

CHAPTER 11

COLD WEATHER SURVIVAL KITS

Section 11-1. SRU-A/P99S-1 4-Man Cold Weather Survival Kit

11-1. DESCRIPTION.

11-2. The 4-Man Cold Weather Survival Kit (figure 11-1) is designed to be stowed onboard non-ejection seat aircraft. It is intended for use by four aircrew members for land survival situations where average monthly over land temperatures do not exceed 50°F.

11-3. CONFIGURATION.

11-4. The basic survival items packed in the 4-Man Cold Weather Survival Kit are listed in table 11-1. These items are intended to support four survivors.

NOTE

The quantity and type of survival items may be varied at the discretion of the Type Commander to suit operational environment.

Components of the 4-Man Cold Weather Survival Kit which are not available through supply shall be obtained through local purchase.

11-5. APPLICATION.

11-6. The 4-Man Cold Weather Survival Kit is intended to be stowed onboard non-ejection seat aircraft as an emergency cold weather survival kit. The items in the kit are in quantities to provide a minimum of 72 hours of additional protection for four aircrewmembers in extreme cold weather climates.

11-7. MAINTENANCE.

11-8. Maintenance or repair operations shall be performed by Organizational Level maintenance or above. Maintenance shall be limited to inspection and minor repairs as indicated in paragraph 11-13.

11-9. **INSPECTION.** All 4-Man Cold Weather Survival Kits shall be subjected to Preflight/Postflight, Special and Place-In-Service Inspections.

NOTE

Cold weather survival kits that have been stored during the warm seasons will require

a Place-In-Service Inspection prior to returning to service for each cold weather season. During periods of storage, cold weather survival kits shall be stored in a cool dry place.

11-10. **Preflight/Postflight Inspection.** The Preflight/Postflight Inspection is a Visual Inspection performed by the flight crew prior to and after each flight daily and consists of the following:

1. Inspect for integrity of survival kit bag.
2. Inspect security of survival kit closure.
3. Security of attachment of 4-Man Cold Weather Survival Kit to aircraft.
4. Inspect snap hook.
5. Inspect for loose or broken stitches.

11-11. **Special Inspection (30-Day).** A 30-Day Special Inspection shall be performed by Organizational Level maintenance on all in-service cold weather survival kits. Perform the 30-Day Special Inspection as follows:

1. Inspect for rips, stains, and loose or frayed stitching on containers.

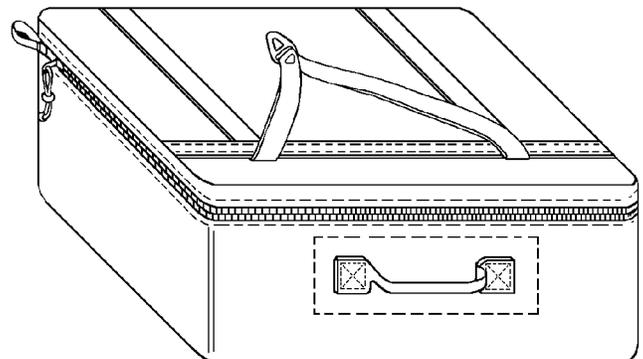


Figure 11-1. SRU-A/P99S-1 4-Man Cold Weather Survival Kit

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Table 11-1. Survival Equipment – 4-Man Cold Weather Survival Kit

Description	Quantity	Reference Number
Mirror, Emergency Signaling	1	NIIN 00-105-1252, MIL-M-18371
Light, Chemilluminescent, IR	3	NIIN 01-195-9752, 908019
Light, Chemilluminescent, Green	3	NIIN 01-074-4229, A-A-55134
Light, Chemilluminescent, Red	3	NIIN 01-178-5559, A-A-55134
Strike Force Striker	1	Survival Inc. 2633 Eastlake Ave. East Suite 103 Seattle, WA 98102 (206) 726-9363 (888) 237-3239 1WG0411-BX
Tide Blocks (Not P)	2	Survival Inc. 2633 Eastlake Ave. East Suite 103 Seattle, WA 98102 (206) 726-9363 (888) 237-3239 1WG0412-BX
Lifeboat Matches	1	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 SA30435
Aluminum Candle Lantern	1	Peregrine Outfitters 105 S. Brownell Rd Williston, VT 05495 (800) 222-3088 I002
Replacement Candles	1	Peregrine Outfitters 105 S. Brownell Rd Williston, VT 05495 (800) 222-3088 I008
Fox 40 Whistle	1	NIIN 01-447-8766, FOX40CLASSIC
Tubing, Nonmetallic	6 ft.	NIIN 01-345-2256, MO-062
Ration, Cold Weather	2	NIIN 01-267-5864, MIL-R-44277
Ultima Thule Sleeping Bag	2	Wiggy's Inc. 2482 Industrial Blvd. P.O. Box 2124 Grand Junction, CO 81502 (303) 241-6465 (800) 748-1827 WIG20UL
Blanket, Casualty	2	NIIN 00-935-6665, MIL-B-36964
Pocket Cooker	1	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 MSC40

Table 11-1. Survival Equipment – 4-Man Cold Weather Survival Kit (Cont)

Description	Quantity	Reference Number
Hexamine Solid Fuel Tabs	1	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 TFB97
2 QT Aluminum Pot w/Lid and Handle	1	Campmor P.O. Box 700 Saddle River, NJ 07458-0700 (888) 226-7667 82008
Rationing Cup 8 oz	2	Campmor P.O. Box 700 Saddle River, NJ 07458-0700 (888) 226-7667 81911
Survival Saw 15" Blade	1	Recreational Equipment Inc. 1700 45th St. East Sumner, WA 98390 (800) 258-4567 K404-040
Telescoping Shovel	1	Exploration Products, Inc. 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 550083
Bag, Plastic, 32 Gal.	3	NIIN 01-183-9769, A-A-1668
Cape, Aircrewmember (Note 4)	3	NIIN 01-040-9018, 3211
Tape, Duct	1 Roll	NIIN 00-103-2254, A-A-2231
Ice Screws, Titanium	2	Exploration Products 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 550166
Chemical Heat Packs	10 pr	NIIN 01-395-3018 or Grabber 4600 Danvers Dr. SE Grand Rapids, MI 49512 (616) 940-1914 (800) 423-1233 G-28
Cord, Fibrous, Ty 3, Nat.	50 ft	4020-00-240-2146 MIL-C-5040
Ice Pick	1	Exploration Products 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 810001

Table 11-1. Survival Equipment – 4-Man Cold Weather Survival Kit (Cont)

Description	Quantity	Reference Number
Lightweight Extreme Weather Shelter	1	Johnson Camping 625 Conklin Rd. P.O. Box 966 Binghamton, NY 13902 (607) 779-2222 EXT 329 2628911 CAGE Code 73005 or The North Face, Inc. 407 Merrill Ave. Carbondale, CO 81623 (970) 704-2300 VE-25
Thermal Protective Aid (TPA) (Note 3)	2	Exploration Products 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 550061
Self-Inflating Ground Insulator (Ultralight)	2	Cascade Designs, Inc. 4000 1st Avenue S. Seattle, WA 98134 (206) 583-0583 (800) 527-1527 01232
Flashlight, Hand Generated (Optional)	1	NIIN 00-283-9806 MIL-L-8209 Type A9
<p>Notes: 1. If space permits after packing, additional quantities of above listed items may be added to the survival kit.</p> <p>2. Tinder blocks are of same chemical composition as cubes authorized in original message. However, they are now sold in packages of four larger cubes in a slightly different wrapper. Leave cubes in outer-most product wrapping. Do not individually unwrap cubes. Two packages of the four-pack may be purchased to replace originally authorized 12 tinder cubes.</p> <p>3. This system is replacement of originally authorized TPA. It is slightly larger and more durable than P/N 5520301. Unlike original TPA, the emergency bag does not have legs.</p> <p>4. Aircrewmember's cape can be substituted for the 32 gal plastic bag.</p>		

2. Inspect condition of webbing for wear and fraying.
3. Inspect for loose or missing snap hooks.
4. Inspect snap hooks for ease of operation and corrosion.

place as required. Assemble kits in accordance with paragraph 11-24.

NOTE

All stitches shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch. Overstitch minimum 1/2 inch.

11-12. Place-In-Service and 360-Day Special Inspection. The Place-In-Service and 360-Day Special Inspections shall consist of the tasks required for the 30-Day Special Inspection as well as a complete inspection and inventory of each survival kit. Inspect survival items in accordance with Section 11-3. Repair or re-

11-13. REPAIR AND REPLACEMENT.

11-14. Repair of Holes or Tears in Equipment Container Bag.

Materials Required

Refer to paragraph 1-20 Materials Required.

1. All tears and holes shall have a square or rectangular patch installed on the inside and outside of the defective area.

2. Lay inside of torn or hole area on a flat smooth surface and outline area to be patched using a regular or tailor's chalk with a minimum margin around the torn or hole area of 1 1/2 inches.

3. Cut cordura cloth 1/2 inch larger than the margin made in step 2.

4. Fold the cloth under 1/2 inch on all sides of the repair cloth. Straight pin as necessary.

5. Lay patch over the area made in step 2. There shall be no folds of cloth or pleats. Straight pin as necessary.

6. Sew a row of stitches 1/8 inch from the folded edge of the cordura cloth and another row 1/4 inch in from the first row of stitches, there shall be no folds in the cloth or pleats.

7. Lay outside of torn or hole area on a flat smooth surface and outline area to be patched using regular or tailor's chalk with a minimum margin around the torn or hole area of 2 inches.

8. Cut cordura cloth 1/2 inch larger than the measurement made in step 7.

9. Fold 1/2 inch under on all sides of the repair cloth. Straight pin fold as necessary.

10. Lay patch on the area made in step 7. Straight pin patch as necessary.

11. Sew a row of stitches 1/8 inch from the folded edge of the cordura cloth and another row 1/4 inch in from the first row of stitches, there shall be no folds in the cloth or pleats.

12. Quality assurance shall inspect repaired areas.

11-15. Repair of Loose and/or Broken Stitches in Equipment Container Bag. Loose and/or broken stitches shall be repaired by using thread identified in paragraph 1-20.

1. Stitching shall start at a minimum of 1/2 inch prior to the loose and/or broken stitching and continue a minimum of 1/2 inch after the loose and/or broken stitching.

2. Quality assurance shall inspect repaired areas.

11-16. Repair of Torn/Worn or Frayed Webbing or Tape.

NOTE

Webbing or tape shall be considered repairable if the torn/worn or frayed area is 5 inches or less.

1. Use the same type webbing used in manufacturing (paragraph 1-20).

2. Cut webbing 6 inches larger than defective area.

3. Fold 1 inch back on each end of webbing.

4. With folds facing the defective area place cut piece of webbing on the defective area.

5. Webbing shall extend 2 inches beyond torn/worn or frayed area on both ends.

6. Sew a box stitch 1/8 inch from the edge of the webbing.

7. Quality assurance shall inspect repaired areas.

11-17. Replacement of Snap Hooks. Defective/corroded snap hooks (MS22018) shall be removed and replaced. Quality assurance shall inspect repaired area.

11-18. Replacement of Slide Fasteners. Defective/corroded slide fasteners shall be removed and replaced. Refer to paragraph 1-20 for installation procedures. Quality assurance shall inspect repaired area.

11-19. FABRICATION.

11-20. EQUIPMENT BAG. To make the equipment container or bag for the SRU-A/P99S-1 4-Man Cold Weather Survival Kit, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	1000 Denier Heavyweight Cordura Bright Yellow, 60-Inch Wide	Unitex East Coast (800) 556-7254 Unitex West Coast (800) 456-6282
	-or-	
	Cloth, Laminated, Yellow	MIL-C-43006 NIIN 00-926-1587
48 Inches	Chain, Interlocking, Fastener Slide 120-Inch, Medium Heavy Duty, Olive Drab	V-F-106 NIIN 00-281-4778
	-or-	

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Materials Required (cont)		
Quantity	Description	Reference Number
48 Inches	Chain, Interlocking, Fastener Slide 108-Inch, Medium Heavy Duty, Green -or-	V-F-106 NIIN 00-281-3052
48 Inches	Chain, Interlocking, Fastener Slide 72-Inch, Medium Heavy Duty, Olive Drab	V-F-106 NIIN 00-286-3175
2	Stop, Interlocking Slide Fastener, Open, Medium Heavy Duty	V-F-106 NIIN 00-276-4939
1	Stop, Interlocking Slide Fastener, Closed, Medium Heavy Duty	V-F-106 NIIN 00-472-8679
1	Slider and Pull, Reversible, Wire Stirrup	V-F-106 NIIN 00-547-9998
1	Bead	Salvage from Beaded Handle Assembly (975AS121-11, NIIN 01-120-4752) from LPU-1 or LPU-23 Life Preservers
As Required	Tape, Textile, Type III, 3/4 Inch, Olive Drab -or- Tape, Textile, Type III, 1 Inch, Green -or- Tape, Textile, Type II, 1 Inch, Yellow	MIL-T-5038 NIIN 00-176-8083 MIL-T-5038 NIIN 00-753-6144 MIL-T-5038 NIIN 00-190-0521
As Required	Webbing, Textile, Type XV, 2 Inch, Olive Drab -or- Webbing, Textile, Type II, 1 Inch, Yellow -or- Webbing, Textile, Type VI, 1 3/4 Inch, Olive Drab	MIL-W-4088 NIIN 00-082-2142 MIL-W-4088 NIIN 00-262-1643 MIL-W-4088 NIIN 00-281-3013
As Required	Thread, Size E, Type I, Class A, Yellow -or-	V-T-295 NIIN 00-263-9931

Materials Required (cont)		
Quantity	Description	Reference Number
	Thread, Size E, Type II, Class A, Green	V-T-295 NIIN 00-204-3884
As Required	Seal, Lead	NIIN 00-598-3427
As Required	Wire, Aluminum, 0.032-inch Diameter, Temper 0	QQ-A-225/1 NIIN 00-595-8200
1	Link, Parachute (V-ring)	MS22020-1 NIIN 00-862-5749
1	Snap Hook	MS22018 NIIN 00-875-1861

1. Preparation of Fabric Pieces.

NOTE

All cut webbing ends shall be seared. All stitching shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch. All stitching shall be 3/8 inches from fabric edge. Stitching shall be 1/8 inches from edge of webbing, back stitching or overlap stitching a minimum of 1 inch unless otherwise directed.

a. Cut fabric into the following pieces:

Top/Bottom Panel (1)	40 x 19-1/4 Inches
Slide Fastener Panel (1)	10 1/4 x 50 Inches
Baffle Strip (1)	2 3/8 x 47 Inches
Handle Reinforcement Panel (1)	3 x 12 Inches

b. Layout panel sides of kit bag. Mark all centers on all sides of panel (figure 1-2):

(1) Top/Bottom Panel – 19 1/4 Inch edge is the top.

(2) Slide Fastener Panel – 50 Inch edges are on top and bottom.

2. Fabrication of Slide Fastener Panel.

a. Remove 1 inch of chain teeth from each end of 48 inch slider chain. Install slide fastener pull tab and install top/bottom stops at each end of the chain teeth.

b. Fold slide fastener in half and mark the middle.

c. From top side of slide fastener panel, measure down 2 inches on each side and make a mark on the slide fastener panel. Make a mark 1 inch in from each side of the 2 inch marks (figure 1-3).

d. If the slide fastener pull tab has a pull tab on each side, remove and discard one.

e. Ensure slide fastener pull tab is laying against the slide fastener panel and align the slide fastener tape ends with the 1 inch marks made in step c above.

f. Sew a single row of stitches 1/16 inch from around the outside edge of the slide fastener tape (boxstitch) (figure 1-3).

g. Turn slide fastener panel over and cut center slit in the opening (figure 1-3).

h. Fold cut edges under and sew a single row of stitches 1/16 inch from the folds around slide fastener (boxstitch) (figure 1-3).

i. Bind baffle strip edges with 3/4 inch binding tape or inch webbing (figure 1-4).

j. Turn slider fastener panel over with inside up. Center baffle strip over slide fastener with one edge along top edge of slide fastener tape (figure 1-4).

k. Sew a single row of stitches 1/8 inch from the top edge of the baffle strip (figure 1-4).

3. Fabrication of Slider/Thong Assembly.

a. Cut and sear 8 inches piece of 3/4 inch webbing. Fold end of webbing and insert through opening on end of pull tab. Fold in half lengthwise.

b. Box stitch 1/2 x 1 3/8 inches rectangle 3/4 inch from fold of webbing on pull tab end. Thread webbing through handle bead and move bead close to slide.

c. With webbing ends together, fold ends two times 3/8 inch and sew two rows of stitches 1/8 inch from the webbing edge. Move bead close to fold (figure 11-5).

4. Fabrication of Webbing Stop/Hold.

a. Cut 2 pieces 1 inch yellow webbing 9 inches long, one for each end of slide fastener.

b. Fold into 4 inch loop and fold 1 inch end under loop end. Center webbing over end of tuck at each slide fastener end. Position open loop facing away from slide fastener.

c. Sew in place using a 3/4 x 3/4-inch crossbox stitch (figure 1-6).

5. Fabrication of Slide Fastener Panel Handle.

a. On inside of slide fastener panel, mark center lines long and wide enough for placement of 3 x 12 inches reinforcement panel. Position center of reinforcement panel on top of slide fastener length-wise on panel center. Sew in place with one row of stitches.

b. On outside of slider, mark center lines for handle position. On the slide fastener panel lengthwise centerline, measure and mark 3 inch and 4 1/2 inches on both sides of slider panel center for handle sew down points.

c. Cut a 13 inch piece of Type VI webbing and make a mark 3 inch from each end. Fold in half lengthwise and mark the center of the webbing. At the fold measure 7/16 inch on both sides of the centerline of the webbing and mark to form a 7/8 inch measurement. Fold webbing in 3 mark to form a 7-inch handle grip (figure 11-7). Sew in the stitching to hold the handle. Fold 3 inch end in half to form a 1 1/2 inch fold at each end of the webbing handle. Center handle on slide fastener panel and sew handle to panel using a 1 1/4 x 1 1/2-inches crossbox stitch on each end of the handle (figure 11-7).

6. Fabrication of Top/Bottom Fabric Panel.

a. From top edge of top/bottom panel, measure and mark sew lines 1 inch and 2 6/12 inches down for retention webbing. On both side edges, measure and mark 3 inches and 4 3/4 inches sew lines for suspension straps.

