INCH-POUND

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SUPERSEDING

MIL-L-24247C(SH)

26 January 1990

COMMERCIAL ITEM DESCRIPTION

LIFE PRESERVER, MK-1

The General Services Administration has authorized the use of this commercial item description, for all federal agencies.

1. SCOPE. This commercial item description covers requirements for the MK-1 life preserver, which is use by personnel on U.S. Navy Surface Ships and Submarines performing flight deck and any other shipboard operations (except for operations that could damage the bladder, e.g., hot work). In man overboard emergencies, the vest, upon water entry automatically inflates, self-rights the wearer, and provides good torso orientation and head support, even if the wearer is unconscious.

2. CLASSIFICATION. The MK-1 life preserver vest cover shall conform to the following sizes and colors.

2.1 Sizes. The MK-1 life preserver vest cover shall be available in small, medium, large, XLarge, and 2XLarge sizes (see Table I).

TABLE I. Sizes and measurements.

MEASUREMENTS			
Size Label		Chest (inches) (Below Armhole)	Back Length (inches) (Center-Back)
Small	36 to 38	42 – 43	24 – 25
Medium	40 to 42	46 – 47	24 – 25
Large	44 to 46	50 – 51	24 – 25
XLarge	48 to 50	54 – 55	25 – 26
2XLarge	52 to 54	58 – 59	25.5 – 26.5

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: Commander, Naval Sea Systems Command, ATTN: SEA 05Q, 1333 Isaac Hull Avenue, SE, Stop 5160, Washington Navy Yard DC 20376-5160 or emailed to commandstandards@navsea.navy.mil, with the subject line "Document Comment". Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://assist.daps.dla.mil/.

FSC 4220

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2.2 Colors. The MK-1 life preserver vest cover shall be available in seven (7) colors: white, red, green, blue, brown, yellow, and purple.

3. SALIENT CHARACTERISTICS.

3.1 Physical and performance characteristics. The MK-1 life preserver shall be comprised of a flame-resistant vest cover and an inflatable bladder.

3.1.1 Floatation/buoyancy. The MK-1 life preserver shall comply with the floatation/buoyancy, quality assurance requirements for a Type III PFD in accordance with 46 CFR subpart 160.076 and UL 1180.

3.1.2 Fire retardance/flame resistance. The vest cover material shall be a fire-retardant treated 88%/12% cotton/nylon, and in a twill-weave in the colors listed. The material flame resistance properties in terms of char length should not exceed 5 inches and with a maximum after-flame of 2.0 seconds when tested in accordance with ASTM D6413.

3.1.3 Breaking strength. The vest cover material shall be minimum 9.0 oz/sq yd when tested in accordance with ASTM D3776; and have a minimum breaking strength of 130 lbs in the warp and 100 lbs in the filling when tested in accordance with ASTM D5034.

3.1.4 Tear strength. The vest cover material shall have minimum tear strength of 7 lbs in the warp and 6½ lbs in the filling when tested in accordance with ASTM D1424.

3.1.5 Cloth shrinkage. Cloth shrinkage of the vest cover material shall not exceed 3.0% in each direction when tested in accordance with AATCC Test Method 96.

3.2 Design and construction.

3.2.1 Vest cover. The vest cover shall be cardigan style, sleeveless, with a front zipper closure (heavy duty plastic), with a closure (hook and pile fastener tape) at the top of the zipper. The inside vest cover shall be two-ply in the front and upper back to accommodate the bladder. The upper back shall contain foam cushioning. A waist strap shall completely encircle the vest, be adjustable, and be secured in the front with a slide buckle fastener. The right front of the vest cover shall have two openings, one sized for the oral inflation tube and the other for the bladder manifold with attached inflator/24-gram CO2 cylinder. A securing strap shall be provided for the cylinder. The upper right front of the vest cover shall have a flap, secured by hook and pile loop tape at the top and side, to cover the oral inflation tube. The lower right front of the vest cover shall have a foam-cushioned flap to cover the inflator/cylinder. The face of the flap shall contain printing (WARNING! AUTOMATIC INFLATION ASSEMBLY INSTALLED. DO NOT USE ABOARD AIRCRAFT). The vest cover design shall provide channels for routing the MOBI antenna, internally, up to the vest collar, without affecting the transmission signal. The back of the vest shall contain a 1- by 3-inch opening to allow a safety harness D-ring to fit through the preserver. (see Figures 1, 2, and 3)

