry suit over its entire surface area for cuts, tears and seam separations. Any damage found shall be repaired prior to further use.
2. Inspect the entry slide fastener for ease of operation over the entire length. Slide fasteners with loose or missing teeth shall be repaired prior to further use. Lubricate the slide fastener with paraffin.

CAUTION ! **DO NOT DRY THIS SUIT IN A MACHINE DRYER. HEAT WILL DAMAGE THE SUIT.**

3. Hand-wash the suit as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.

Maintenance Procedure Card 6-1

Cutter Swimmer Dry Suit

4. Lightly dust wrist and neck seals with talcum powder.
5. Record date and inspection complied with on the swimmer dry suit maintenance log.

Maintenance Procedure Card 6-2

Cutter Swimmer Rapid Don Rescue Suit

ITEM 1. CUTTER SWIMMER RAPID DON RESCUE SUIT BUILD-UP PROCEDURE

PARTS REQUIRED

Cutter Swimmer Ice Rescue Suit

CONSUMABLES

Black Stencil Ink	7510 00 469 7910
Paraffin	9160 00 285 2044
Disinfectant/detergent	7930 01 346 4289
Talcum Powder	8510 00 817 0295

TOOLS REQUIRED

1/2 Inch stencils (marking pens with black indelible ink may be used in lieu of stenciling)

1. Stencil a locally generated serial number on the inside of the suit adjacent to the entrance slide fastener (marking pens with black indelible ink may be used in lieu of stenciling).
2. Inspect the entry slide fastener for ease of operation over the entire length. Slide fasteners with loose or missing teeth shall be repaired prior to further use. Lubricate the slide fastener with paraffin.

CAUTION ! **DO NOT DRY THIS SUIT IN A MACHINE DRYER. HEAT WILL DAMAGE THE SUIT.**

3. Hand-wash the suit as required in a solution of water and disinfectant/detergent. Rinse completely and hang dry.
4. Lightly dust wrist and neck seals with talcum powder.
5. Record date and inspection complied with on the swimmer dry suit maintenance log.

Maintenance Procedure Card 6-3

Cutter Swimmer Harness Flotation Vest

ITEM 1. CUTTER SWIMMER HARNESS FLOTATION VEST BUILD-UP PROCEDURE

PARTS REQUIRED

Integrated harness flotation vest	Commercially procured
33 Gram CO_2 cylinder	Commercially procured
ACR ® Firefly 2 ™ strobe light	4220 01 487 2929
Whistle	8465 21 912 7031
Chemical light stick	6260 00 106 7478

CONSUMABLES

Black stencil ink	7510 00 469 7910
Type I nylon cord	4020 00 240 2154
Polypropylene tending line	4020 00 968 1350
Corrosion preventative compound	8030 00 838 7789
Size AA alkaline batteries	6135 00 985 7845

TOOLS REQUIRED

1/2 Inch stencils (marking pens with black indelible ink may be used in lieu of stenciling)

1. Stencil a locally generated serial number on the back of the flotation cell cover in the neck area (marking pens with black indelible ink may be used in lieu of stenciling).
2. Attach the whistle to the webbing loop inside the right pocket with a 36-inch piece of Type I nylon cord using bowline knots.
3. Attach the strobe light to the webbing loop inside the right pocket with a 36-inch piece of Type I nylon cord using bowline knots.
4. Backsplice one bitter end of a length of polypropylene tending line appropriate to vessel size (refer to COMDTINST 16134.2 series for length requirements).
5. Attach the stainless steel O-ring supplied with the integrated harness flotation vest to the other bitter end of the polypropylene tending line with an eyesplice.
6. Install at least two 4-inch chemical light sticks into the left pocket.
7. Perform all steps in ITEM 3 Functional Inspection.

Maintenance Procedure Card 6-3

Cutter Swimmer Harness Flotation Vest

ITEM 2. CUTTER SWIMMER HARNESS FLOTATION VEST POST USE AND SEMI-ANNUAL INSPECTION

1. Inspect the integrated harness flotation vest over its entire surface for cuts, tears, seam separations or loose pockets. Repair or replace as required. If the vest has been immersed, remove all equipment from pockets and completely fresh water rinse all traces of salt or other debris from vest and all attached equipment. Allow vest and all components to completely dry before stowing equipment in pockets.
2. Restore serial number markings as required.
3. Inspect the survival knife for corrosion and blade sharpness. Clean minor corrosion with fine steel wool or fine wire brush. Sharpen blade as required.
4. Inspect the strobe light for obvious defects. Replace the batteries and test the light for 50 to 70 flashes per minute. Replace lights that are broken or that do not flash at the desired rate.
5. Inspect the whistle by forcefully blowing into it. If the whistle fails to emit a highly audible sound, replace it.
6. Inspect chemical light sticks for proper quantity and expiration dates. Replace lights that will expire within 180 days.
7. Inspect the security of attachment for all survival equipment and retie knots as required.
8. Lubricate the buckle latch gate release with corrosion preventative compound.