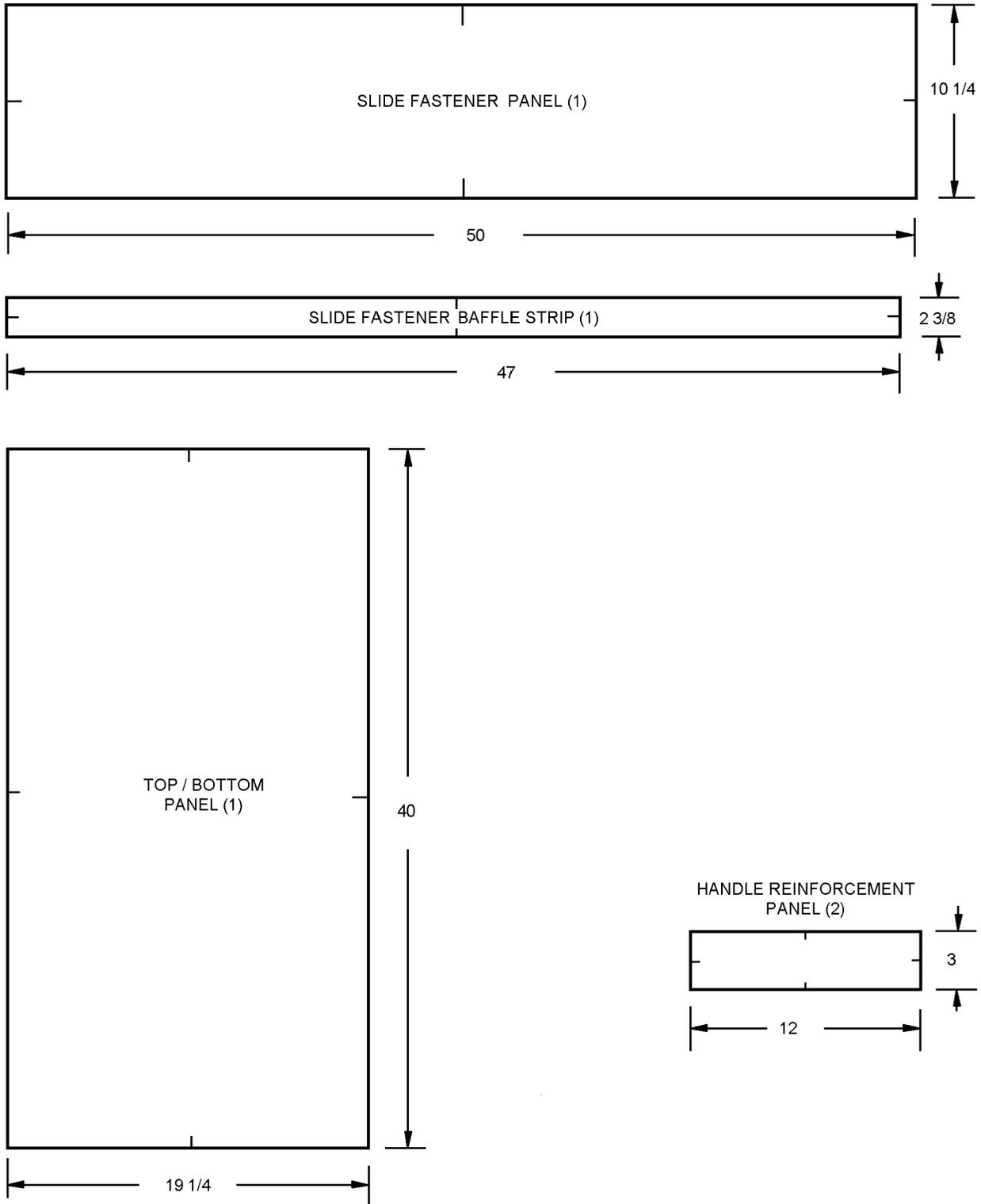


Figure 11-2. 4-Man Survival Kit Bag Fabric Panel Dimensions

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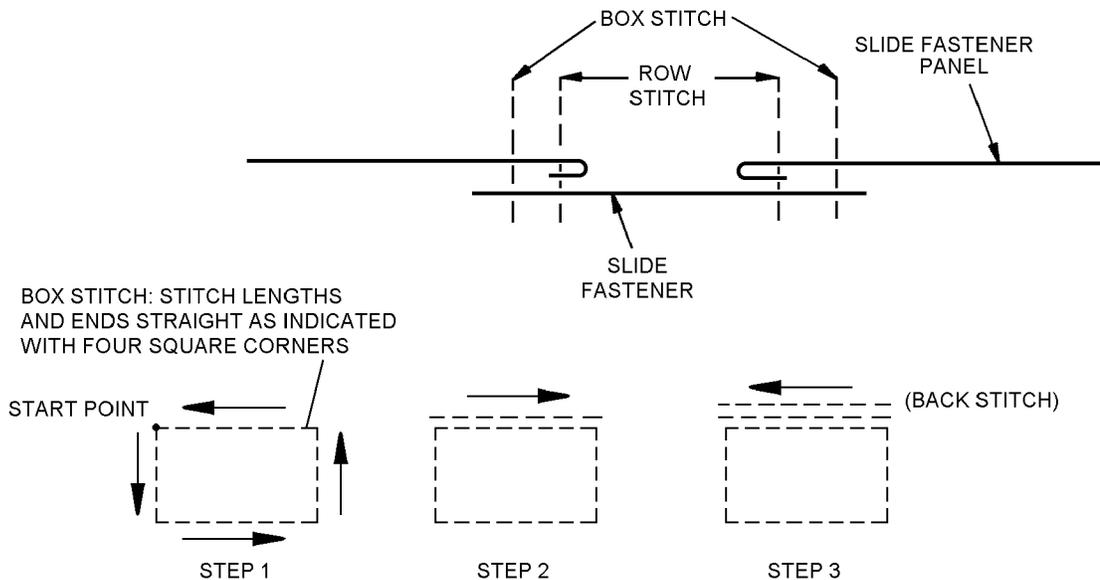


Figure 11-3. 4-Man Survival Kit Bag Slide Fastener Assembly

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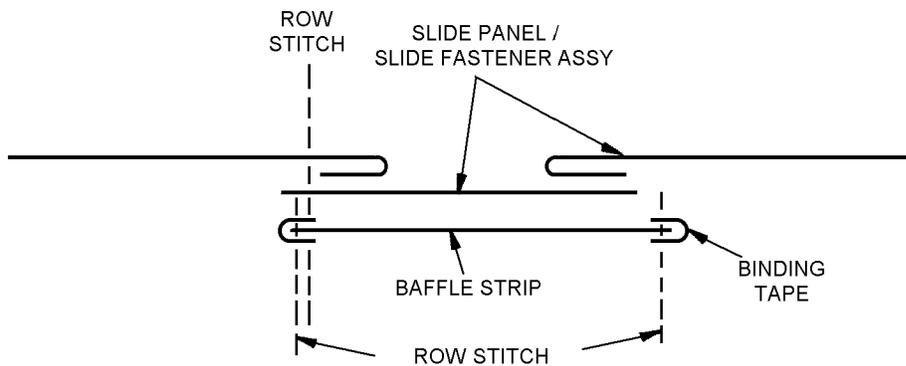


Figure 11-4. 4-Man Survival Kit Bag Baffle Strip Assembly

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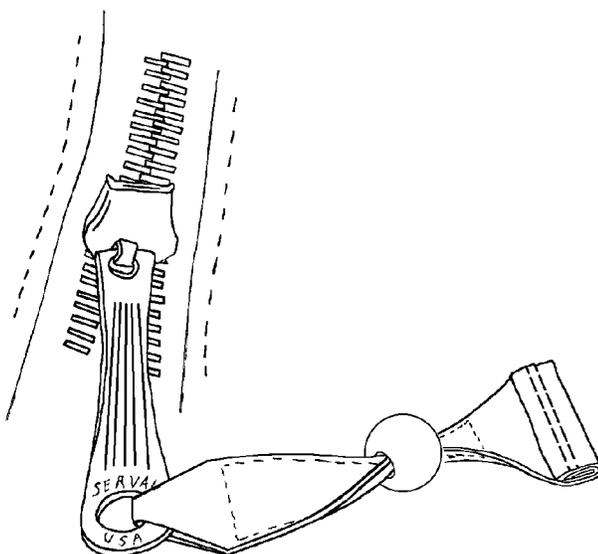
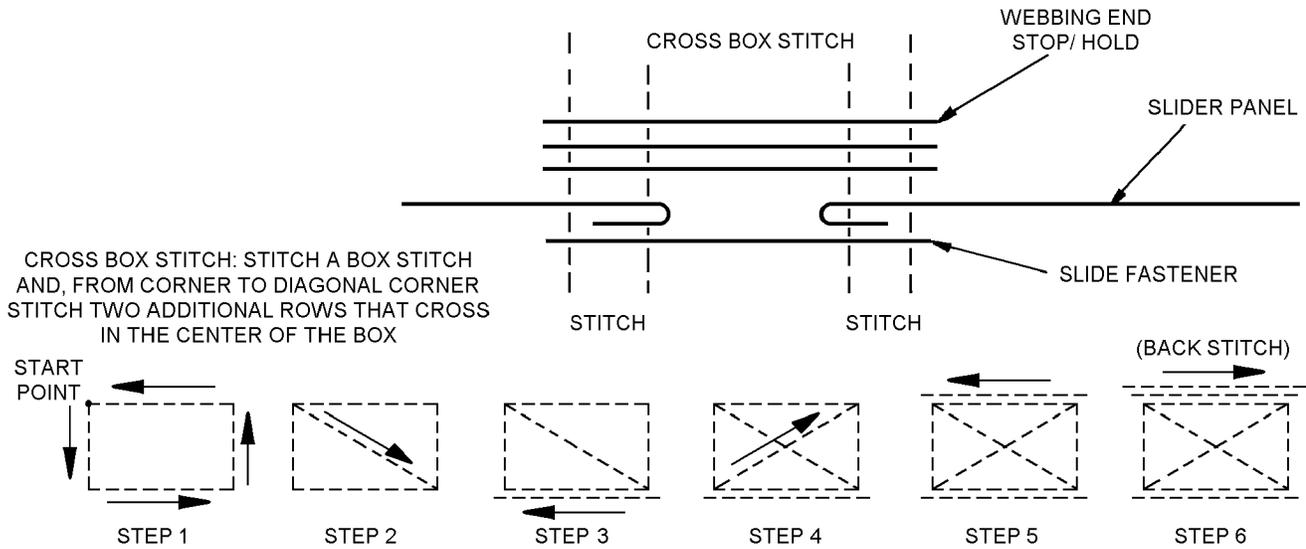


Figure 11-5. 4-Man Survival Kit Bag Slider/Thong Assembly

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Figure 11-6. 4-Man Survival Kit Bag Webbing Stop/Hold Assembly

b. Cut 115 inches of Type VI suspension webbing, fold in half, slide parachute link V-ring to center fold. Measure and mark 2 1/4 inches from link bar.

c. With link in place spread webbing legs apart to form a "V" at the 20 1/4 inch point (figure 11-8). Sew two rows of stitches at the webbing "V". Measure 14 inches along both legs from link base and lay webbing on the top/bottom panels as shown on figure 11-8. Mark panel for webbing placement. Place webbing on panel and sew each outside edge of the webbing at the 25 1/2 inch marks, using a box stitch.

d. Position one loose end of suspension webbing evenly on top of the other loose end, ensuring there are no twists in the webbing. Starting at the end of the joined pieces of webbing sew a 10 inch long box stitch in the webbing. At the 10-inch mark sew a 1 1/2 x 1 1/2 inch crossbox stitch.

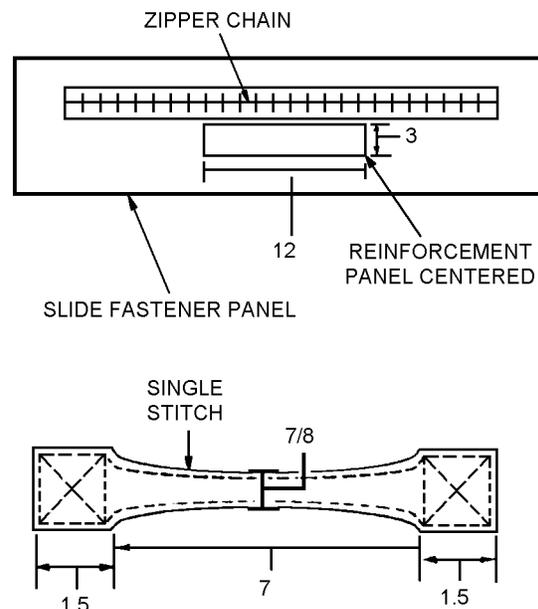
e. Cut 2 pieces Type VI retention webbing 20 inches long. Place 1 piece of webbing at the 1 inch sew line as in figure 11-8 and sew in place using a box stitch. Place other piece of webbing at the 26 1/2 inch sew line as in figure 11-8 and sew in place using a box stitch. Crossbox stitch each intersection of suspension webbing (figure 11-8).

7. Final Assembly.

a. Align top length of slide fastener panel inside out with parachute link/top panel inside out. While noting all center marks, sew panels together, ensuring a minimum of 3/8 inch hem line.

b. Bind all panel edges with 3/4 inch or 1 inch binding tape.

c. Turn kit bag right side out. Weave 10 inches (Type VI) sewn webbing suspension strap through quick release adjustment buckle. Be sure hook of snap faces survival kit bag. Fold webbing end 2 times to equal 3/4 inch fold, and triple stitch lengthwise center folded webbing (figure 11-9).



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Figure 11-7. 4-Man Survival Kit Bag Handle Assembly

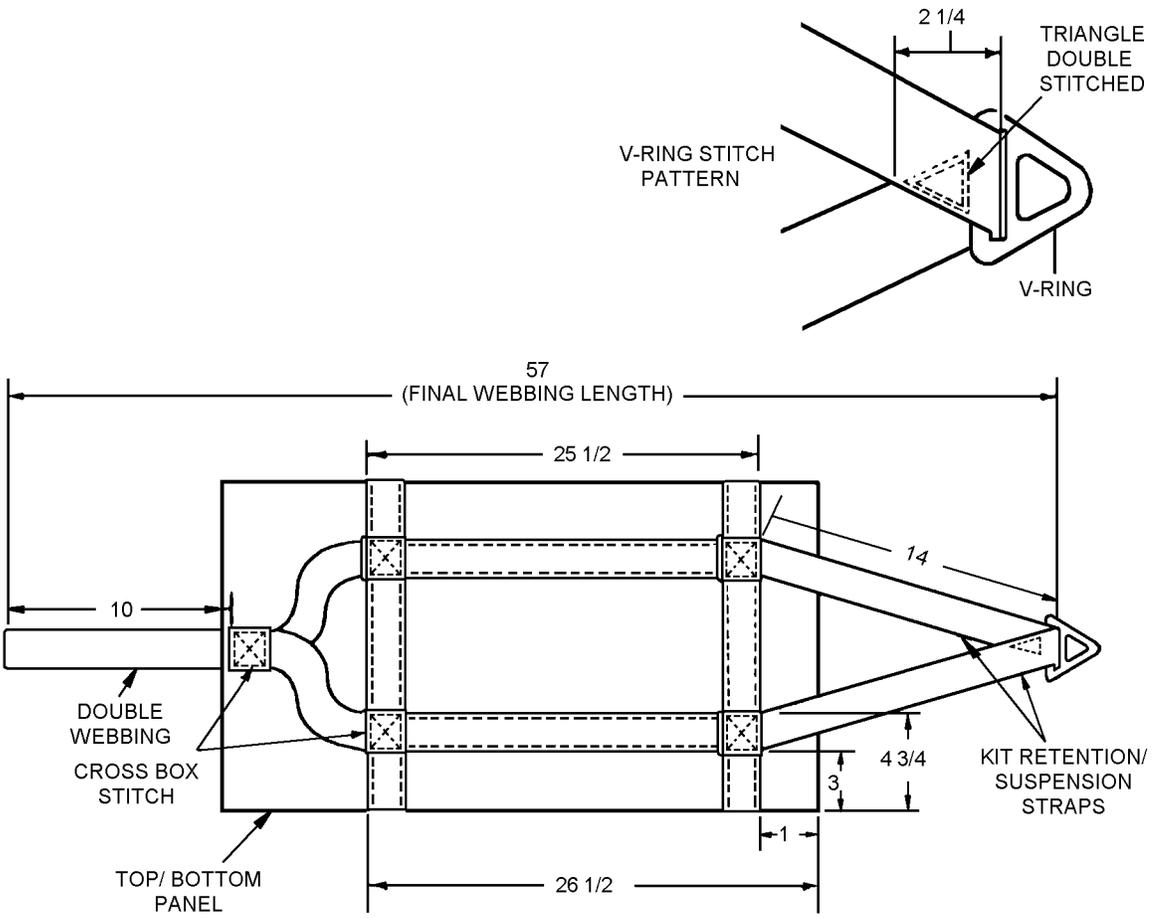


Figure 11-8. 4-Man Survival Kit Bag Suspension Strap Assembly

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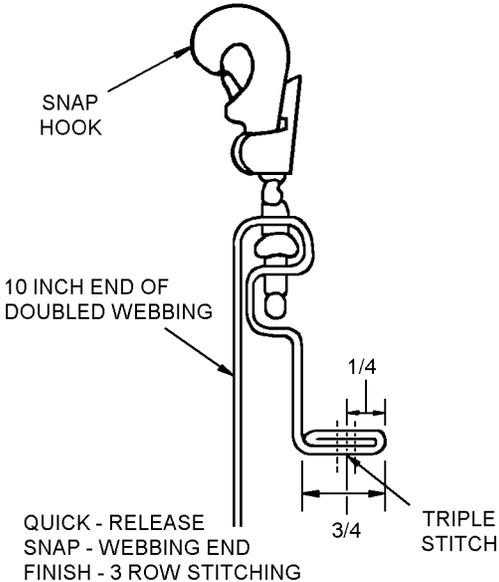


Figure 11-9. 4-Man Survival Kit Bag Final Assembly

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11-21. LIGHTWEIGHT EXTREME WEATHER SHELTER PROTECTIVE COVER. To make the protective cover for the 4-man kit, lightweight extreme weather shelter, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	1000 Denier Heavy Weight Cordura Bright Yellow, 60 Inch Wide	Unitex East Coast (800) 556-7254 Unitex West Coast (800) 456-6282
As Required	Webbing, Textile, Type IV, Yellow, 1 1/2 Inch	MIL-W-17337A NIIN 00-262-1665
As Required	Cord, Nylon, Type II, Olive Drab	MIL-C-7515D NIIN 00-782-5415

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Materials Required (Cont)

Quantity	Description	Reference Number
As Required	Thread, Size E, Type I, Class A, Yellow	V-T-295 NIIN 00-263-9931
	or	
	Thread, Size E, Type II, Class A, Green	V-T-295 NIIN 00-204-3884
1	Barreloc 1/4 Inch Cord	302-0000 (Not EIL)

Notes: 1. May be ordered from:

J. O. King, Inc.
8041-B Arrowridge Blvd.
Charlotte, NC 28273
(800) 333-5058

1. Preparation of fabric pieces.

NOTE

All raw edges of material, webbing and nylon cord ends shall be seared. Cordura fabric shall be seared using a searing machine. All stitching shall be in accordance with ASTM-D-6193, Type 301 lockstitch, 7 to 10 stitches per inch. All stitching shall be 1/2 inch from fabric edge. Back stitch or overlap stitches a minimum of 1/2 inch unless otherwise directed.