3.2.2 Inflatable bladder. The bladder contained within the MK-1 life preserver shall meet Type III PFD requirements under 46 CFR subpart 160.076 and UL 1180. This includes all physical material components, construction, testing, quality assurance, and buoyancy/flotation characteristics of the bladder. The right side of the bladder shall contain an oral inflation tube and manifold for the inflator device that is compatible with the vest cover. The CO2 cylinder size (24-gram) shall be designated on the bladder as well as model and NSN. The bladder shall be internally secured to the vest cover. See Figure 4 for details on the bladder.

3.2.2.1 Inflatable bladder securing straps. The vest cover, internally (left and right front), shall be ¾-inch wide minimum nylon, polyester or polypropylene straps with stud/eyelet snap attachments to attach the inflatable bladder.

3.2.3 Automatic inflator and cylinder. The inflatable bladder shall contain a water-activated automatic inflator mechanism and a 24-gram CO2 cylinder. A label detailing the operation of the inflator/cylinder shall be attached inside the vest inflator cover.

3.2.4 Waist belt. The waist belt must be 1-inch minimum width nylon, polyester or polypropylene webbing with a slide adjuster and secured with a slide buckle closure.

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3.2.5 Reflective tape. The vest cover shall contain launderable reflective tape on the left and right fronts and across the upper back. The reflective tape shall be silver, composed of wide-angle exposed retro-reflective lenses bonded to polyester cloth backing in accordance with ANSI/ISEA 107, level 2. The tape shall be minimum 2 inches wide by 4½ inches long on each chest and minimum 2 inches by 12 inches long across the back.

3.2.6 Distress marker light patch. The upper left section (shoulder area) of the vest cover should contain a minimum 1½- by 1½-inch nylon loop tape patch to temporarily attach the distress marker light in man overboard situations. The distress marker light must have a 1- by 2-inch nylon hook tape patch adhered to the back of the light.

3.2.7 Accessories pockets. The vest shall have two double ply pockets sized to hold the distress marker light, flat whistle, sea dye marker, and MOBI. One pocket (with two chambers) located on the upper left front of the vest shall contain the whistle and the distress marker light. The other pocket shall (with two chambers) located on the lower left side shall contain the sea dye marker and the MOBI. The distress marker light pocket/whistle pocket shall have two eyelets near the top of the pocket (one for the light and one for the whistle). It shall also have a hole in the flap to allow the bulb portion of the distress marker light to be seen while in the pocket. The sea dye marker/MOBI pocket shall have an eyelet near the top of the pocket for the sea dye marker. It shall also have a hole in the top of it to allow the passage of the MOBI antennae and one in the side to allow the MOBI to be turned on or off. The flaps of the pockets shall be secured to the pockets by hook and pile.

3.2.8 Accessories securing cords. The distress marker light, sea dye marker, and flat whistle shall be secured to the accessories pocket with a nominal $^{1}/_{16}$-inch diameter nylon, polyester or polypropylene cord, 24 inches in length, having a minimum tensile strength of 90 pounds when tested in accordance with ASTM D4268.

3.2.9 Labeling. The inside of the vest shall contain labeling indicating the manufacturer name, vest model number, NSN, size, and U.S. Navy certification number.

3.3 Compatibility. The complete vest (outer cover, bladder and accessories components) shall be totally interchangeable with the components of the Stearns Inc., Model I441 MK-1 life preserver; the Mustang Survival, Model MD3040 life preserver; and the Switlik/Eastern, Model CMV 1001 life preserver.

3.4 Environmental requirements. All components with the exception of the flame resistant vest cover shall be UL recognized for use in PFDs, and shall meet the requirements for accelerated weathering in accordance with UL 1191.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS. The products provided shall meet the salient characteristics of this Commercial Item Description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

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7. NOTES.