WARNING

ACTUATING THE BEADED INFLATION LANYARD WHILE THE FLOTATION CELL IS INFLATED WILL CAUSE THE CELL TO RUPTURE, POSSIBLY INJURING PERSONNEL.

9. Inflate the flotation cell through the oral inflation valve to 2 PSI using low pressure air. After four hours, re-check pressure. If the flotation cell has lost pressure, return assembly to the manufacturer for repair.
10. Deflate flotation cell by depressing oral inflation valve and vacuuming or squeezing out air. After deflation stow the oral inflation valve.
11. Remove the CO_2 cylinder from the inflation valve. Inspect inside the valve while actuating the beaded inflation lanyard. Ensure the puncturing pin moves freely inside the valve.
12. Inspect the puncturable face of the CO_2 cylinder for holes or corrosion. If either is present replace the CO_2 cylinder.
13. Reset the beaded inflation lanyard lever to the up or armed positioned. Reinstall a charged CO_2 cylinder fully seating the cylinder into the inflation valve.
14. Record date and inspection complied with on the integrated harness flotation vest maintenance log.

Maintenance Procedure Card 6-3

Cutter Swimmer Harness Flotation Vest

ITEM 3. CUTTER SWIMMER HARNESS FLOTATION VEST ANNUAL FUNCTIONAL INSPECTION

1. Lay out vest in clean area free of obstructions.
2. Pull the beaded inflation lanyard to functionally test for proper inflation. The flotation cell should inflate rapidly without evidence of restrictions. If the flotation cell fails to properly inflate repair or replace vest.
3. Deflate flotation cell by depressing oral inflation valve and vacuuming or squeezing out the CO_2. After deflation stow the oral inflation valve.
4. Record date and inspection complied with on the integrated harness flotation vest maintenance log.
5. Perform all steps in ITEM 2 Post Use and Semi-Annual Inspection.

Section E. Surface Swimmer Equipment Maintenance Logs

Overview

This surface swimmer equipment maintenance logs section contains the maintenance logs for the equipment listed below. These masters should be copied and the copies should be maintained in a separate logbook. It is intended that a running history of inspections and significant maintenance procedures be captured on these logs. Units may choose to use locally generated logs to track maintenance history.

- Cutter Swimmer Dry Suit
- Cutter Swimmer Ice Rescue Suit
- Cutter Swimmer Harness Flotation Vest

CUTTER SWIMMER DRY SUIT

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

CUTTER SWIMMER RAPID DON RESCUE SUIT

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

CUTTER SWIMMER HARNESS FLOTATION VEST

SERIAL NUMBER_____ INSERVICE DATE_____

Semi-Annual Inspection Date	Inspector's Signature	Remarks

Chapter 7
Emergency Position Indicating Radio Beacons

Introduction

This chapter contains information about emergency position indicating radio beacons (EPIRBs).

In this chapter

This chapter contains the following sections:

Section	Topic	See Page
A	406 MHz Category I and II	7-3
B	EPIRB Variants	7-5
C	Maintenance Procedure Card	7-7
D	Maintenance Log	7-13

Section A. 406 MHz Category I and II EPIRBS

A.1.a Application	The 406 MHz Category I EPIRB is used aboard cutters for electronic transmission of a data signal that will aid vessel/crew relocation in the event of capsizing, sinking, or abandon ship.
A.1.b Configuration	The 406 MHz Category I EPIRBs are constructed of high impact resistant plastics and are usually brightly colored. Generally, a four-position switch is incorporated that allows the unit to be armed, tested, disabled, or manually activated. A strobe light and antenna are also incorporated. The EPIRB is stored in a bracket that uses a hydrostatic release mechanism designed to allow automatic float free deployment and activation from the vessel when submerged to an approximate depth of 13 feet. Manual release and activation is also an option.
A.1.c Category II	The 406 MHz Category II EPIRBs are configured the same as Category I EPIRBs, with the exception of the hydrostatic release automatic deployment and activation. The 406 MHz Category II EPIRBs must be manually deployed. Manually activated and water activated models are available.
A.1.d Maintenance and Repair	Maintenance is limited to fresh water rinsing and testing every 30 days. Repair is not authorized at the unit level. Return EPIRBs to the manufacturer's authorized repair facilities for repair or battery replacements.
A.1.e Inspection	Registration and 30-day inspection procedures are accomplished in accordance with Maintenance Procedure Card 7-1.
A.1.f Supply Sources	Equipment Lists, COMDTINST M16714.3 (series), contains numerous commercial listings for manufacturers of EPIRBs.