2. Cut fabric, webbing and cord into the following pieces:

- Cut one 30 3/4 x 31 1/2-inch piece of cordura (main body).
- Cut two 10 1/4-inch diameter circular pieces of cordura (one end piece and one protective cover).
- Cut one 10 1/4-inch piece of Type IV webbing (assist handle).
- Cut one 38 inch length of Type II nylon cord (closure).

3. Mark and draw a horizontal line 1 1/2 inches down from one edge of the 30 3/4-inch side of main body material (this will be the top).

4. Fold fabric in half matching the two 31 1/2-inch sides of main body fabric together, and sew using a 1/2-inch seam. Sew only to the 1 1/2-inch mark. Back stitch 1/2 inch at top and bottom of seam.

5. Sew the 10 1/4-inch piece of webbing (assist handle) across the center of one of the 10 1/4-inch circles with three rows of stitches 1/4 inch in from edge at each end of webbing.

6. Sew the 10 1/4-inch diameter circle, with webbing attached, to bottom of main body using a 1/2-inch seam. Turn right side out.

7. Draw a line on the second 10 1/4-inch circular piece of fabric 1 inch down and 6 inches across. Mark the center on the 6-inch line. Fold fabric in 1/2 inch at each end of the 6-inch mark. Tack folds down at each end of the 6-inch marked line. This will hold the folds in place.

8. Align the center mark on the circular piece with the inside seam on the main body aligning the 6-inch line along the marked 1 1/2-inch line.

9. Place the 38-inch piece of nylon cord so one end lays between the 1 1/2-inch open end of main body seam. Fold the top end of main body down to meet the 1 1/2-inch line and sew two rows of stitches along the 1 1/2-inch mark, 1/4 inch apart. Be sure to route nylon cord through folded top of main body while sewing. The opposite end of cord shall be routed out through opening when sewing of top is complete. Ensure protective cover (circular piece) is attached. Opening for cord shall be towards the inside of protective bag.

10. Sear ends of nylon cord and route through hole in Barreloc. Knot ends of cord using an overhand loop knot.

11. Place tent in bag, pull drawstring tight and slide Barreloc down to secure. Tack both cords together 1 inch from Barreloc using two turns Type E thread single. Tie with a surgeon's knot followed by a square knot.

11-22. RIGGING AND PACKING.

11-23. Unless operational requirements demand otherwise, rigging and packing of the 4-Man Cold Weather Survival Kit shall be accomplished at Organizational Level of maintenance.

11-24. RIGGING AND PACKING PROCEDURES.

Rigging and packing of the 4-Man Cold Weather Survival Kit are accomplished by following these procedures:

1. Perform inspection of survival items in accordance with Section 11-3.

2. The following survival items shall be packed into 2 qt. aluminum pot:

NOTE

A single asterisk (*) denotes items which shall be removed from original plastic wrapping before stowing. A double asterisk (**) denotes items which shall be removed from original cardboard containers before stowing.

Strike Force Striker*	Whistle
Tinder Blocks	Matches*
(2 pkgs at 4/pkg)	Replacement
or	Candles (1 pkg)
(2 pkgs at 12/pkg**)	Rubber Tubing
Nylon Cord (50 Ft)	Plastic Bag
Rationing cups (2)	Mirror

3. Pack the equipment container in accordance with [figure 1-10](#).

4. Miscellaneous survival items may be packed into the survival kit bag in any manner which will be the most space efficient. Miscellaneous items denotes the following:

Thermal Protective Aid	Chemical Heat Packs (10)
Fuel Tabs*	Hand Generated Flashlight**
Ice Screws*	Chemilluminiscent Lights
Ice Pick	Casualty Blankets**
Candle Lanterns	Pocket Cooker*
Pocket Cooker*	
Duct Tape	
Aircrewman's Cape	

11-25. A safety tie shall be installed on the equipment container bag to prevent pilferage and allow visible detection of tampering with kit. The safety tie shall be installed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Wire, Non-electrical	QQ-A-225-1 NIIN 00-595-8200
As Required	Seal, Anti-pilferage	81264 or 835267-00 NIIN 00-598-3427

1. Loop one end of a piece of wire through the webbing loop at the end of the slide fastener of the equipment container bag.

2. Thread wire through pull tab.

3. Thread wire through lead seal, pulling to a 1 inch loop.

4. Crimp lead seal and trim wire flush with seal.

5. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

11-26. Stencil the outside of both the main equipment container and the protective cover for the extreme weather shelter using 1-inch letters and black laundry ink, (TT-I-542) with the following information:

1. Mark the top of main equipment container with:

4-MAN COLD WEATHER KIT
P/N: SRU-A/P99S-1
S/N:

2. Mark the side of the protective tent cover with:

4-MAN COLD WEATHER KIT, LIGHTWEIGHT
EXTREME WEATHER SHELTER
P/N:
S/N:

11-27. STOWING COLD WEATHER SURVIVAL KIT IN AIRCRAFT. To stow the 4-Man Cold Weather Survival Kit in aircraft, refer to local squadron procedures.

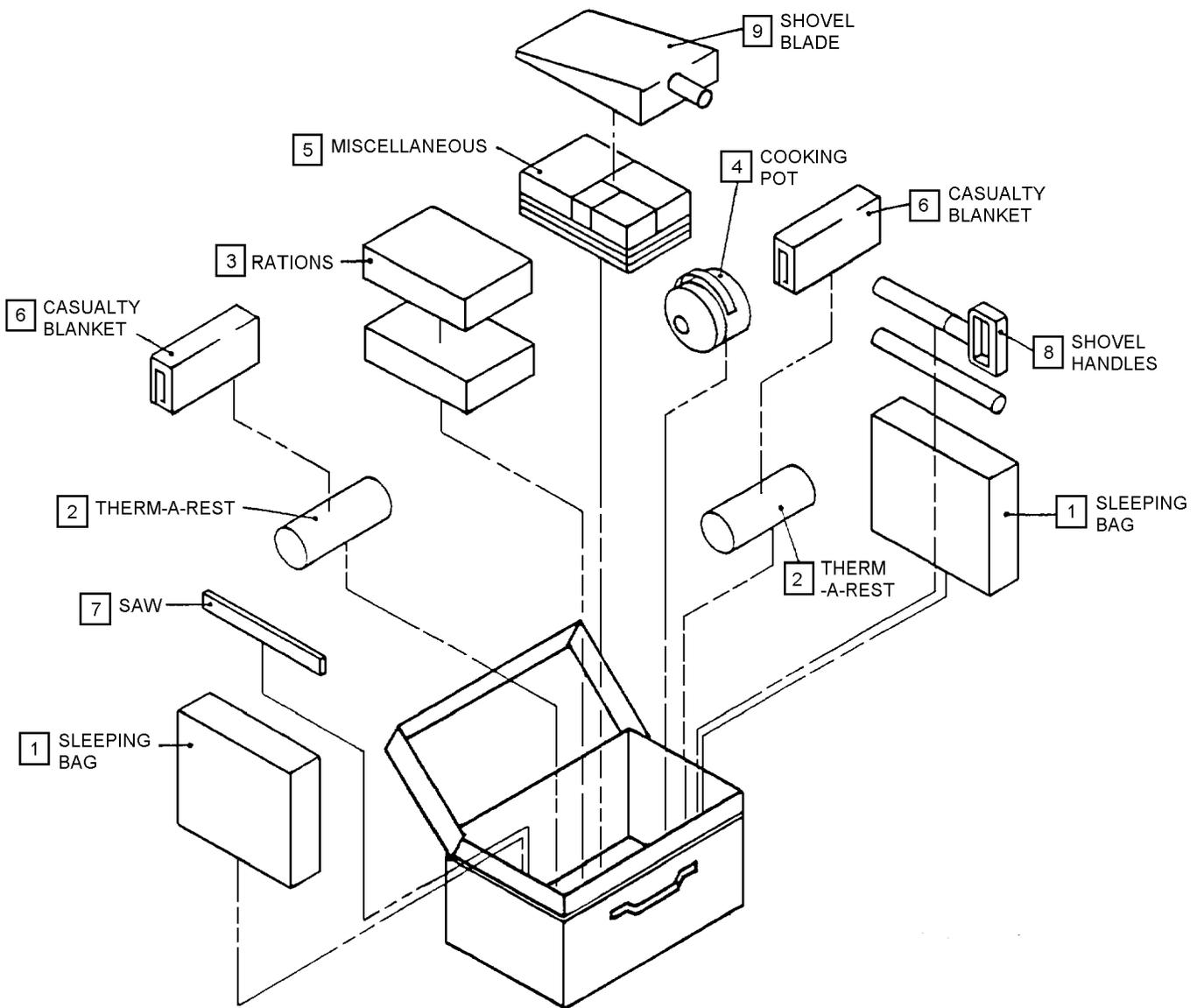
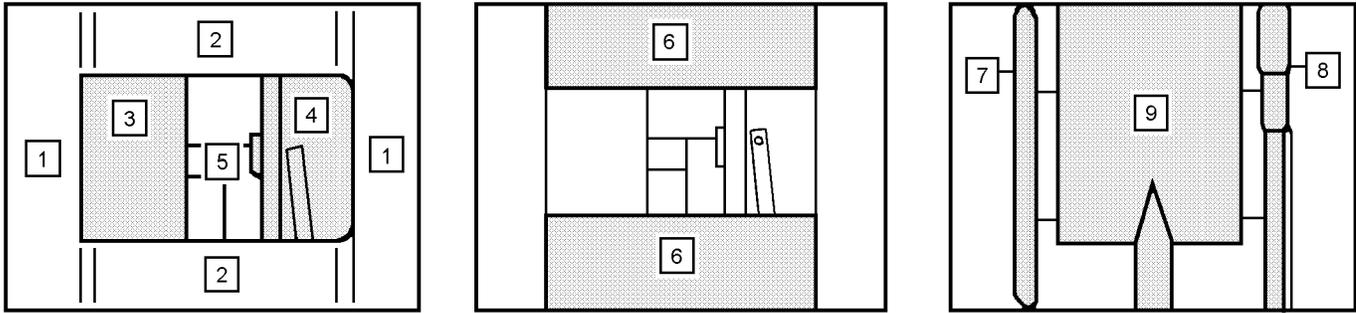


Figure 11-10. 4-Man Cold Weather Survival Kit Packing Diagram

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Section 11-2. SRU-A/P99S-2 12-Man Cold Weather Survival Kit

11-28. DESCRIPTION.

11-29. The 12-Man Cold Weather Survival Kit (figure 11-11) is designed to be stowed onboard non-ejection seat aircraft. It is intended for use by twelve aircrew members for land survival situations where average monthly over land temperatures do not exceed 50°F.

11-30. CONFIGURATION.

11-31. The basic survival items packed in the 12-Man Cold Weather Survival Kit are listed in table 11-2. These items are intended to support twelve survivors.

NOTE

The quantity and type of survival items may be varied at the discretion of the Type Commander to suit operational environment. Components of the 12-Man Cold Weather Survival Kit which are not available through supply shall be obtained through local purchase.

11-32. APPLICATION.

11-33. The 12-Man Cold Weather Survival Kit is intended to be stowed onboard non-ejection aircraft as an emergency cold weather survival kit. The items in the kit are in quantities to provide a minimum of 72 hours of additional protection for twelve aircrewmembers in extreme cold weather climates.

11-34. MAINTENANCE.

11-35. Maintenance or repair operations shall be performed by Organizational Level maintenance or above. Maintenance shall be limited to inspection and minor repairs indicated in paragraph 11-40.

11-36. INSPECTION. All 12-Man Cold Weather Survival Kits shall be subjected to Preflight/Postflight, Special and Place-In-Service Inspections.

NOTE

Cold weather survival kits that have been stored during the warm seasons will require a Place-In-Service Inspection prior to returning to service for each cold weather season. During periods of storage, cold weather survival kits shall be stored in a cool dry place.

11-37. Preflight/Postflight Inspection. This inspection is a Visual Inspection performed by the flight crew prior to and after each flight daily and consists of the following:

1. Inspect for integrity of survival kit bag.
2. Inspect security of survival kit closure.
3. Security of attachment of 12-Man Cold Weather Survival Kit to aircraft.

11-38. Special Inspection (30-Day). A 30-Day Special Inspection shall be performed by Organizational Level maintenance on all in-service cold weather survival kits. Perform the 30-Day Special Inspection as follows:

1. Inspect for rips, stains, and loose or frayed stitching on containers.
2. Inspect condition of webbing for wear and fraying.
3. Inspect for loose or missing snaphooks.
4. Inspect snaphooks for ease of operation and corrosion.

11-39. Place-In-Service and 360-Day Special Inspection. The Place-In-Service and 360-Day Special Inspections shall consist of the tasks required for the 30-Day Special Inspection as well as a complete inspection and inventory of each survival kit. Inspect survival items in accordance with Section 11-3. Repair or replace as required. Assemble kits in accordance with paragraph 11-50.

NOTE

All stitches shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch. Overstitch minimum 1/2-inch.

11-40. REPAIR AND REPLACEMENT.

11-41. Repair of Holes or Tears in Equipment Container Bag.

Materials Required

Refer to paragraph 11-47, Materials Required.

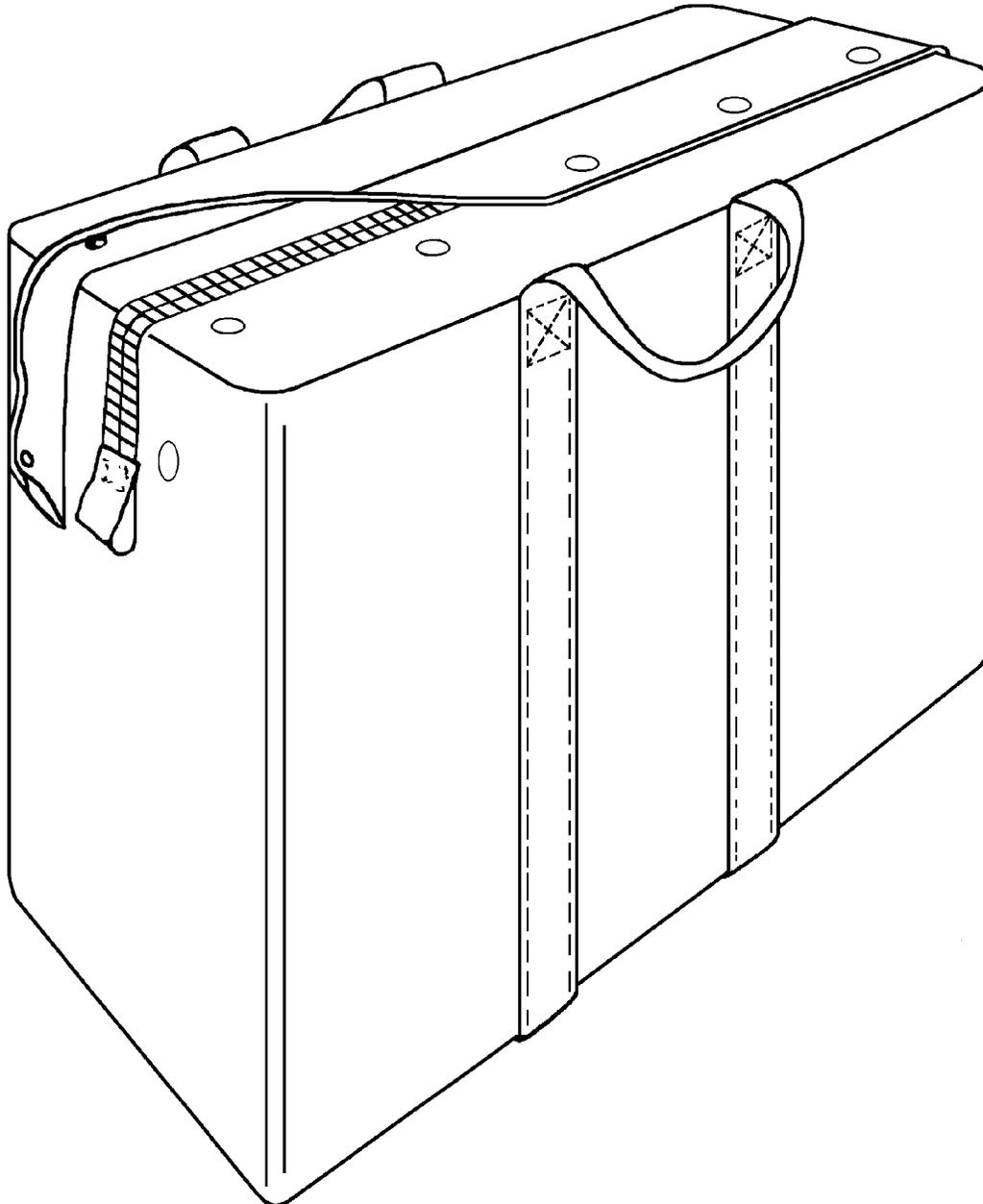


Figure 11-11. SRU-A/P99S-2 12-Man Cold Weather Survival Kit

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1. All tears and holes shall have a square or rectangular patch installed on the inside and outside of the defective area.

2. Lay inside of torn or hole area on a flat smooth surface and outline area to be patched using a regular or tailor's chalk with a minimum margin around the torn or hole area of 1 1/2 inches.

3. Cut cordura cloth 1/2 inch larger than the margin made in step 2.

4. Fold the cloth under 1/2 inch on all sides of the repair cloth. Straight pin as necessary.

5. Lay patch over the area made in step 2. There shall be no folds of cloth or pleats. Straight pin as necessary.

6. Sew a row of stitches 1/8 inch from the folded edge of the cordura cloth and another row 1/4 inch in from the first row of stitches, there shall be no folds in the cloth or pleats.