7.1 Source of documents.

7.1.1 AATCC. AATCC standards are available from the American Association of Textile Chemists and Colorists, PO Box 12215, Research Triangle Park, NC 27709-2215 or online at www.aatcc.org.

7.1.2 ASTM. ASTM standards are available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or online at www.astm.org.

7.1.3 CFR. The Code of Federal Regulations (CFR) may be obtained from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20401 or online at www.gpoaccess.gov/index.html.

7.1.4 FAR. The Federal Acquisition Regulations (FAR) may be obtained from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20401 or online at www.gpoaccess.gov/index.html.

7.1.5 ISEA. ANSI/ISEA standards are available from International Safety Equipment Association, 1901 N. Moore Street, Suite 808, Arlington, VA 22209-1762 or online at http://www.safetyequipment.org.

7.1.6 UL. UL standards are available from COMM 2000, 1414 Brook Drive, Downers Grove, IL 60515 or online at www.ul.com.

7.2 Ordering data. The contract or order should specify the following:

a. CID document number and revision.
b. National stock numbers (NSNs).
c. Product conformance provisions.
d. Quantity required.
e. Packaging requirements.

7.3 National stock numbers (NSNs). The following is a list of NSNs assigned that correspond to this CID. The list may not be indicative of all possible NSNs associated with the CID.

NSN	ITEM	NSN	ITEM
4220-01-487-2926	Life Preserver Bladder	4220-01-487-2940	MK-1 Life Preserver - Small White
4220-01-470-9906	Inflator Mechanism	4220-01-487-2950	MK-1 Life Preserver - Small Red
4220-01-487-2878	24-Gram CO2 Cylinder	4220-01-487-2963	MK-1 Life Preserver - Small Green
4220-01-487-2929	Distress Marker Light	4220-01-487-2972	MK-1 Life Preserver - Small Blue
4220-01-487-2931	Whistle	4220-01-487-2978	MK-1 Life Preserver - Small Brown
6850-00-270-9986	Sea Dye Marker	4220-01-487-2980	MK-1 Life Preserver - Small Yellow
5820-01-516-0829	Man Overboard Indicator (MOBI)	4220-01-487-3190	MK-1 Life Preserver - Small Purple

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NSN	ITEM	NSN	ITEM
4220-01-487-3192	MK-1 Life Preserver - Medium White	4220-01-487-3300	MK-1 Life Preserver - Large White
4220-01-487-3201	MK-1 Life Preserver - Medium Red	4220-01-487-3619	MK-1 Life Preserver - Large Red
4220-01-487-3206	MK-1 Life Preserver - Medium Green	4220-01-487-3625	MK-1 Life Preserver - Large Green
4220-01-487-3210	MK-1 Life Preserver - Medium Blue	4220-01-487-3647	MK-1 Life Preserver - Large Blue
4220-01-487-3239	MK-1 Life Preserver - Medium Brown	4220-01-487-3650	MK-1 Life Preserver - Large Brown
4220-01-487-3294	MK-1 Life Preserver - Medium Yellow	4220-01-487-3652	MK-1 Life Preserver - Large Yellow
4220-01-487-3297	MK-1 Life Preserver - Medium Purple	4220-01-487-3655	MK-1 Life Preserver - Large Purple

NSN	ITEM	NSN	ITEM
4220-01-487-3657	MK-1 Life Preserver - XLarge White	4220-01-504-8263	MK-1 Life Preserver - 2XLarge Yellow
4220-01-487-3659	MK-1 Life Preserver - XLarge Red	4220-01-504-8268	MK-1 Life Preserver - 2XLarge Red
4220-01-487-3661	MK-1 Life Preserver - XLarge Green	4220-01-504-8270	MK-1 Life Preserver - 2XLarge White
4220-01-487-3663	MK-1 Life Preserver - XLarge Blue	4220-01-504-8272	MK-1 Life Preserver - 2XLarge Brown
4220-01-487-3666	MK-1 Life Preserver - XLarge Brown	4220-01-504-8277	MK-1 Life Preserver - 2XLarge Purple
4220-01-487-3667	MK-1 Life Preserver - XLarge Yellow	4220-01-504-8278	MK-1 Life Preserver - 2XLarge Blue
4220-01-487-3669	MK-1 Life Preserver - XLarge Purple	4220-01-504-8280	MK-1 Life Preserver - 2XLarge Green

7.4 Key words.

Buoyancy
Flame-Resistant
Flight Deck Life Vest
Floatation
Self-Righting

MILITARY INTERESTS

Custodians:
Navy – SH
Air Force – 03

Preparing Activity:
Navy – SH
(Project 4220-0462-000)

Review Activities:
Navy – AS
Air Force – 11, 84, 99
DLA – IS

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at http://assist.daps.dla.mil.