Section B. EPIRB Variants

Overview	This section contains information about different types of EPIRBs commercially available. This data is provided for informational purposes only and does not establish requirements for use of the items discussed.
B.1.a Class A	Class A EPIRBs are automatic activating, float free devices that transmit on 121.5/243.0 MHz. Class A EPIRBs are detectable by aircraft and satellite. Class A EPIRBs have a limited coverage area and responses to activation may take up to 6 hours or more. These EPIRBs will no longer be available after December 2006.
B.1.c Class B	Class B EPIRBs are a manually activated version of the Class A device and will no longer be available after December 2006.
B.1.d Class C	Class C EPIRBs are manually activated devices that transmit on VHF-FM channels 15 and 16, and are only detectable by aircraft or other surface units. These devices were phased out by the end of 1999 and are no longer authorized for use.
B.1.e Class S	Class S EPIRBs are similar to Class B EPIRBs. Class S EPIRBs either float or they are an integral part of a survival craft. These EPIRBs will no longer be available after December 2006.
B.1.f Category I	Category I EPIRBs are automatic activating, float free devices that transmit simultaneously on 406 and 121.5 MHz. The 406 MHz transmission is detectable by satellite anywhere in the world and the 121.5 MHz transmission is detectable by aircraft or other surface units for homing.
B.1.g Category II	Category II EPIRBs are a manually deployed version of the Category I device. Manually activated and water activated models are available.
B.1.h Category I, Internal GPS Equipped	Category I, internal GPS equipped EPIRBs combine the features of the Category I EPIRB with the features of the global positioning system to provide near instantaneous position information from geo-stationary satellites.

Section B. EPIRB Variants

B.1.i Inmarsat E

Inmarsat E EPIRBs are automatic activating, float free devices that transmit on 1646 MHz. Inmarsat E EPIRBs are detectable by Inmarsat geo-stationary satellites recognized by the Global Maritime Distress and Safety System. These EPIRBs are not sold in the USA.

B.1.j 406 MHz Personal Locating Beacon (PLB)

The 406 MHz PLB is new to the market and at time of promulgation was not approved for sale in the USA. The 406 PLB's are small devices that are manually operated, waterproof, and do not float.

Section C. 406 MHz Category I and II Maintenance Procedures

Overview

This 406 MHz category I and II maintenance procedures section establishes required maintenance steps to be performed at the intervals directed by the "Inspection" paragraph in section A. The following maintenance procedure card is directed for use as the standard maintenance practice:

- 406 MHz Category I and II

Maintenance Procedure Card 7-1

406 Category I and II EPIRBs

ITEM 1. REGISTRATION

PARTS REQUIRED

406 MHz Category I EPIRB
406 MHz Category II EPIRB

1. Fill out the 406 MHz EPIRB registration form (see next page).
2. Copy the form and file the copy with the 406 MHz EPIRB maintenance log.
3. Mail or fax the registration information to the address shown on the form. Confirmation will be mailed from NOAA. Verify the accuracy of registration information received and file confirmation with the 406 MHz EPIRB maintenance log. Affix the registration decal received to the EPIRB.
4. Record registration complied with on the 406 MHz EPIRB maintenance log.

ITEM 2 30-DAY INSPECTION

NOTE Prior to shipping any EPIRB removed from service for repair contact the NOAA SARSAT Beacon Registration Office at (888) 212-SAVE to void registration data.

1. Fresh water rinse on all traces of salt from the exterior of the EPIRB. Wipe dry.
2. Inspect the case exterior for signs of damage. If damage is found that compromises the watertight integrity of the case, return the EPIRB to the manufacturer's authorized repair facilities.
3. Test the EPIRB according to label instructions. EPIRBs that do not test satisfactory shall be removed from service and returned to the manufacturer's authorized repair facilities for repair.
4. Check the EPIRB battery expiration date. If the battery will expire within the next 30 days, remove the EPIRB from service and return to the manufacturer's authorized repair facilities for battery replacement.
5. For Category I EPIRBs, check the hydrostatic release mechanism expiration date. If the hydrostatic release mechanism will expire within the next 30 days, remove the hydrostatic release mechanism from service and replace it with the manufacturer's release kit available from authorized repair facilities.
6. Record date and inspection complied with on the 406 MHz EPIRB maintenance log.