Table 11-2. Survival Equipment – 12-Man Cold Weather Survival Kit

Description	Quantity	Reference Number
Mirror, Emergency Signaling	1	NIIN 00-105-1252, MIL-M-18371
Lights, Chemilluminescent, Green	3	NIIN 01-074-4229, A-A-55134
Lights, Chemilluminescent, Red	3	NIIN 01-178-5559, A-A-55134
Lights, Chemilluminescent, IR	3	NIIN 01-195-9752, 908019
Strike Force Striker	1	Survival Inc. 2633 Eastlake Ave. East Suite 103 Seattle, WA 98102 (206) 726-9363 (888) 237-3239 1WG0411-BX
Tide Blocks (Not E.P.)	4	Survival Inc. 2633 Eastlake Ave. East Suite 103 Seattle, WA 98102 (206) 726-9363 (888) 237-3239 1WG0412-BX
Lifeboat Matches	1	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 SA30435
Aluminum Candle Lantern	2	Peregrine Outfitters 105 S. Brownell Rd Williston, VT 05495 (800) 222-3088 I002
Replacement Candles	2	Peregrine Outfitters 105 S. Brownell Rd Williston, VT 05495 (800) 222-3088 I008
Fox 40 Whistle	1	NIIN 01-447-8766, FOX40CLASSIC
Tubing, Nonmetallic	6 ft	NIIN 01-345-2256, MO-062
Ration, Cold Weather	4	NIIN 01-267-5864, MIL-R-44277
Ultima Thule Sleeping Bag	6	Wiggy's Inc. 2482 Industrial Blvd. P.O. Box 2124 Grand Junction, CO 81502 (303) 241-6465 (800) 748-1827 WIG20UL
Blanket, Casualty	6	NIIN 00-935-6665, MIL-B-36964
Pocket Cooker	2	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 MSC40

Table 11-2. Survival Equipment – 12-Man Cold Weather Survival Kit (Cont)

Description	Quantity	Reference Number
Hexamine Solid Fuel Tabs	1	Brigade Quartermasters 1025 Cobb International Blvd. Kennesaw, GA 30152-4300 (800) 338-4327 TFB97
2 Qt Aluminum Pot w/Lid and Handle	2	Campmor P.O. Box 700 Saddle River, NJ 07458-0700 (888) 226-7667 82008
Rationing Cup 8 oz	6	Campmor P.O. Box 700 Saddle River, NJ 07458-0700 (888) 226-7667 81911
Survival Saw, 15" Blade	1	Recreational Equipment Inc. 1700 45th St. East Sumner, WA 98390 (800) 258-4567 K404-040
Telescoping Shovel	2	Exploration Products, Inc. 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 550083
Bag, Plastic, 32 Gal	3	NIIN 01-183-9769, A-A-1668
Cape, Aircrewmember (Note 3)	3	NIIN 01-040-9018, 3211
Tape, Duct	1 Roll	NIIN 00-103-2254, A-A-2231
Ice Screws, Titanium	4	Exploration Products 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 P/N 550166
Chemical Heat Packs	20 pr	NIIN 01-395-3018 or Grabber 4600 Danvers Dr. SE Grand Rapids, MI 49512 (616) 940-1914 (800) 423-1233 G-28
Cord, Fibrous, Type 3, Nat.	100 ft	NIIN 00-240-2146, MIL-C-5040
Ice Pick	1	Exploration Products 3924 Irongate Rd. Suite C Bellingham, WA 98226 (800) 448-7312 810001

Table 11-2. Survival Equipment – 12-Man Cold Weather Survival Kit (Cont)

Description	Quantity	Reference Number
Lightweight Extreme Weather Shelter	2	Johnson Camping 625 Conklin Rd. P.O. Box 966 Binghamton, NY 13902 (607) 779-2222 EXT 329 2628911 or The North Face, Inc. 407 Merrill Ave. Carbondale, CO 81623 (970) 704-2300 VE-25
Kit Bag, Flyer's	1	NIIN 00-606-8366
Flashlight, Hand Generated (Optional)	1	NIIN 00-283-9806, MIL-L-8209, Type A9
<p>Notes: 1. If space permits after packing, additional quantities of above listed items may be added to the kit. 2. Tinder blocks are of the same chemical composition as cubes authorized in original message. However, they are now sold in packages of four larger cubes in a slightly different wrapper. Leave cubes in outer-most wrapping. Do not individually unwrap cubes. Two packages of the four-pack may be purchased to replace originally authorized 12 tinder cubes. 3. Aircrewmember's cape can be substituted for the 32 gal. plastic bag.</p>		

7. Lay outside of torn or hole area on a flat smooth surface and outline area to be patched using regular or tailor's chalk with a minimum margin around the torn or hole area of 2 inches.

8. Cut cordura cloth 1/2 inch larger than the measurement made in [step 7](#).

9. Fold 1/2 inch under on all sides of the repair cloth. Straight pin fold as necessary.

10. Lay a patch on the area made in [step 7](#). Straight pin patch as necessary.

11. Sew a row of stitches 1/8 inch from the folded edge of the cordura cloth and another row 1/4 inch in from the first row of stitches, there shall be no folds in the cloth or pleats.

12. Quality assurance shall inspect repaired areas.

11-42. Repair of Loose and/or Broken Stitches in Equipment Container Bag. Loose and/or broken stitches shall be repaired by using thread identified in [paragraph 11-47](#).

1. Stitching shall start at a minimum of 1/2 inch prior to the loose and/or broken stitching and continue

a minimum of 1/2 inch after the loose and/or broken stitching.

2. Quality assurance shall inspect repaired areas.

11-43. Repair of Torn/Worn or Frayed Webbing or Tape.

NOTE

Webbing or tape shall be considered repairable if the torn/worn or frayed area is 5 inches or less.

1. Use the same type webbing used in manufacturing ([paragraph 11-47](#)).

2. Cut webbing 6 inches larger than defective area.

3. Fold 1 inch back on each end of webbing.

4. With folds facing the defective area place cut piece of webbing on the defective area.

5. Webbing shall extend 2 inches beyond torn/worn or frayed area on both ends.

6. Sew a box stitch 1/8 inch from the edge of the webbing.

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7. Quality assurance shall inspect repaired areas.

11-44. Replacement of Snap Hooks. Defective/corroded snap hooks (MS22018) shall be removed and replaced. Quality assurance shall inspect repaired area.

11-45. Replacement of Slide Fasteners. Defective/corroded slide fastener shall be removed and replaced. Refer to paragraph 1-47 for installation procedure. Quality assurance shall inspect repaired area.

11-46. FABRICATION.

11-47. EQUIPMENT BAG. To make the equipment container for the SRU-A/P99S-2 12-Man Cold Weather Survival Kit, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	1000 Denier Heavyweight Cordura Bright Yellow, 60 Inch wide	Unitex East Coast (800) 556-7254 Unitex West Coast (800) 456-6282
	Cloth, Laminated, Yellow	MIL-C-43006 NIIN 00-926-1587
48-Inches	Chain, Interlocking, Fastener Slide 120 Inches, Medium Heavy Duty, Olive Drab	V-F-106 NIIN 00-281-4778
	-or-	
48-Inches	Chain, Interlocking, Fastener Slide 108 Inches, Medium Heavy Duty, Green	V-F-106 NIIN 00-281-3052
	-or-	
48-Inches	Chain, Interlocking, Fastener Slide 72 Inches, Medium Heavy Duty, Olive Drab	V-F-106 NIIN 00-286-3175
2	Stop, Interlocking Slide Fastener, Open, Medium Heavy Duty	V-F-106 NIIN 00-276-4939
1	Stop, Interlocking Slide Fastener, Closed, Medium Heavy Duty	V-F-106 NIIN 00-472-8679

Materials Required (Cont)

Quantity	Description	Reference Number
1	Slider and Pull, Reversible, Wire Stirrup	V-F-106 NIIN 00-547-9998
1	Bead	Salvage from Beaded Handle Assembly (P/N 975AS121-11, NIIN 01-120-4752) from LPU-1 or LPU-23 Life Preservers
As Required	Tape, Textile, Type III, 3/4 Inch, Olive Drab	MIL-T-5038 NIIN 00-176-8083
	-or-	
	Tape, Textile, Type III, 1 Inch, Green	MIL-T-5038 NIIN 00-753-6144
	-or-	
	Tape, Textile, Type II, 1 Inch, Yellow	MIL-T-5038 NIIN 00-190-0521
As Required	Webbing, Textile, Type XV, 2 Inches, Olive Drab	MIL-W-4088 NIIN 00-082-2142
	-or-	
	Webbing, Textile, Type II, 1 Inch, Yellow	MIL-W-4088 NIIN 00-262-1643
	-or-	
	Webbing, Textile, Type VI, 1-3/4 Inch, Olive Drab	MIL-W-4088 NIIN 00-281-3013
As Required	Thread, Size E, Type I, Class A, Yellow	V-T-295 NIIN 00-263-9931
	-or-	
	Thread, Size E, Type II, Class A, Green	V-T-295 NIIN 00-204-3884
As Required	Seal, Lead	NIIN 00-598-3427
As Required	Wire, Aluminum, 0.032-inch Diameter, Temper 0	QQ-A-225/1 NIIN 00-595-8200

Materials Required (Cont)

Quantity	Description	Reference Number
7	Stud, Snap Fastener, Style 8	NIIN 00-276-4934 AN227-8B
7	Socket, Snap Fastener, Style 4	NIIN 00-285-6250 AN227-7B
7	Post, Snap Fastener, Style 4	NIIN 00-276-4978 AN227-9B
7	Cap, Snap Fastener, Style 1	NIIN 00-359-6844 AN227-6B

1. Preparation of Fabric Pieces.

NOTE

All cut webbing ends shall be seared. All stitching shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch. All stitching shall be 3/8 inch from fabric edge. Stitching shall be 1/8 inch from edge of webbing, back stitching or overlap stitching a minimum of 1 inch unless otherwise directed.

a. Cut fabric into the following pieces:

Side/Bottom Panel (1)	23 1/4 x 54-Inches
Slide Fastener Panel (1)	13 1/4 x 64-Inches
Slide Fastener Cover Panel (1)	4 3/4 x 36-Inches
Handle Reinforcement Panel (2)	6 x 9-Inches

b. Layout of panel sides of kit bag. Mark all centers of all edges of panel as follows:

(1) Slide Fastener Panel - center topside for slide fastener placement.

(2) Slide Fastener Cover Panel - lengthwise for center reference.

(3) Side/Bottom Panel - 23-1/4 inch edges.

2. Fabrication of Slide Fastener Panel.

a. Remove 1 inch of chain teeth from each end of 35 inch slider chain. Install slide fastener pull tab and install top/bottom stops at each end of the chain teeth.

b. Fold slide fastener in half and mark center.

c. Fold slide fastener panel in half lengthwise and mark center, fold in half widthwise and mark center (figure 1-13).

d. If the slide fastener pull tab has a pull tab on each side, remove and discard one.

e. Ensure slide fastener pull tab is laying against the slide fastener panel and center the removed chain teeth end areas of the slide fastener tape with the lengthwise centerline marks and align the center of slide fastener widthwise center marks made in step c.

f. Sew a single row of stitches 1/16 inch from around the outside edge of the slide fastener tape. (box-stitch) (figure 1-13).

g. Turn slide fastener panel over and cut center slide fastener opening (figure 1-13).

h. Fold cut edges under and sew a single row of stitches 1/16 inch from the folds around the slide fastener (boxstitch) (figure 1-13).

i. For the webbing end stop/hold, cut 2 pieces, 11 inches long, of Type VI webbing.

j. Fold into 5-inch loop and fold 1-inch end under loop end. Center webbing over end of tuck at each slide fastener end. Position open loop facing away from slider fastener. Sew using a 1 x 1 3/4-inch crossbox stitch (figure 1-13).

3. Fabrication of Slider/Thong Assembly.

a. Cut and sear 8 inch piece of 3/4 inch webbing.

b. Insert end of webbing through opening on end of pull tab and fold in half lengthwise. Box stitch 3/8 x 1 3/8-inch rectangle 3/4 inch from fold of webbing on pull tab end.

c. Thread webbing through handle bead and move bead close to slide. With webbing ends together fold ends two times 3/8 inch and sew two rows of stitches 1/8 inch from the webbing edge. Move bead close to fold (figure 1-14).

4. Fabrication of Slide Fastener Cover.

a. Cut a 2 inch radius on both corners of one lengthwise side of cover then bind all edges with 3/4-inch tape using one row of stitches.

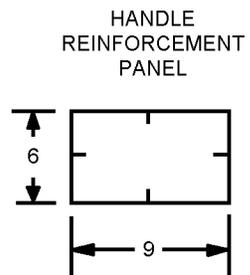
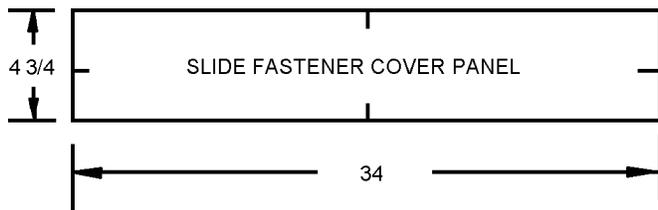
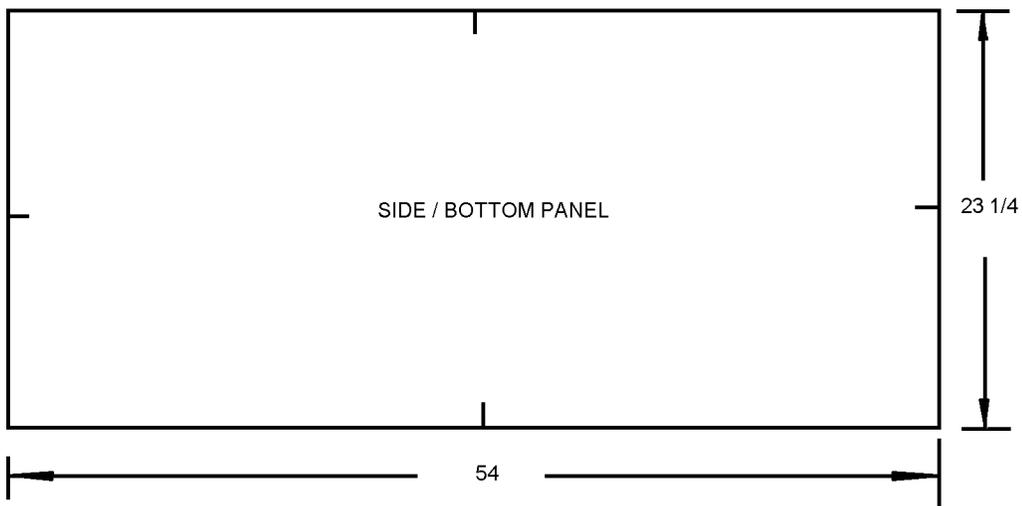
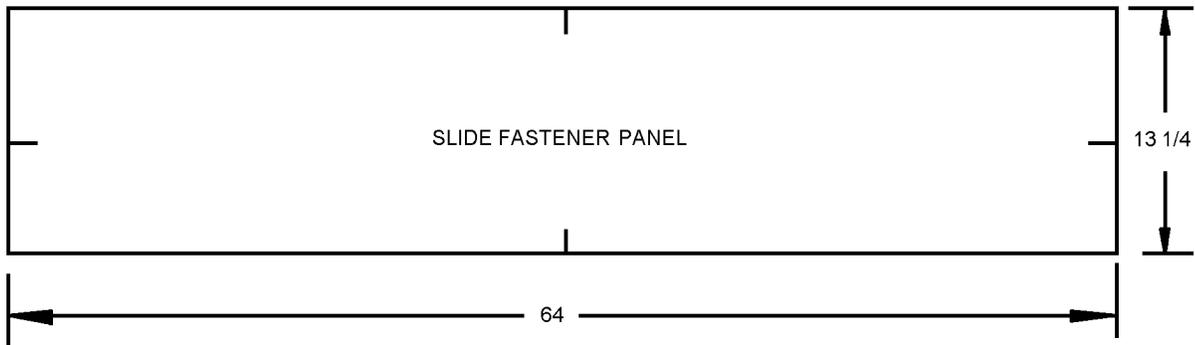


Figure 11-12. 12-Man Survival Kit Bag Fabric Panel Dimensions

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CROSS BOX STITCH: STITCH A BOX STITCH AND, FROM CORNER TO DIAGONAL CORNER STITCH TWO ADDITIONAL ROWS THAT CROSS IN THE CENTER OF THE BOX

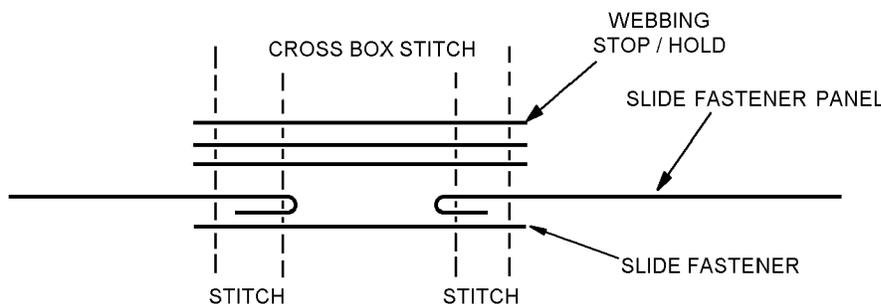
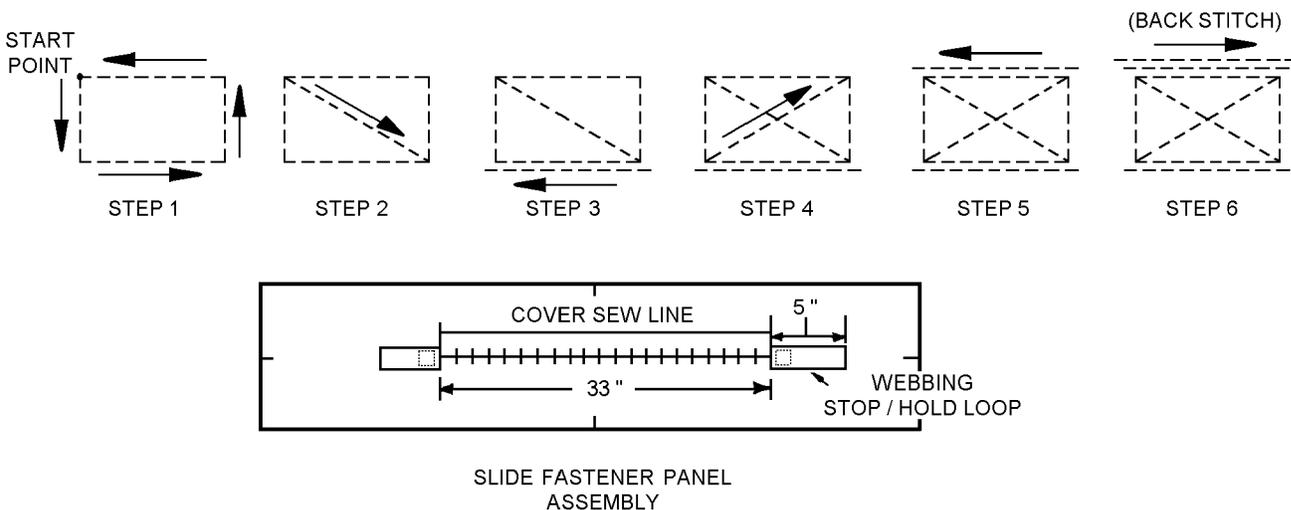


Figure 11-13. 12-Man Survival Kit Bag Slide Fastener Assembly

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b. Beginning at lengthwise center mark, on same side as rounded corners, measure 3/4 inch in from outer edge of slide fastener cover and set one snap (cap and socket, cap on smooth side of panel).

c. Measure 5 1/2 inches each direction from center snap and set snaps. A total of 7 snaps will be set.

d. Measure 1 3/4 inch from stitches on either side of slide fastener. Mark sew line for slide fastener cover. Snaps will be set on the other side of the slide fastener. Position long square side of cover on sew line. Sew 2 rows of stitches on sew line: 1/8 inch from edge and 1/4 inch from first row (figure 11-15). Lay slide fastener cover flat. mark location of snaps and set (studs/eyelets).