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FIGURE 1. MK-1 – front view.



FIGURE 2. MK-1 – back view with D-ring hole.

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FIGURE 3. MK-1 – accessories view.

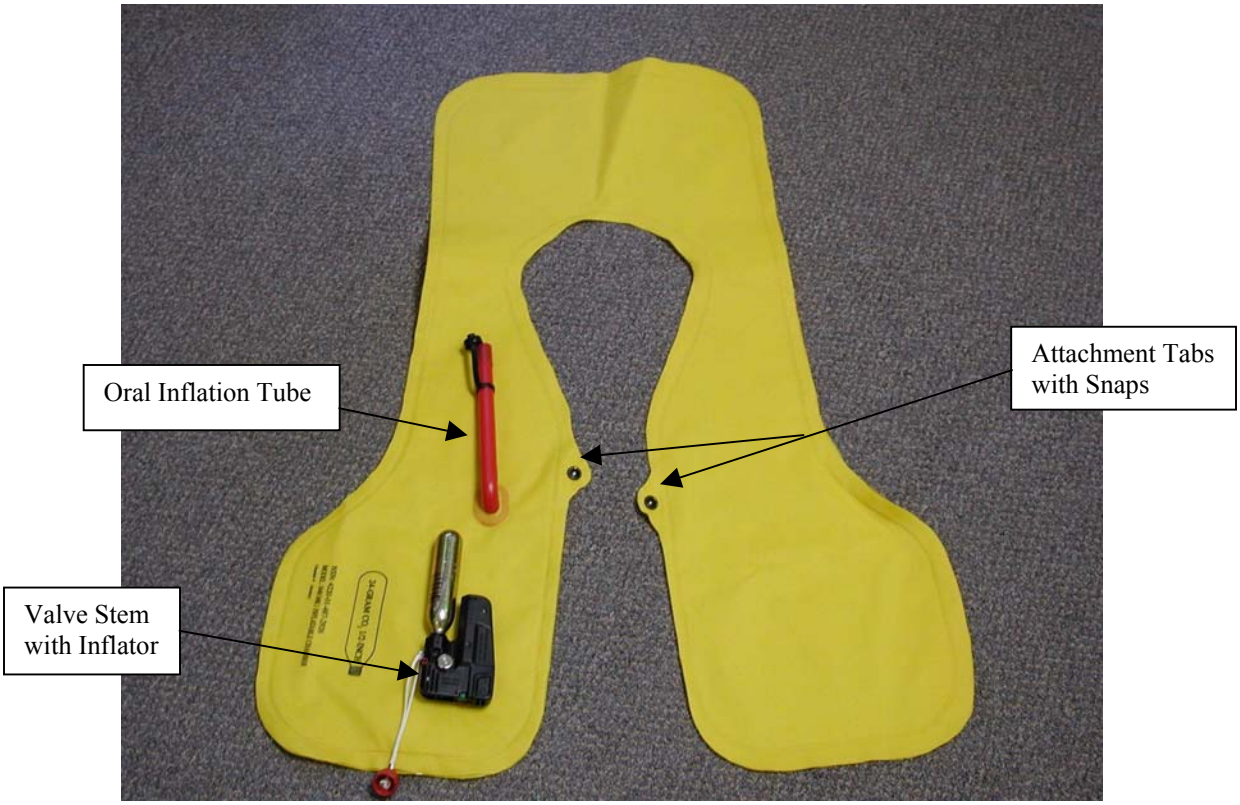


FIGURE 4. MK-1 – Bladder.

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