406 MHz EPIRB Registration Form

Mail or fax to:

Fax # (301) 568-8649

SARSAT Beacon Registration
E/SP3, RM 3320, FB-4
NOAA
5200 Auth Road
Suitland MD 20746-4304

Check the appropriate box:

☐ New EPIRB Registration
☐ Change of EPIRB Ownership
☐ Change of EPIRB Information

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

1. Unique Identifier Number (15 Characters)
2. Manufacturer:_____
3. Model No.:_____

4. EPIRB Category

☐ Category I (automatic activation) ☐ Category II (manual activation only)

Owner Information

5. Owners Name (Last, First Middle Initial):_____
6. Mailing Address:_____
_____ 7. Country: _____
8. Telephone: (Home)_____ (Work)_____

Vessel Data

9. Type: **Sail** ☐ Sloop ☐ Yawl ☐ Schooner ☐ Other _____
Power ☐ Fishing ☐ Tug ☐ Cargo ☐ Tanker ☐ Cabin Cruiser ☐Other
Color:_____
10. Radio Equipment: ☐ INMARSAT ☐ VHF ☐ HF ☐ MF Other _____
11. Telephone Numbers: INMARSAT_____ Cellular:_____
12. Vessel Name:_____ 13. Call Sign:_____
14. Documentation or Registration Number:_____
15. Length Overall (ft):_____ 16. Capacity (crew and passengers):_____
17. Homeport (Marina/Dock City/State):_____
18. Additional Data:_____
_____

Emergency Contacts

19. Name of Primary 24-Hour Emergency Contact:_____
20. Telephone: (Home)_____ (Work)_____

21. Alternate 24-Hour Emergency Contact:_____
22. Telephone: (Home)_____ (Work)_____

☐ Check here if this EPIRB is a replacement for a previously registered EPIRB.

Signature:_____ Date:_____

If you have any questions about this form or EPIRB registration in general please call toll-free 1-888-212-SAVE.

OMB 0648-0295 exp. 31 Oct. 2001

Section D. EPIRB Maintenance Log

Overview

This EPIRB maintenance log section contains the maintenance log for the 406 Category I and II EPIRBS. This master should be copied and the copy should be maintained in a separate logbook. It is intended that a running history of inspections and significant maintenance procedures be captured on this log.

406 MHz EPIRB MAINTENANCE LOG

SERIAL NUMBER_____ REGISTRATION DATE_____

UNIQUE IDENTIFIER NUMBER_____

30-Day Inspection Date	Inspector's Signature	Remarks

Appendix A
Abandon Ship Procedures

Introduction	This appendix presents procedures to successfully abandon ship safely. Cutter crewmembers shall become thoroughly familiar with the information presented and be mentally and physically prepared to abandon ship if required.
NOTE	For optimum survival, personnel leaving the ship shall be fully clothed.
Exiting The Ship	If possible, personnel should get away from the ship in a lifeboat or life raft. Personnel should lower themselves into the water using a firmly attached line or hose. When a choice is available, personnel shall leave the ship from the windward side and from whichever end of the ship is lowest to the waterline.
Entering The Water	If it is necessary for personnel wearing a PFD to jump into the water, they must hold their legs together and keep their body erect. Personnel wearing a survival suit should cover their face with one hand, hold the crotch of the suit in place with the other and cross their legs when entering the water. Before lowering injured personnel into the water, always adjust the leg straps properly.
Jumping Into The Water	Securely fasten inherently buoyant PFDs and keep them close to the body by folding the arms across the chest and gripping the jacket with the fingers. This procedure prevents buoyant PFDs from riding up and striking the chin or neck when the wearer hits the water. If an inflatable PFD is being worn, do not inflate it until the wearer is in the water. Use the same procedure for jumping with an inflated PFD as with the inherently buoyant PFD.
Inflation	The wearer shall inflate the PFD as soon as they are in the water and clear of flames or debris.
Swim Away	When in the water, survivors shall swim away from the ship as rapidly as possible and, if available, climb into a lifeboat or liferaft.

Abandon Ship Procedures

Underwater Explosions	If underwater explosions occur in the vicinity, survivors shall swim or float on their backs, keeping their heads and chests as far out of the water as possible. Underwater explosions are particularly threatening to lungs, abdomen, sinuses, and eardrums.
Abandonment	When the ship is entirely surrounded by burning oil and abandonment is essential, personnel shall jump feet first through the flames and swim windward under the surface of the water for as long as possible. When air in the lungs is exhausted, the swimmers should spring above the water in a vertical position, push the flames away with a circular motion of the hands, quickly take a deep breath with their backs to the wind, submerge feet first in a vertical position, and swim under the surface again.
Minimize Buoyancy	Discard any buoyant articles of clothing or shoes. Whenever possible, personnel should wear only the inflatable PFD during this procedure for abandon ship, and should inflate the preserver only after the person is clear of the flames. Inherently buoyant PFDs will not permit the wearer to swim beneath the surface. Therefore, do not wear them before leaving a ship surrounded by flames.