5. Fabrication of Side/Bottom Panel Handle Assembly.

a. Lay the side/bottom panel out flat. At the center mark of the 23 1/4-inch edge, match the center of the 9 inch reinforcement panel and sew together with a box stitch on side/bottom panel. Sew the remaining reinforcement panel to the center of the opposite end of the side/bottom panel using a box stitch. Reinforcement panels will be on the inside of the finished bag.

b. Turn side/bottom panel over with reinforcement panels towards the table. Measure 1 3/4 inch in both directions from the center of the 23 1/4-inch side of the panel, for both ends of the panel's 23 1/4-inch sides, and mark these dimensions. Using these four marks, draw two lines parallel to the centerline of the 54-inch length of the panel for the webbing inside sew lines (distance between webbing shall be 3 1/2 inch).

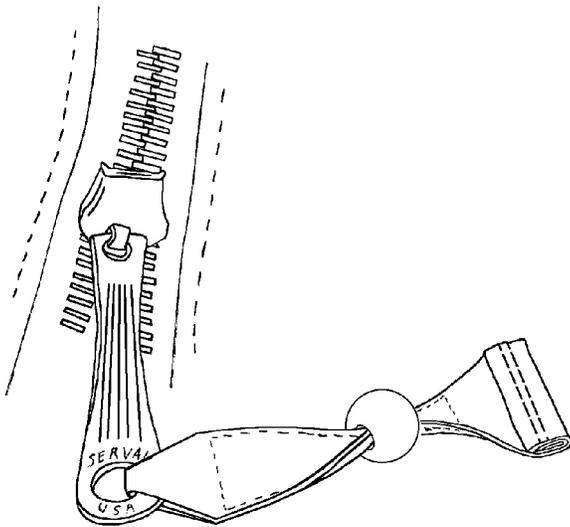


Figure 11-14. 12-Man Survival Kit Bag Slider/Thong Assembly

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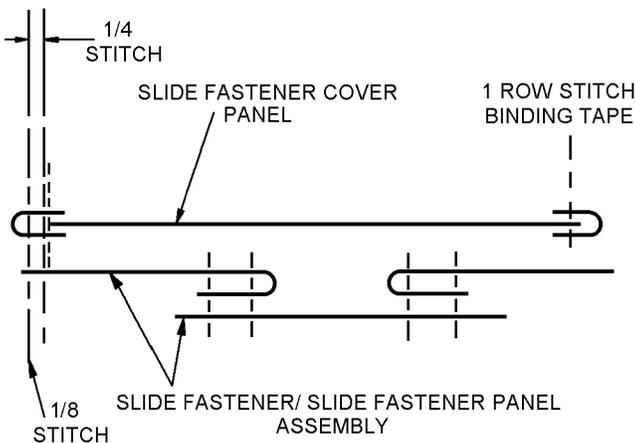


Figure 11-15. 12-Man Survival Kit Bag Slide Fastener Cover Assembly

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c. Each of the two handles shall be made from a 70 inch piece of Type VI or XV webbing, and will be made in the same way. Handle grips shall be 14 inches long. Fold one piece of webbing in half and mark the 35 inch center. Make a mark 7 inch on each side of the

center. At the handle center point, fold one webbing edge to the centerline, with the fold tapering out to the 7 inch marks on the webbing edge. Sew a row of stitches 1/8 inch from the edge of the webbing from one end of the taper to the other. Repeat process for opposite edge of the webbing handle (figure 11-16).

d. Lay end of webbing handle grip stitching on side/bottom panel 3/4 inch inside the panel edge, and lay remainder of webbing along the outside of the sew line made in step 5. a. (figure 11-16). Sew with 3/4 x 2-inch crossbox stitch starting at the 3/4 inch mark. Sew the remainder of the webbing to the side/bottom panel with a box stitch. Sew the other side of the webbing handle and the webbing handle for the opposite end of the side/bottom panel in the same way.

e. Sew a box stitch where the handle webbing free ends overlap at the bottom of the side/bottom panel (figure 11-16).

6. Final Assembly.

a. Fold slide fastener panel and side/bottom panel so all webbing is on the inside. Align center marks of panels. Sew together with 2 rows of stitches 1/4 inch apart forming 3/8-inch hem line.

b. Bind all panel edges with 3/4 inch or 1 inch binding tape. Sew tape to panel edges with a single row of stitches.

c. Turn finished turn kit right side out.

11-48. RIGGING AND PACKING.

11-49. Unless operational requirements demand otherwise, rigging and packing of the Cold Weather Survival Kit shall be accomplished at Organizational Level of maintenance.

11-50. RIGGING AND PACKING PROCEDURES. Rigging and packing of the Cold Weather Survival Kit are accomplished by following these procedures:

1. Perform inspection of survival items in accordance with Section 11-3.

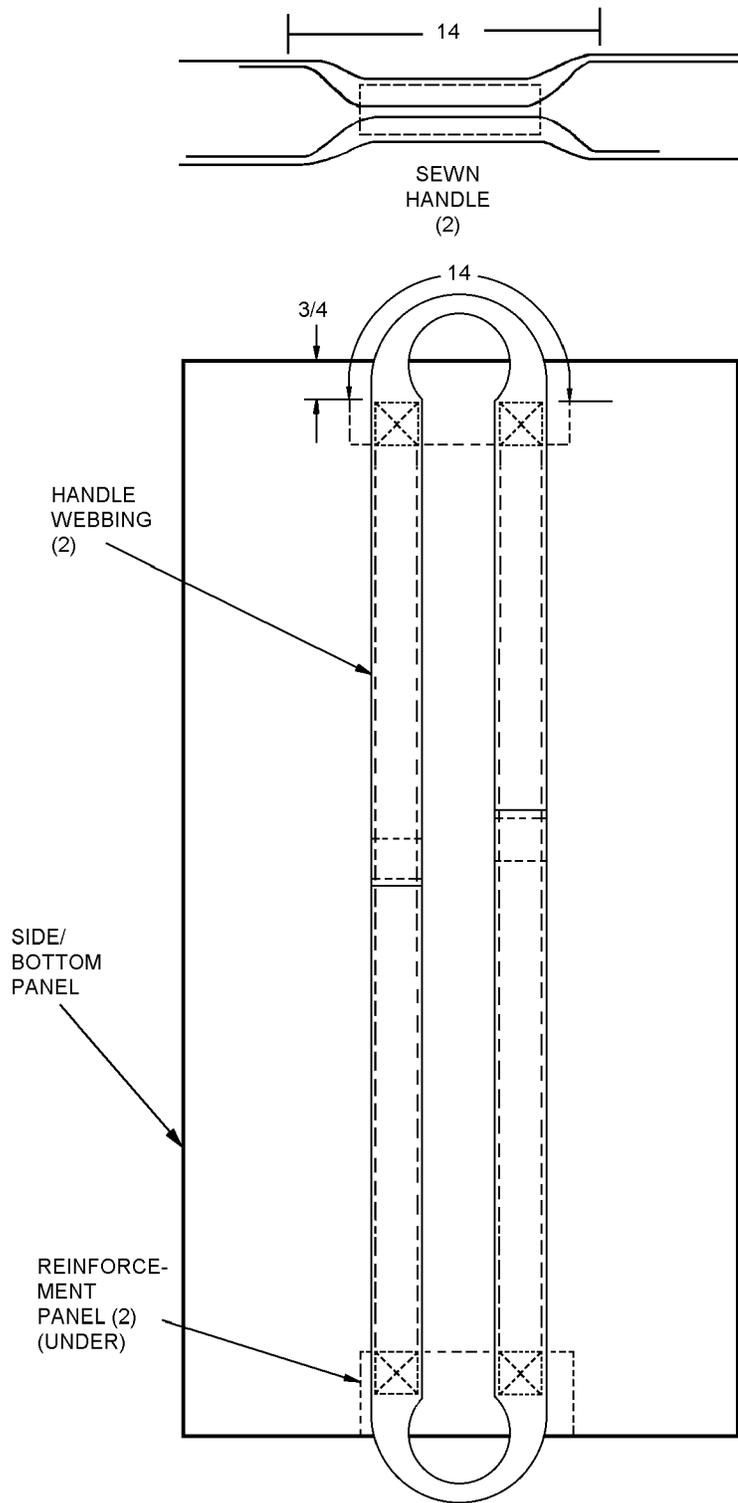


Figure 11-16. 12-Man Survival Kit Bag Side/Bottom Handle Assembly

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2. The following survival items shall be divided and packed into both 2 qt. aluminum pots. Each list denotes the contents of one pot:

NOTE

A single asterisk (*) denotes items which shall be removed from original plastic wrapping before stowing. A double asterisk (**) denotes items which shall be removed from original cardboard containers before stowing.

Pot #1	Strike Force Striker Tinder Blocks, (2 pkgs at 4/pkg) or (2 pkgs at 12/pkg**) Mirror 1 Package Replacement Candles 2 Rationing Cups Rubber Tubing Nylon Cord (50 Ft)
Pot #2	Plastic Bag Matches Tinder Blocks, (2 pkgs at 4/pkg) or (2 pkgs at 12/pkg**) Whistle 1 Package Replacement Candles 2 Rationing Cups Nylon Cord (50 Ft)

3. Pack the equipment container in accordance with [figure 11-17](#).

4. Miscellaneous survival items may be stowed in the container in any manner which will be the most space efficient. Miscellaneous item denotes the following:

Hand Generated Flashlight** Survival Saw Chemilluminent Lights Candle Lanterns Casualty Blankets**	Duct Tape Fuel Tabs* Ice Pick Ice Screw* Aircrewman's Cape Pocket Cooker* Chemical Heat Packs (20)
--	---

5. Stow the two extreme cold weather shelters in the flyer's kit bag and safety tie in accordance with [paragraph 11-51](#).

11-51. A safety tie shall be installed on the equipment container and the flyer's kit bag to prevent pilferage and allow visible detection of tampering with kit. The safety tie shall be installed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Wire, Non-electrical	QQ-A-225-1 NIIN 00-595-8200
As Required	Seal, Anti-pilferage	81264 or NIIN 00-598-3427

1. Loop one end of a piece of wire through the webbing loop at the end of the slide fastener of the equipment container bag.

2. Thread wire through pull tab.

3. Thread wire through lead seal, pulling to a 1-inch loop.

4. Crimp lead seal and trim wire flush with seal.

5. Make necessary entries on the appropriate form in accordance with OPNAVINST 4790.2 Series.

11-52. Stencil the outside of both the main equipment container and the flyer's kit bag for the extreme weather shelters using 1-inch letters and black laundry ink, (TT-I-542) with the following information:

1. Mark the top of main equipment container with:

12-MAN COLD WEATHER KIT
P/N: SRU-A/P99S-2
S/N:

2. Mark the top or side of the flyer's kit bag for the extreme weather shelters with:

12-MAN COLD WEATHER KIT, LIGHTWEIGHT
EXTREME WEATHER SHELTERS,
P/N:
S/N:

11-53. STOWING COLD WEATHER SURVIVAL KIT IN AIRCRAFT. To stow the 12-Man Cold Weather Survival Kit in aircraft, refer to local squadron procedures.

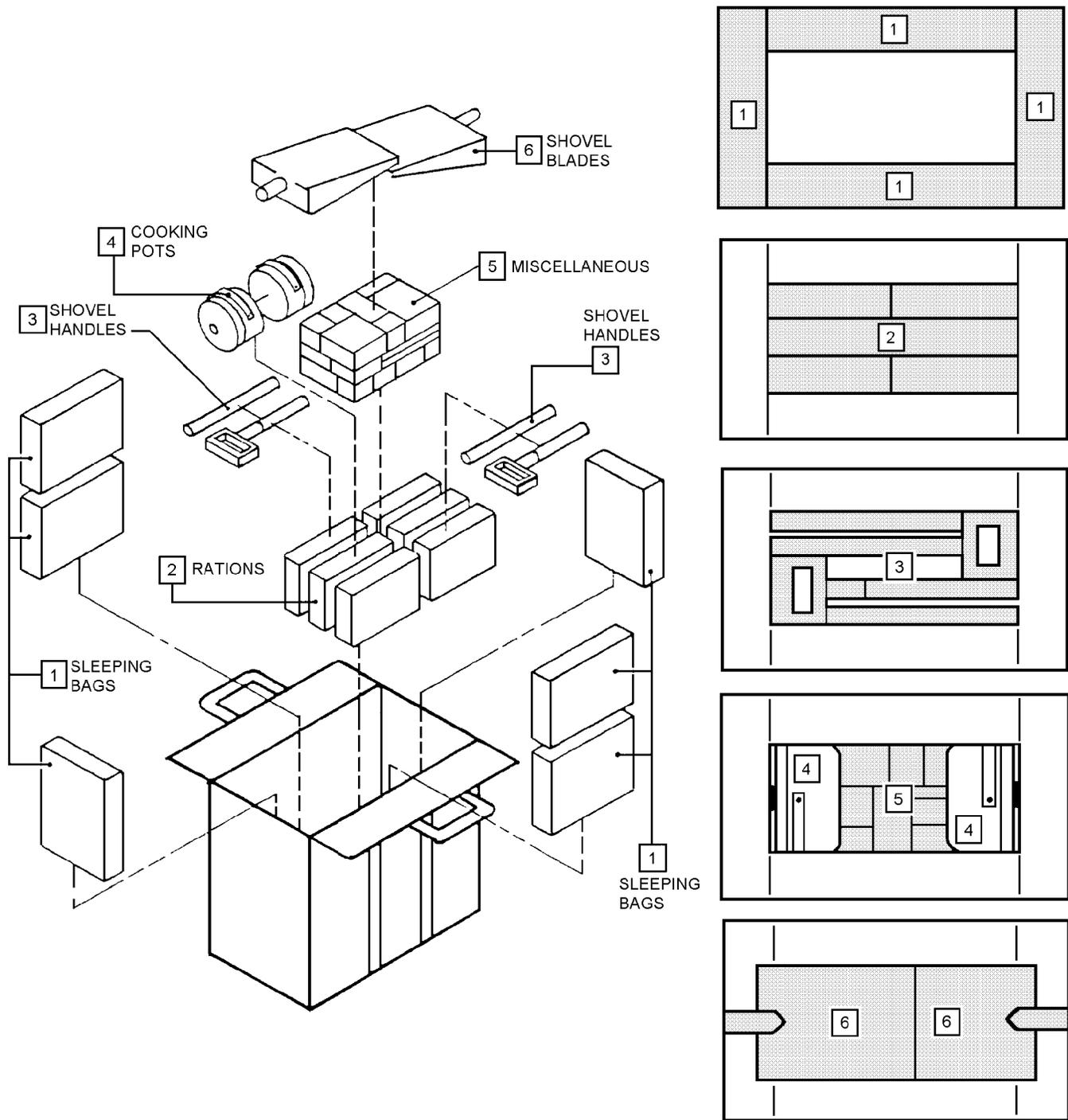


Figure 11-17. 12-Man Cold Weather Survival Kit Packing Diagram

011017

Section 11-3. Cold Weather Survival Equipment

11-54. GENERAL.

11-55. This section contains maintenance and inspection information on survival equipment for the 4- and 12-Man Cold Weather Survival Kits.

Section 11-3.1. Combat Casualty Blankets

11-56. GENERAL.

11-57. Refer to Chapter 9 of this manual for inspection of Combat Casualty Blankets (figure 1-18 and 1-19).

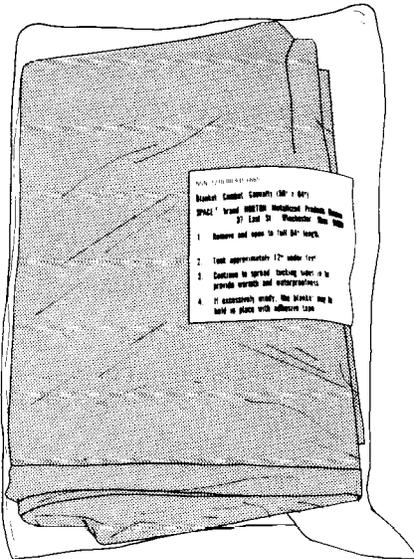


Figure 11-18. Combat Casualty Blanket, Type I

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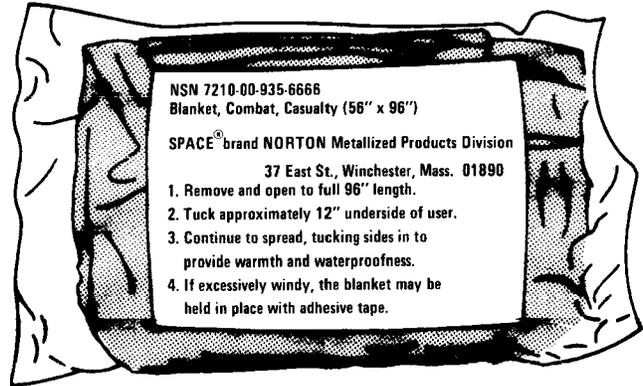


Figure 11-19. Combat Casualty Blanket, Type II

011019

Section 11-3.2. Nylon Cord

11-58. GENERAL.

11-59. Refer to Chapter 9 of this manual for inspection of Nylon Cord (figure 1-20).

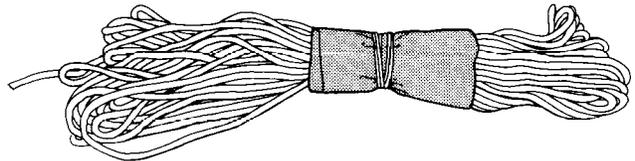


Figure 11-20. Nylon Cord

011020

Section 11-3.3. Mark 4 Emergency Signaling Mirror

11-60. GENERAL.

11-61. Refer to Chapter 19 of this manual for inspection of Mark 4 Emergency Signaling Mirror (figure 11-21).

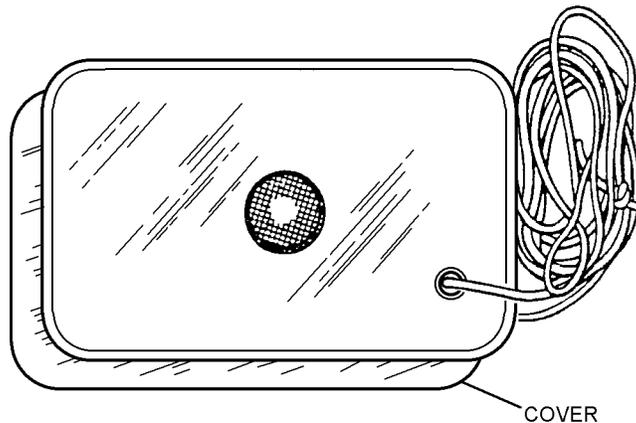


Figure 11-21. Mark 4 Emergency Signaling Mirror

011021

Section 11-3.4. Signaling Whistle, Classic Fox 40, (Black, No-Moving Parts)

11-62. GENERAL.

11-63. Refer to Chapter 19 of this manual for inspection of Classic Fox 40 Signaling Whistle (figure 11-22).

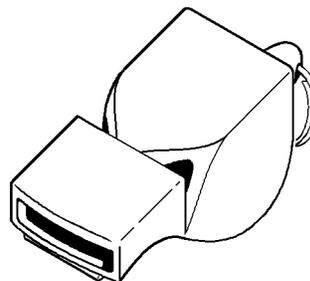


Figure 11-22. Classic Fox 40 Signaling Whistle

011022

Section 11-3.5. Chemical Lights

11-64. GENERAL.

11-65. Refer to Chapter 12 of this manual for inspection of Chemical Lights (figure 11-23).

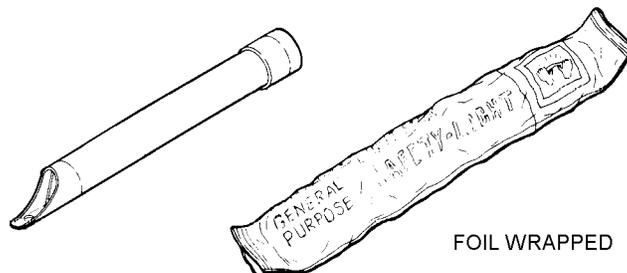


Figure 11-23. Chemical Light

011023

Section 11-3.6. Strike Force Striker

11-66. DESCRIPTION.

11-67. The Strike Force Striker (figure 11-24) is used for producing a large spray of sparks for fire starting. The tinder block used in conjunction with the striker provides a reliable source of fire in conditions where natural tinder cannot be obtained. This tinder is non-toxic, odorless, and smokeless. In addition, the tinder is waterproof and buoyant.

11-68. CONFIGURATION.

11-69. The Strike Force Striker consists of a flint rod and striker blade housed in a durable plastic case. The self-encasing unit includes a tinder block stored inside the end cap. The block is wrapped and sealed in foil for protection. A lanyard connects the striker to the flint rod casing, preventing their separation. When in its closed configuration the tool is 5 x 1 1/4 x 7/8 inches. Additional tinder blocks are strongly recommended and may be acquired in packages of four individually wrapped blocks.

NOTE

The Strike Force Striker and tinder blocks are available through sources listed in table 11-1 of 11-1-2.

11-70. APPLICATION.

11-71. The Strike Force Striker is to be used for starting fires with the tinder block as well as other sources of tinder. The spray of sparks generated by striking the flint rod with the striker blade is sufficient to start the tinder block burning. Multiple fires can be started by using small portions of the tinder block. The tinder block will work if saturated with water and will continue to burn while floating in water.

11-72. MAINTENANCE.

11-73. Maintenance of Strike Force Striker is limited to inspection.

11-74. INSPECTION. The Strike Force Striker and replacement tinder blocks shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the kit or assembly in which the items are stored. Inspect the individual tinder cubes to ensure the foil wrappers are undamaged. Shelf life for tinder blocks in a sealed container is five years.

NOTE

If the foil packaging on replacement tinder blocks becomes separated, reseal using duct tape.

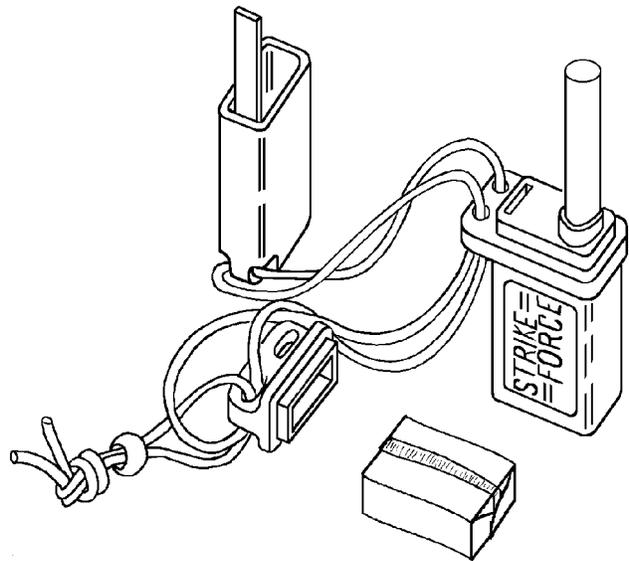


Figure 11-24. Strike Force Striker

011024

Section 11-3.7. Lifeboat Matches

11-75. DESCRIPTION.

11-76. The Lifeboat Matches (figure 11-25) are used to provide a reliable source for starting fires in harsh elements of cold and/or wet environments. These wooden matches have an average burn time of 12 seconds per match.

11-77. CONFIGURATION.

11-78. The Lifeboat Matches are contained in a sealed plastic vial which is 1 inch in diameter and 2 1/8 inches high. The vial contains 25 matches and cotton fibers, which may be used as tinder. Both ends of the vial have striking paper attached for igniting the matches.

NOTE

The Lifeboat Matches are available through sources listed in table 11-1 or 11-2.

11-79. APPLICATION.

11-80. The Lifeboat Matches are to be used in situations where other fire starting methods are not feasible or available. These matches light when wet and continue to burn through wind and rain.

11-81. MAINTENANCE.

11-82. Maintenance of Lifeboat Matches is limited to inspection.

11-83. INSPECTION. The Lifeboat Matches shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the matches are stored. To inspect the Lifeboat Matches, proceed as follows:

1. Check the integrity of the seal of the vial.
2. Check presence of striking paper. If striking paper is not attached to vial, both on the top of cap and the

bottom of cylinder, replace the vial component missing the paper.

3. If the seal is broken, inspect to ensure 25 matches are in the vial. Replace any missing or broken matches.

4. Reseal by taping around vial cap using a 1-inch wide strip of duct tape (NIIN 00-103-2254) or equivalent.



Figure 11-25. Lifeboat Matches

011025

Section 11-3.8. Survival Saw

11-84. DESCRIPTION.

11-85. The Survival Saw (figure 11-26) is provided in the Cold Weather Survival Kits to aid in procurement of shelter materials, fuel for fires, and food. The saw may also be used for leverage, first aid applications, anchors, or stakes.

11-86. CONFIGURATION.

11-87. In its closed configuration, the saw is 17 x 1.5 x 0.5 inches. The cutting blade is 15 inches long and is stowed in a protective metal sheath. The sheath is stowed inside the metal handle. Once the blade is swung out from the sheath, the blade and sheath are inserted together into the handle and secured with a single wing nut.

NOTE

The Survival Saw is available through sources listed in table 11-1 or 11-2.

11-88. APPLICATION.

11-89. The Survival Saw may be used for cutting wood to make shelters and fuel for fires. In addition, the saw can be used in cutting ice or snow blocks for shelter or

wind breaks. For first aid treatment, the individual saw components may be used for splints.

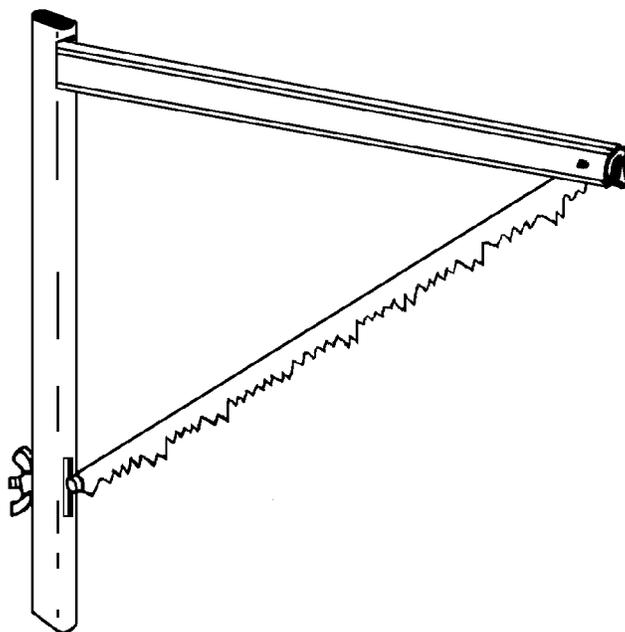


Figure 11-26. Survival Saw

011026

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11-90. MAINTENANCE.

11-91. Maintenance of Survival Saw is limited to inspection.

Materials Required		
Quantity	Description	Reference Number
As Required	Lubricant, Protective	MIL-L-14107 NIIN 00-292-9689 (or equivalent)

11-92. INSPECTION. The Survival Saw shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kits or assembly in which the saw is stored. To inspect the Survival Saw, proceed as follows:

1. Upon issue of the saw blade, treat with a thin coat of protective oil.
2. Inspect the saw assembly to ensure all parts are not damaged and will fit together properly.
3. If corrosion has occurred, remove corrosion and re-coat blade with protective oil.

Section 11-3.9. Cold Weather Rations

11-93. DESCRIPTION.

11-94. The Cold Weather Ration Packets (figure 1-27) are used in cold weather emergency situations for purposes of quick energy when water, but no other food, is available.

11-95. CONFIGURATION.

11-96. The Ration Packets (NIIN 01-267-5864) consist of airtight packets of main meal selections, instant oatmeal, brownies, cookies, candy and chocolate confections, fruit bars, nut raisin mix, beverage bases, spoon, matches, toilet tissue, chewing gum. The food items are dehydrated and require water for consumption. All items are sealed in a polyethylene bag.

11-97. APPLICATION.

11-98. The ration packet is intended to provide quick energy to the downed aircrewmembers when water, but no other food, is available. The high caloric value of these rations are tailored for use in extreme cold weather survival situations.

11-99. MAINTENANCE.

11-100. Maintenance of Cold Weather Ration packets is limited to Place-In-Service and Visual Inspections.

Materials Required		
Quantity	Description	Reference Number
1	Marker, Waterproof	TT-I-544 NIIN 00-281-4432
As Required	Tape, Duct	NIIN 00-103-2254

11-101. INSPECTION. The ration packet shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kits or assembly in which the ration packet is stored.

11-102. Place-In-Service Inspection. All Cold Weather Ration packets shall be subjected to a Place-In-Service Inspection upon issue. To perform Place-In-Service Inspection, proceed as follows:

1. Using a waterproof marker, mark the packaging date from the cardboard container in which the ration packet was received, on the ration packet.
2. Perform a Visual Inspection in accordance with paragraph 1-103.

11-103. Visual Inspection. All Cold Weather Ration packets shall be subjected to a Visual Inspection, as follows:

1. Inspect to ensure ration packet is properly sealed.
2. Inspect for holes/tears in outer plastic casing. Holes/tears shall be repaired by applying duct tape to the effected area, completely covering the hole/tear.
3. Ensure that shelf life of ration packet does not exceed 6 1/2 years from date of manufacture.

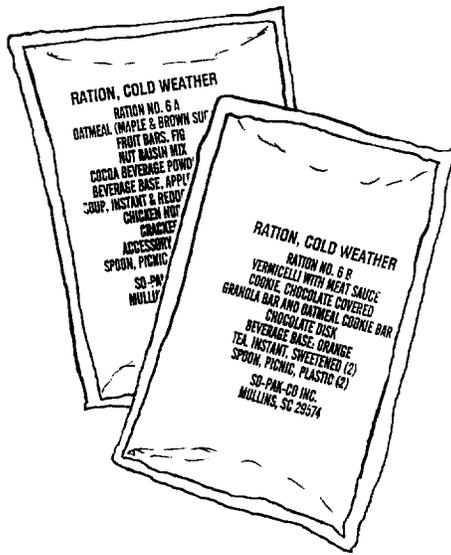


Figure 11-27. Cold Weather Rations

011027

Section 11-3.10. Lightweight Extreme Weather Shelter

11-104. DESCRIPTION.

11-105. Lightweight Extreme Weather Shelters (P/Ns 2628911 and VE-25) are expedition weight dome style tents (figure 1-28). They are used to provide protection from the elements in cold weather environments for a minimum of three persons.

11-106. CONFIGURATION.

NOTE

Lightweight Extreme Weather Shelters are available through sources listed in 1-1 or 1-2.

11-107. Lightweight Extreme Weather Shelters are free-standing designs that are spacious, low-profile and wind-shedding. The aluminum poles and attachments are made for easy assembly. Lightweight Extreme Weather Shelters have the following approximate dimensions:

- Area: 52 square feet
- Center Height: 48 inches
- Wall Height: 37 inches
- Packed Size: 24 x 9 inches

11-108. Lightweight Extreme Weather Shelters may have the following features:

- No-See-Um Netting on roof vents, windows, and doors

- 4 Storage Pockets
- Clothesline Rings
- Lantern Hooks
- Guy ropes with Sliders
- Continuous Pole Sleeves of nylon mesh
- 3/4 Door Slide Fastener
- 2 Windows and 2 Roof Vents
- Waterproof flysheet with vestibule allowing for ten square feet of storage area

11-109. The Lightweight Extreme Weather Shelter (2628911) consists of the large shelter bag (24 x 9 inches packed), which includes the following:

Item	Quantity	Contents
Flysheet	1	—
Tent	1	—
Tent Pole Bag (23.5 x 10 inches)	4	Tent Poles (Straight)
	1	Vestibule Pole (Curved)
Tent Stake Bag (10 x 13 inches)	2	9 inch Plastic Stakes
	10	7 inch Steel Skewers
	7	12 x .125-inch Nylon Guy Ropes
	7	Small Rope Sliders
	22 inches	1-inch Nylon Webbing
	—	Tent Set Up Instructions



Figure 11-28. Lightweight Extreme Weather Shelter

011028

Item	Quantity	Contents	Item	Quantity	Contents
Repair Kit Bag (10 x 12 inches)			Stuff Sack		
	1	Double Ring With 2 Pins		1	Tent Body
	1	Double Ring With 1 Pin		1	Fly Sheet
	2	Fastex Buckles		8	Guy Lines
	1	No-See-Um Screen		8	Plastic Stoppers
	2	Bottles Seam Sealer		1	Tube of Seam Grip
	4	Seam Tape - 1 of each color		1	Pole Repair Sleeve
	1	Shock Cord		1	Pitching Instructions
	—	Thread		—	Nylon Line
	—	Needle		—	Line Tighteners
	1	1 inch Ring	Tent Pole Sack		
	2	Triangular Buckles		5	Poles
	4	Shok-lok	Tent Stake Sack		
	4	Pole Repair Tubes		19	Stakes
	4	Grip Clips			
	—	23-inch Webbing			
	—	Repair Directions			

11-111. APPLICATION.

11-112. The Lightweight Extreme Weather Shelter is intended to provide protection from the elements and to act as a wind breaker, sunshade, and area free of precipitation. The Lightweight Extreme Weather Shelter can withstand snow loads up to four pounds per square foot, and sheds most of the snow load from the flysheet above

11-110. The Lightweight Extreme Weather Shelter (VE-25) includes the following:

the tent. The shelter also can be subjected to severe winds and peak gusts over 73 mph while sustaining only minimal damage. The Lightweight Extreme Weather Shelter can still be used at temperatures below -50°F. The Lightweight Extreme Weather Shelter can be secured to the snow or ground by metal or plastic stakes. Ice screws may be used for securing the shelter to ice or frozen soil.

11-113. MAINTENANCE.

11-114. All Lightweight Extreme Weather Shelters shall be subjected to Place-In-Service, Preflight/Post-flight, and Special Inspections. Maintenance for the Lightweight Extreme Weather Shelter shall be limited to Visual Inspection. Holes/tears in the tent, flysheet or tent container bag shall be repaired as follows:

NOTE

All stitches shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch. Overstitch threads minimum 1/2 inch.

Materials Required

Quantity	Description	Reference Number
As Required	Thread, Nylon Size E, Type II O.D.	V-T-295 NIIN 00-244-0609 or Equivalent
As Required	Cloth, Parachute Pressure Sensitive	MIL-T-43618 NIIN 00-176-1802
As Required	Chalk	SS-C-266 NIIN 00-164-8893 or Equivalent

1. All tears and holes shall have an inside and outside patch installed.
2. Lay inside of torn or hole area on a flat smooth surface and outline area to be patched using regular or tailor’s chalk with a minimum margin around the torn or hole area of 1 1/2 inches.
3. Cut pressure-sensitive cloth to fit the minimum margin made in step 2. Round off the corners of the repair cloth.
4. Starting at one end of the repair area, carefully place pressure-sensitive cloth to the repair area and work the cloth flat over the tear or hole. There shall be no air pockets, folds of cloth or pleats.

NOTE

All stitches shall be in accordance with ASTM-D-6193, Type 301 Lockstitch, 7 to 10 stitches per inch.

5. Sew a single row of stitches 1/8 inch from the end of the pressure-sensitive cloth.
6. Lay outside of torn or hole area on a flat smooth surface and outline area to be patched using regular or tailor’s chalk with a minimum margin around the torn or hole area of 2 inches.
7. Cut pressure-sensitive cloth to fit the minimum margin made in step 6. Round off the corners of the repair cloth.
8. Starting at one end of the repair area carefully place pressure-sensitive cloth to the repair area and work the cloth flat over the tear or hole. There shall be no air pockets, folds of cloth or pleats.
9. Sew a single row of stitches 1/8 inches from the end of the pressure-sensitive cloth.
10. Quality assurance shall inspect repaired area.

11-115. INSPECTION. Record all inspections in accordance with OPNAVINST 4790.2 series.

11-116. Place-In-Service Inspection (2628911).

1. Prior to issue the flysheet and tent floor seams shall be treated with Seam Sealer provided with shelter. Application of seam sealer is as follows:
 - a. Set up the shelter using instructions provided with shelter.
 - b. Invert seam sealant bottle and press top against seams.
 - c. Draw along seam, spreading the sealer evenly and liberally into all needle holes.
 - d. Apply sealer to exterior seams on fly and tent floor only.
 - e. Allow to dry at least 30 minutes.
 - f. Repeat process for the interior seams of the tent floor.
2. To repack the shelter, proceed as follows:
 - a. Place repair kit bag and tent stake bag in the bottom of the large shelter bag.
 - b. Lay flysheet out flat with tent spread flat on top.
 - c. Fold sides of both layers so that they are approximately 21 inches wide.