Appendix B
Standardization
Determinations and Findings

Introduction

This appendix provides Determinations and Findings for Standardization of the Stokes Litter and Boat Swimmer Harness and Tending Line. Copy this appendix to the procurement file when procuring the Stokes Litter or the Boat Swimmer Harness and Tending Line.

DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

DETERMINATION & FINDINGS

Findings

1. Approval of this Determination and Findings will formally standardize the Stokes Litter and Boat Swimmer Harness and Tending Line currently used throughout the Coast Guard. A primary mission for the Coast Guard is Search and Rescue. By nature, this mission is typically carried out under poor conditions. Low visibility, rough seas, and extreme weather make it imperative that the equipment used by Coast Guard personnel is safe, well constructed, and familiar to the users. Minor changes to equipment configuration can cause delays and mistakes during use that result in an unacceptable safety risk for the rescuer as well as the victim to be rescued. In recognition of this fact, both the Stokes Litter and Boat Swimmer Harness and Tending Line were centrally managed/procured through the National Stock System. This ensured that when Coast Guard units procured these items, quality and configuration control were maintained. Over the past few years, item managers at the various national logistics centers have made decisions not to stock "low demand" items for cost reasons. The Stokes Litter and Boat Swimmer Harness and Tending Line were impacted by this philosophy and they are no longer managed in the National Stock System. Item management responsibilities for these two items were turned over to the Chief, Office of Boat Forces (G-OCS). This shift in responsibility went largely unnoticed because of the low dollar value of these items and the fact that units procured them locally only to replace those items damaged or lost during use.

2. G-OCS is responsible for the promulgation and accuracy of COMDTINST M10470.10, Rescue and Survival Systems Manual. Because the Stokes Litter and Boat Swimmer Harness and Tending Line were no longer supported by the logistics system, the ordering information in the manual required correction. Years of national stock system support made these items standard throughout the Coast Guard. Thousands of people have been trained to use them and are familiar with their operation and configuration. G-OCS requested that these items be formally standardized under COMDTINST 4200.38B, Coast Guard Standardization Program in order that replacement stokes litters and swimmer harnesses could be procured from the only known vendor (Lifesavings Systems Corp.) of the existing items under the authority of 10 U.S.C. 2304(c)(1) as implemented by FAR Part 6.302-1(b)(4).

3. It is estimated that the Coast Guard spends less than $25K annually through individual unit micro-purchases to replace Stokes Litters and associated component parts, and less than $3.5K for Boat Swimmer Harness and Tending Line.

Findings continued

The unit costs are $825.00 and $69.00 respectively. For the reasons discussed previously, uniform configuration and quality of these items must be maintained and any change to these items would have to be done on a national level. The estimated replacement cost for all litters in inventory is approximately $740K and would be approximately $35K for harnesses. Any annual savings that could be gained through competition at the local level would be minor, especially when compared to the increased safety risk during use and the increased training requirements due to introduction of a new piece of equipment. There is no operational requirement for replacement of these items on a national level. Only three percent of the stokes litters and nine percent of the swimmer harnesses are being replaced annually.

Determination

Based upon these findings, and in accordance with Coast Guard Standardization Program, Commandant Instruction 4200.38B of 11 November 1998, I hereby determine that it is in the best interest of the Government to standardize the Stokes Litter and Boat Swimmer Harness and Tending Line as described in Rescue and Survival Systems Manual, Commandant Instruction M10470.10E. This Standardization, Determinations and Findings is to be used for replacement of, or repair parts for, existing Stokes Litters and Boat Swimmer Harness and Tending Lines and expires two years from the approval date.

CERTIFICATION:

I certify that the data provided by Commandant (G-OCS-2) presented in the Findings stated above are accurate and complete to the best of my knowledge and belief. I recommend approval of the Determination.

MAR 13 2002

D. A. GOWARD
Chief, Office of Boat Forces

In accordance with 10 U.S.C. 2304(c)(1) as implemented FAR 6.301-1(b)(4), the above determination is hereby approved.

MAR 13 2002

ROBERT S. HOROWITZ
FOR Director of Finance and Procurement