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d. Place packed tent pole bag at one end of the folded layers and roll the tent and flysheet around the tent poles.

e. Put rolled shelter into shelter bag.

f. Arrange closure flap (circular piece of fabric attached inside shelter bag closure) to cover contents, and pull drawstring as tight as possible.

g. Knot draw string using an overhand loop knot.

h. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

11-117. Place-In-Service Inspection (VE-25). The Place-In-Service Inspection for VE-25 shall consist of the tasks required for the 30-Day Special Inspection as well as the 360-Day Special Inspection.

11-118. Preflight/Postflight Inspection. The Preflight/Postflight Inspection is a Visual Inspection performed by the flight crew prior to and following each flight daily and consists of the following:

1. Inspect for rips/tears, holes and loose/broken stitching on shelter container bag.

2. Inspect security of closure.

3. Inspect for security in aircraft.

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

11-119. Special Inspection (30-Day). A 30-Day Special Inspection shall be performed by Organizational level maintenance on all extreme cold weather shelters as follows:

1. Inspect for rips, stains, and loose or frayed stitching on containers.

2. Inspect to ensure drawstring works properly.

3. Inspect security of closure.

4. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

11-120. Special Inspection (360-Day). The 360-Day Special Inspection shall be performed by Organizational Level maintenance. The 360-Day Special Inspection shall consist of the tasks required for the 30-Day Special Inspection as well as the following:

NOTE

Seam sealer for the lightweight extreme weather shelter 2628911 is a one-time use item used during the Place-In-Service Inspection and shall not be included as part of the inventory for the 360-Day Special Inspection.

1. Complete inventory of parts and equipment stowed in large shelter bag.

2. Set up shelter using instructions provided with shelter.

3. Check that all poles contain pliable bungie cords and that the poles are not bent beyond use.

4. Inspect pole sleeves; tent sides, top and floor; and fly for rips/tears, holes, loose or broken stitches.

5. Inspect slide fasteners for presence of pull tabs and ease of operation.

6. Inspect for corrosion.

7. Repair or replace as necessary.

8. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

Section 11-3.11. Ultima Thule Sleeping Bag

11-121. DESCRIPTION.

11-122. The Ultima Thule Sleeping Bag is designed to provide protection to an aircrewmember in adversely low temperature conditions. The sleeping bags are designed for extra insulation at the foot and head of the bag. The hood provides direct protection for the head of the user, reducing radiant heat loss. To share maximum body heat, bags are mateable.

11-123. CONFIGURATION.

11-124. The Ultima Thule Sleeping Bag is a mummy style sleeping bag (figure 11-29). It is set a long for heights up to six feet, six inches and wide-body with an inside circumference of 67/68 inches. The bag is closed by a heavy duty slide fastener and a draw string around the hood of the bag. The bag weighs 6 pounds and can be stored vacuum packed with a volume of 450 cubic inches.

NOTE

The Ultima Thule Sleeping Bag is available through sources listed in table 11-1 or 11-2.

11-125. APPLICATION.

11-126. The Ultima Thule Sleeping Bag is to be used by aircrew personnel in situations where body heat must be conserved. The bag is recommended for use in temperatures below 32°F. The bag is to be used in conjunction with the self-inflating ground insulator to provide maximum effectiveness.



011029

Figure 11-29. Ultima Thule Sleeping Bag

11-127. MAINTENANCE.

Materials Required

Quantity	Description	Reference Number
As Required	Tape, Duct	NIIN 00-103-2254

11-128. Maintenance is limited to inspection of plastic packaging. This plastic packaging consists of two layers. If the outer layer has small holes or tears, but the inner layer is still vacuum packed, the bag shall continue in service. Repair holes and tears using of duct tape or equivalent. Sleeping Bags which have been opened may be re-vacuumed packed. Dimensions for vacuum packing are denoted as those for WIG20UL (14 1/2 x 9 x 3 inches, with 1/4 inch tolerances). The following source should be contacted for repackaging vacuum packed sleeping bags:

Wiggy's Inc.
2428 Industrial Blvd.
P.O. Box 2124
Grand Junction, CO 81502

(303) 241-6465
(800) 748-1827

11-129. INSPECTION. The sleeping bag shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kits or assembly in which the sleeping bag is stored. Inspect to ensure integrity of vacuum packing.

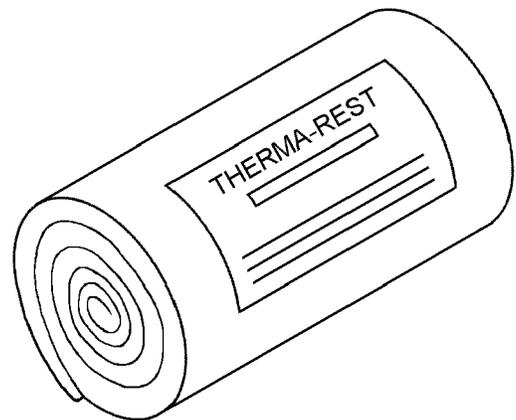
Section 11-3.12. Self-Inflating Ground Insulator

11-130. DESCRIPTION.

11-131. The Self-Inflating Ground Insulator (figure 11-30) is used to provide the user with a ground insulator and barrier that will contribute to the user's comfort and sleep.

11-132. CONFIGURATION.

11-133. The Self-Inflating Ground Insulator consists of an airtight, waterproof, nylon coated shell with a light-weight open-cell foam core. The insulator is 20 x 47 x 1 inch and weighs 1.5 pounds.



011030

Figure 11-30. Self-Inflating Ground Insulator

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NOTE

The Self-Inflating Ground Insulator is available through source [redacted] 1-1.

11-134. APPLICATION.

11-135. The Self-Inflating Ground Insulator is intended to provide a barrier between the ground and the body using closed cell foam and an air space. This will aid in preventing heat loss through conduction and convection. The insulator is used by opening the airtight valve and allowing the pad to self-inflate. Additional air may be added by breathing into the valve until the desired thickness is attained.

11-136. MAINTENANCE.

11-137. Maintenance of the Self-Inflating Ground Insulator is limited to inspection.

11-138. INSPECTION. The Self-Inflating Ground Insulator shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with inspection schedule of the survival kit or assembly in which the self-inflating ground insulator is stored. Check the integrity of the insulator's outer plastic packaging. If outer plastic packaging is not able to contain ground insulator, discard plastic and fold insulator to 11 inches wide and roll to 3 1/2 inches in diameter. Wrap two rubber bands around rolled insulator to secure. Inspect rubber bands for deterioration. If insulator has been removed from original plastic packaging, inspect for holes and tears in the insulator shell. Holes and tears no larger than 1 inch may be repaired. All patching of Self-Inflating Ground Insulators shall be performed as follows:

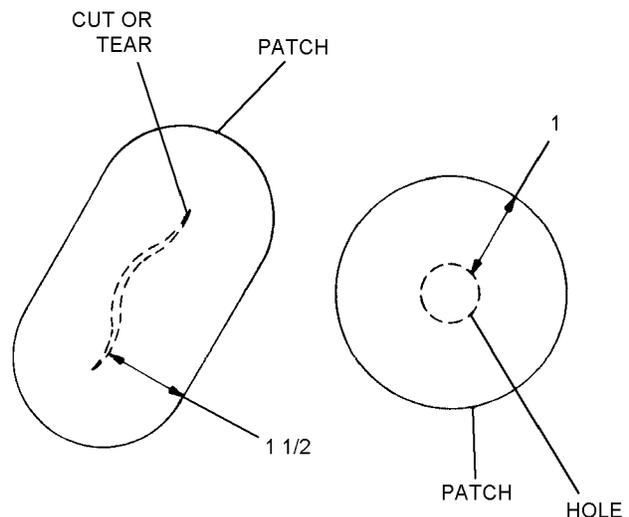
NOTE

Patching of holes, cuts, tears or punctures over 1 inch requires replacement of the self-inflating ground insulator.

Materials Required (Cont)

Quantity	Description	Reference Number
	Cloth, Life Preserver, Type I, Sage Green	MIL-C-19002 NIIN 00-935-1759
	- or -	
	Cloth, Life Preserver, Type I, Yellow	MIL-C-19002 NIIN 00-953-6427
1	Roller, Wooden	GGG-R-00620
1	Brush, Acid	NIIN 00-514-2417
As Required	Toluene	TT-T-548 NIIN 00-281-2002
	- or -	
	Methyl Ethyl Ketone (MEK)	TT-M-261 NIIN 00-281-2762
As Required	Cement, Class 3, Polychloroprene	MIL-A-5540
As Required	Talc, Technical	MIL-T-50036A NIIN 01-089-9589
1	Pencil, China	SS-P-196

1. Cut a rounded patch 1 inch larger on all sides than damage.



Step 1 - Para 11-138

11138001

2. Center patch over damaged area and using a china pencil, trace an outline of patch on fabric.

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Life Preserver, Type I, Orange	MIL-C-19002 NIIN 00-060-9136
	- or -	

WARNING

Do not use toluene or MEK near open flame, heat or electrical sparks. Avoid prolonged contact with skin or breathing of fumes. Use only in a well ventilated area.

3. Clean patch and damaged surfaces to be cemented with three applications of toluene or MEK, letting each application dry completely before the next is applied.

4. Prepare cement and accelerator mixture. Prepare only enough mixture for 8 hours use, as this is the effective active period for the mixture. Dispose of any remaining mixture at this time.

5. Using an acid brush, apply cement to completely cover both surfaces to be cemented, taking care not to get cement down into the insulator through the hole or tear. Use long, one-direction strokes and complete each surface before cement becomes tacky as the brush may

pull tacky cement from the surface. Allow to dry for 10 minutes.

6. Apply two more coats of cement as in step 5. Use brush strokes perpendicular to the previous direction.

7. When third coat of cement has become tacky, apply patch to damaged surface. If surface damage is a cut or a tear, butt edges of damage before applying patch. Roll out bubbles with a wooden roller.

8. Place a small weight over cemented area and allow cement to cure a minimum of 48 hours.

9. Dust repaired area with talcum powder.

10. Perform a leak test by opening and manually blowing into the black valve until pad is fully inflated (pad shall be firm to the touch). Close the valve. Beginning at the pad end furthest from the patched area, roll up the pad firmly until the patched area is reached. Unroll the pad. If firmness has been lost, inspect pad for holes or tears and repeat patching if applicable.

Section 11-3.13. Chemical Heat Packs

11-139. DESCRIPTION.

11-140. The Chemical Heat Packs are oxygen activated heat packs designed to provide additional heat to the body's extremities in adversely cold conditions (figure 11-31).

11-141. CONFIGURATION.

11-142. The Chemical Heat Packs are two heat packs, each measuring 2 1/2 x 3 inches. Each set of heat packs are individually packaged in plastic.

NOTE

The Chemical Heat Packs are available through sources listed in table 1-1 or 1-2.

11-143. APPLICATION.

11-144. The Chemical Heat Packs will activate when exposed to air. No kneading or shaking required. For maximum effect, the heat packs should be used in enclosed areas such as pockets, boots or gloves. It may be necessary to re-expose the pack to air to continue the chemical reaction. The warmers have a maximum usage time of 7 hours at an average temperature of 135°F. Maximum temperature may reach 156°F. The Chemical Heat Packs should be used to maintain body heat.

NOTE

The packs should not be used to directly treat frost bite or other topical cold weather injuries.

11-145. MAINTENANCE.

11-146. Maintenance is limited to inspection.

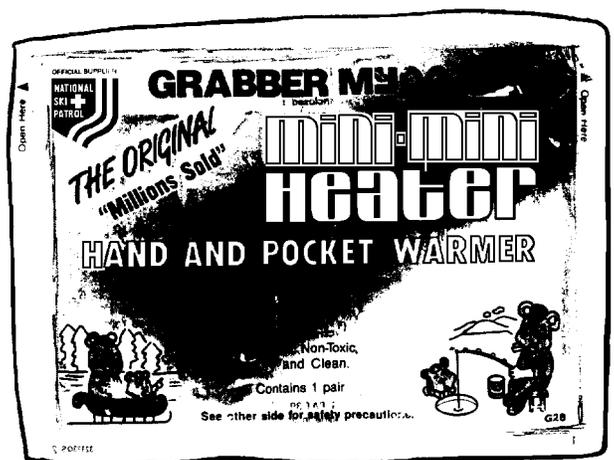


Figure 11-31. Chemical Heat Packs

011031

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11-147. INSPECTION. The Chemical Heat Packs shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the chemical heat pack is stored. To inspect the Chemical Heat Packs, proceed as follows:

1. Inspect the plastic packaging for tears or holes which can possibly admit air.

a. If heat pack has been exposed to air, dispose of it.

2. Inspection of the heat packs shall also consist of ensuring that the expiration date of the pack is observed.

3. Make necessary entries on appropriate form in accordance with OPNAVINST 4790.2 Series.

Section 11-3.14. Thermal Protective Aid

11-148. DESCRIPTION.

11-149. The Thermal Protective Aid (figure 1-32) is a one piece hooded suit made of silver metalized plastic film on the inside and bright orange on the outside. It is designed to reflect radiant heat back to the individual wearing the suit, thereby increasing the body's temperature.

11-150. CONFIGURATION.

11-151. The Thermal Protective Aid is a one size fits all suit, which can be donned over exterior clothing or directly next to the skin. The suit may be closed at the ankles, wrist, neck, and torso using adhesive closures attached to the suit. The suit is stored in plastic covering.

NOTE

The Thermal Protective Aid is available through sources listed in table 1-1.

11-152. APPLICATION.

11-153. The Thermal Protective Aid provides coverage from head to toe to prevent convective heat loss by the gas-impermeable plastic and radiant heat loss by the reflective foil interior (figure 1-32). Care should be exercised when using this item to avoid sweating in cold weather environments. Adjust looseness of closures to regulate sweating. The bright orange exterior of the Thermal Protective Aid can be used for signaling.

11-154. MAINTENANCE.

11-155. Maintenance is limited to inspection.

11-156. INSPECTION. The Thermal Protective Aid shall be inspected every 90 days or at intervals to coincide with inspection schedule of the survival kit or assembly in which the Thermal Protective Aid is stored. Inspect plastic packaging for holes or tears. Repair holes using duct tape (NIIN 00-103-2254) or equivalent.

NOTE

Figure 1-32 may not depict latest configuration.

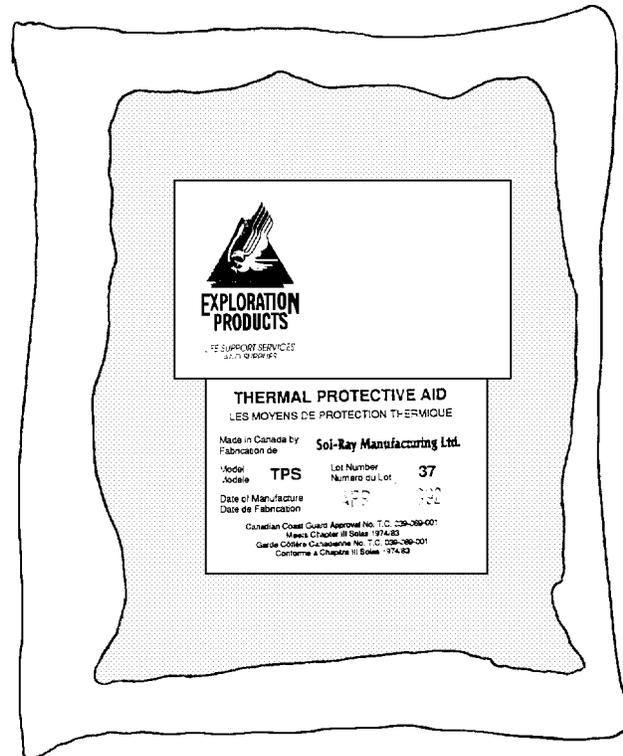


Figure 11-32. Thermal Protective Aid

011032

Section 11-3.15. Aircrewmember's Cape

11-157. DESCRIPTION.

11-158. The Aircrewmember's Cape is a disposable, large plastic bag included in the cold weather survival bag (figure 11-33). The cape is intended to be used for protection from precipitation and wind as well as storage, insulation and gathering of food, ice and snow.

11-159. CONFIGURATION.

11-160. The Aircrewmember's Cape is a polyethylene bag which is opened at one end. The cape is 23 inches across the closed end which is folded with gussets on the sides, and 40 inches across the open end and is 74 inches long.

NOTE

The Aircrewmember's Cape is available through sources listed in table 11-1 or 11-2.

11-161. APPLICATION.

11-162. The Aircrewmember's Cape is intended to be used as protection from precipitation and wind. The cape can also be used as a ground cover when opened up. Other applications include storage of food, waste and ice/snow/water.

11-163. MAINTENANCE.

11-164. Maintenance of the Aircrewmember's Cape is limited to inspection.

11-165. **INSPECTION.** The Aircrewmember's Cape shall be inspected upon issue and every 90 days thereafter or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the Aircrewmember's Cape is stored. Inspect the cape for rips, tears, and holes.

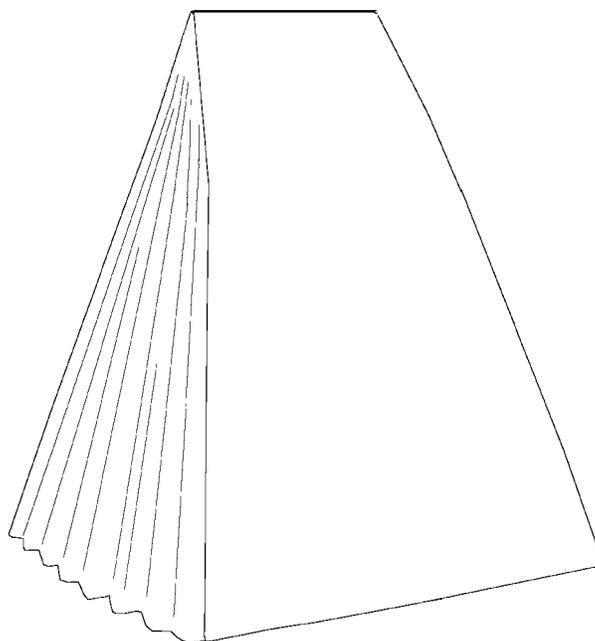


Figure 11-33. Aircrewmember's Cape

011033

Section 11-3.16. Aluminum Candle Lantern

11-166. DESCRIPTION.

11-167. The Aluminum Candle Lantern is used to provide a source of light and heat (figure 11-34). The compactness of the lantern allows it to be stowed in small places and also protects the globe. In addition, the globe maintains a safer environment than other open flame lighting devices.

11-168. CONFIGURATION.

11-169. In its most compact configuration, the Aluminum Candle Lantern is 4 1/2 inches long and 2 inches in diameter. Once extended the lantern measures 6 1/2 inches tall, 10 inches with the hanger extended. The outer casing is Aluminum with a glass globe to allow light through. The lantern is assembled with one 8-9 hour smokeless wax candle. Additional candles may be purchased in sets of three in a plastic bag. These additional

candles will be carried in the 12-Man and 4-Man Cold Weather Survival Bags. The lantern should be stowed in the cylindrical plastic container for protection, where applicable.

NOTE

The Aluminum Candle Lantern and replacement candles and glass globes are available through sources listed in table 11-1 or 11-2.

11-170. APPLICATION.

11-171. The Aluminum Candle Lantern shall be used in survival situations where supplemental light and/or heat source is needed. The aircrew may hang the lantern using the extended metal hanger after lighting the candle inside. The spring loaded system inside the lantern will allow the candle to stay at constant height. In addition, a small window in the casing permits aircrew to see the

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amount of candle left unburned, allowing changing of the candle without the flame dying out.

11-172. MAINTENANCE.

11-173. Maintenance is limited to inspection.

11-174. INSPECTION. The Aluminum Candle Lantern shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the lantern is stored. To inspect the lantern, proceed as follows:

1. Visually checking that the glass globe is not damaged.
2. Inspecting to ensure the lantern will extend to the fully opened position and will close.
3. Inspecting hanger connections to lantern, ensuring they are snugly fitted.
4. Inspect for corrosion.

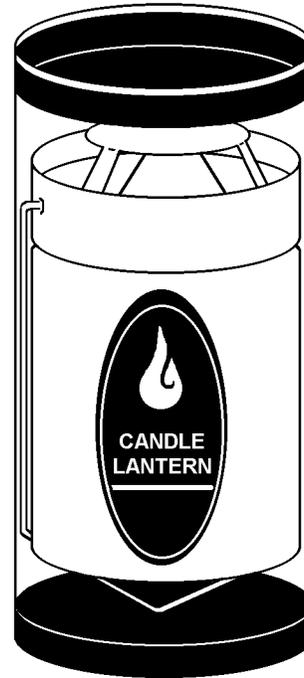


Figure 11-34. Aluminum Candle Lantern

011034

Section 11-3.17. Pocket Cooker

11-175. DESCRIPTION.

11-176. The Pocket Cooker (figure 11-35) is used to provide aircrewmembers with a source of controlled fire, which may be easily lit and extinguished. The cooker allows cooking utensils, such as pots or pans, to be placed over the flame with stability.

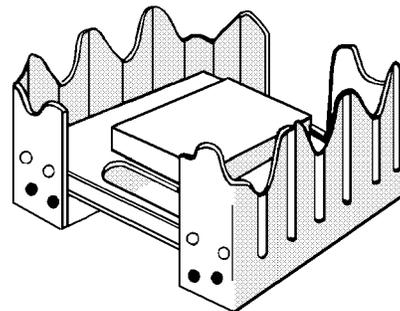


Figure 11-35. Pocket Cooker

011035

11-177. CONFIGURATION.

11-178. This Pocket Cooker in its closed configuration is 4 5/8 x 1 x 3 3/4 inches. Included in the cooker are eight solid hexamine fuel tabs in a cardboard casing. Once opened and fuel tabs removed, the cooker can support cooking pots or flat metal surfaces. Additional solid hexamine fuel tabs are available in packages of eight tabs per unit. These additional fuel tabs will be contained in the 12-Man and 4-Man Cold Weather Survival Kits.

NOTE

The Pocket Cooker and additional hexamine fuel tabs are available through sources listed in table 11-1 or 11-2.

11-179. APPLICATION.

11-180. The Pocket Cooker is intended to provide fire for melting ice and snow, cooking, and warmth when natural sources of fire building materials are

unavailable. The Pocket Cooker may be reused multiple times for survival situations.

11-181. MAINTENANCE.

11-182. Maintenance is limited to inspection.

11-183. INSPECTION. The Pocket Cooker shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the cooker is stored. To inspect the Pocket Cooker, proceed as follows:

1. Inspect to ensure cooker will open and close properly.
2. Inspect to ensure cooker will support weight in its open configuration.
3. Check for corrosion.
4. Check to ensure solid fuel tabs are inside cooker assembly.

Section 11-3.18. 2 Quart Aluminum Pot

11-184. DESCRIPTION.

11-185. The 2 Quart Aluminum Pot (figure 11-36) is a durable container for purifying water, cooking, storage, digging, and collecting water or food.

11-186. CONFIGURATION.

11-187. The 2 Quart Aluminum Pot has a pail-type handle and a removable Aluminum lid which fits snugly on the pot.

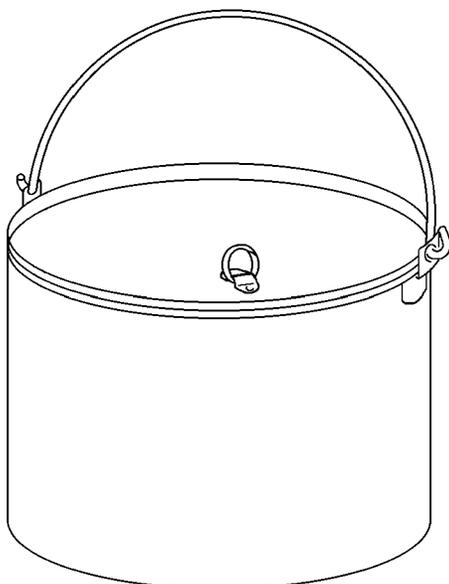


Figure 11-36. 2 Quart Aluminum Pot

011036

NOTE

The 2 Quart Aluminum Pot is available through sources listed in Table 1-1 or 1-2.

11-188. APPLICATION.

11-189. The 2 Quart Aluminum Pot is intended to provide an easy method of collecting and boiling water. In addition, the pot can be placed directly over a flame for easy use with pocket cookers. With the inclusion of the handle, the pot may be hung over open fires as well. For separation of salt water, the lid may be used to catch condensation once the water is boiling.

11-190. MAINTENANCE.

11-191. Maintenance is limited to inspection.

11-192. INSPECTION. The 2 Quart Aluminum Pot shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the pot is stored. To inspect the 2 Quart Aluminum Pot, proceed as follows:

1. Visually check for holes, cracks, or dents.
2. Damaged pots may be kept in service if the pot can hold 2 quarts of liquid.
3. Set flat on the pocket cookers.
4. Check for corrosion.
5. Ensure pail-type handle is securely attached to pot.

Section 11-3.19. Rationing Cup

11-193. DESCRIPTION.

11-194. The Rationing Cup (figure 11-37) can be used for a variety of tasks, including drinking, digging, and stowing small items. The polyethylene cup does not enhance cold weather injuries.

11-195. CONFIGURATION.

11-196. The Rationing Cup is a graduated 8 ounce container made from polyethylene.

NOTE

The Rationing Cup is available through sources listed in table 11-1 or 11-2.

11-197. APPLICATION.

11-198. The Rationing Cup is used in cold climate survival situations where metal containers placed up to the mouth may cause cold weather injuries.

11-199. MAINTENANCE.

11-200. Maintenance is limited to inspection.

11-201. INSPECTION. The Rationing Cup shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the rationing cup is stored. Inspection of the Rationing Cup is limited to visually inspection for defects which do not allow the cup to hold 8 ounces of liquid.



Figure 11-37. Rationing Cup

011037

Section 11-3.20. Telescoping Shovel

11-202. DESCRIPTION.

11-203. The Telescoping Shovel (figure 11-38) is to be used in cold weather environments on frozen ground, snow, and ice.

11-204. CONFIGURATION.

11-205. The Telescoping Shovel blade and shaft are constructed from Aluminum alloy. The shaft of the shovel telescopes from 14 inches to 22 inches using two shaft pieces. The hollow shaft allows for a lighter tool. The shovel also has a D-shaped durable plastic handle to help prevent cold weather injuries. The blade is 10 inches wide by 11 inches long.

NOTE

The Telescoping Shovel is available through sources listed in table 11-1 or 11-2.

11-206. APPLICATION.

11-207. The Telescoping Shovel is primarily for use in cold weather environments, where snow or ice may be prevalent. Its uses may include digging trenches, building snow shelters, or breaking ice. The two shafts can be used as shelter stakes and the blade may be used as a base for pocket cookers.

11-208. MAINTENANCE.

11-209. Maintenance is limited to inspection.

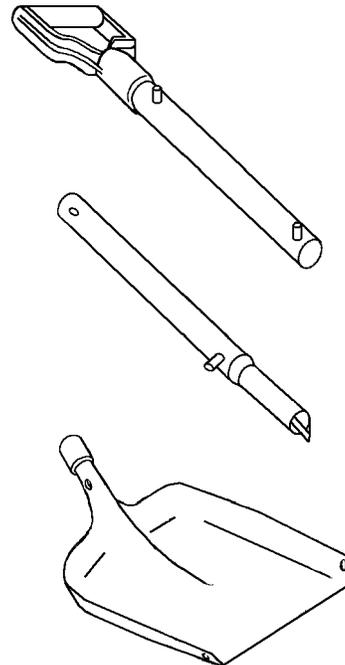


Figure 11-38. Telescoping Shovel

011038

11-210. INSPECTION. The Telescoping Shovel shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the shovel is

stored. Inspection of the shovel is assembling the shovel to ensure all parts are not damaged and fit together properly. Check for corrosion.

Section 11-3.21. Ice Screws

11-211. DESCRIPTION.

11-212. The Ice Screw (figure 11-39) is primarily used for the anchoring of shelters to ice, frozen soil, or packed snow.

11-213. CONFIGURATION.

11-214. The Ice Screws are constructed from Titanium alloy and are 7 inches long. The inner diameter of the ice screw is 1/2 inch and the wall thickness is 1/8 inch. The screw has three teeth on one end which are protected by a plastic cap. The top of the screw has a metal loop for attaching lanyards and shelter tie down ropes.

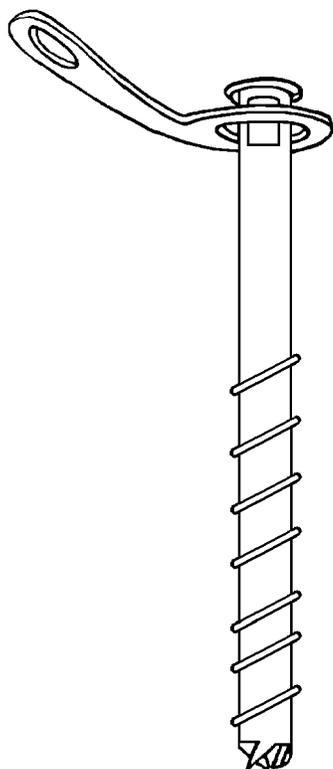


Figure 11-39. Ice Screw

011039

NOTE

The Ice Screw is available through sources listed in table 1-1 or 1-2.

11-215. APPLICATION.

11-216. The Ice Screw is to be used in environments characterized by snow and ice and possibly high wind gusts. The screw is intended for anchoring shelters by drilling holes for stakes, anchoring shelters directly, or both. Other uses include manual drilling through ice to obtain water or attachments for guy lines.

11-217. MAINTENANCE.

11-218. Maintenance is limited to inspection.

11-219. INSPECTION. The Ice Screw shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the Ice Screw is stored. To inspect the Ice Screw, proceed as follows:

1. Inspect the Ice Screw for security of metal ring on top of screw.
2. Inspect for corrosion of metal ring.
3. Ensure the teeth of the screw have a protective plastic cap or some other removable protective cover. Acceptable protective covers include an 8 inch long and 3 inch wide strip of 1000 denier Heavy Duty Cordura wrapped around the end of the screw and secured with two rubber bands.
4. Inspect rubber bands for deterioration. A two inch cube of Styrofoam is also an acceptable cover.

Section 11-3.22. Ice Pick

11-220. DESCRIPTION.

11-221. The Ice Pick (figure 11-40) is a hand held tool with a pick and hammer combination. This tool is to be used in cold weather environments.

11-222. CONFIGURATION.

11-223. The Ice Pick is a one piece forged solid steel tool with a nylon vinyl grip which is molded directly to the shank handle. The handle is 11 inches long. The pick also contains a square flat head for use when hammering is needed. This flat head is 3/4 x 7/8 inches. Attach a 18 inch lanyard of Type I nylon cord to the pick through the hole in the handle.

NOTE

The Ice Pick is available through sources listed in table 11-1 or 11-2.

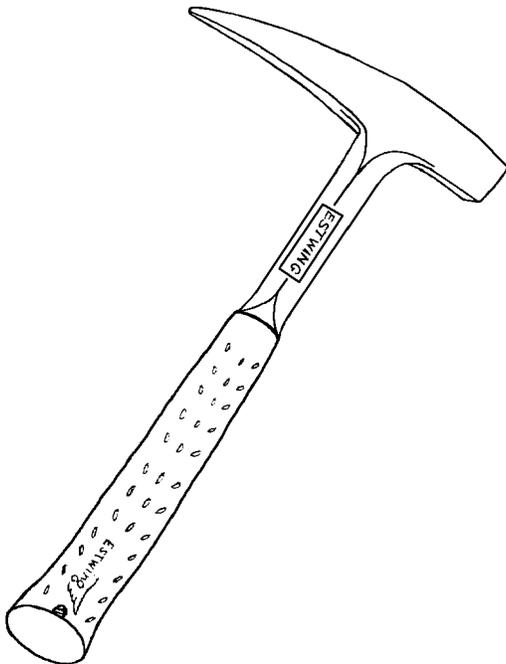


Figure 11-40. Ice Pick

011040

11-224. APPLICATION.

11-225. The pick shall be used primarily in cold environments, characterized by ice and snow. The uses of the pick end of the tool includes chipping ice for water, procurement of ice blocks for shelter, and creating anchoring holes. The square, flat end of the tool may be used as a hammer to break ice chunks or rocks.

11-226. MAINTENANCE.

11-227. Maintenance is limited to inspection. The Ice Pick shall have a lanyard attached through the hole in the handle using an 18-inch length of Type I nylon cord (NIIN 00-240-2146). After threading nylon cord through the hole, bring ends together and tie overhand knot. Trim ends to 1 inch and sear.

11-228. INSPECTION. The Ice Pick shall be inspected upon issue and every 90 days thereafter, or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the pick is stored. To inspect the Ice Pick, proceed as follows:

1. Visually check for corrosion or damage which may hinder the use of the tool.
2. Check integrity of lanyard.
3. Ensure the pick end of the tool has a protective plastic cap or some other removable protective cover. Acceptable protective covers include an 8 inch long and 3 inch wide strip of 1000 denier Heavy Duty Cordura wrapped around the end of the pick and secured with two rubber bands. A two inch cube of Styrofoam is also an acceptable cover.
4. Inspect rubber bands for deterioration.

Section 11-3.23. Rubber Tubing

11-229. DESCRIPTION.

11-230. The Rubber Tubing (figure 11-41) is contained in the cold weather survival kit to retrieve water, create food gathering mechanisms, and first aid applications.

11-231. CONFIGURATION.

11-232. This latex rubber tubing has an outer diameter of 19/64 inches and inner diameter of 9/50 inches. Tensile strength is 3500 pounds per square inch).

NOTE

Rubber Tubing is available through sources listed in table 11-1 or 11-2.

11-233. APPLICATION.

11-234. The intended use of the Rubber Tubing is for retrieval of water from ice holes, cracks in rocks and other water sources. The tubing can also be used for such uses as slingshots or tourniquets.

11-235. MAINTENANCE.

11-236. Maintenance of the Rubber Tubing is limited to inspection.

11-237. INSPECTION. The Rubber Tubing shall be inspected upon issue and every 90 days thereafter or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the Rubber Tubing is stored.

11-238. Place-In-Service Inspection.

1. Inspect the tubing for cracks, holes and contamination.

2. The Rubber Tubing shall be prepared for service as follows:

a. Cut one length of tubing 72 inches in length.

b. Cut one 2 x 5-inch piece of nylon duck material (MIL-C-3953).

c. Accordion-fold tubing in 4 inch bights and wrap material around center of accordion folded tubing.

d. Using a 12-inch length of Type I nylon cord (NIIN 00-240-2146), bring ends of cord together at the center of the material and tie with surgeon's knot followed by a square knot. Trim ends of cord to 1 inch and sear.

e. Position an overhand knot snugly against surgeon's knot.

11-239. Special Inspection (90-Day).

1. Inspect the tubing for cracks, holes and contamination.

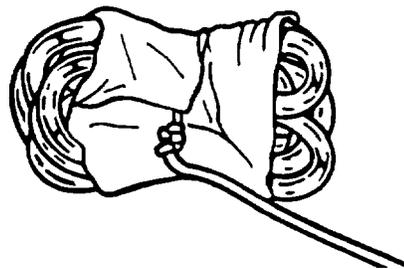


Figure 11-41. Rubber Tubing

011041

Section 11-3.24. Duct Tape

11-240. DESCRIPTION.

11-241. Duct Tape (figure 11-42) is contained in the cold weather survival kit to use as a quick repair for shelters, clothing, and equipment as well as first aid.

11-242. CONFIGURATION.

11-243. The roll of Duct Tape is a 2 inch wide plastic coated cloth back tape which is aluminum or silver in color. This vapor-proof adhesive tape contains 60 yards per roll and has a tensile strength of 25 pounds per square inch.

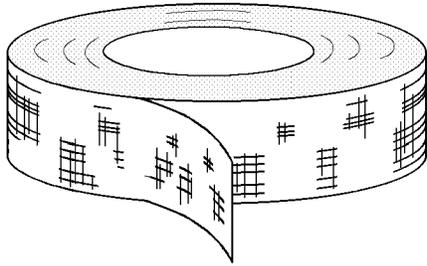


Figure 11-42. Duct Tape

011042

NOTE

Duct Tape is available through sources listed in [table 1-1](#) or [1-2](#).

11-244. APPLICATION.

11-245. Duct Tape may be used to quickly repair holes in the extreme cold weather shelter, thermal protective

aids, and other equipment contained in the cold weather survival kit. The tape may also be used to wrap metal objects prior to use to help prevent cold weather injuries. Shelters may also be constructed with the aid of the tape. First aid treatment using the duct tape may include construction of splints.

11-246. MAINTENANCE.

11-247. Maintenance of the Duct Tape is limited to inspection.

11-248. INSPECTION. The Duct Tape shall be inspected upon issue and every 90 days thereafter or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the Duct Tape is stored. Inspect the Duct Tape for adhesion.

Section 11-3.25. Plastic Bag

11-249. DESCRIPTION.

11-250. The Plastic Bag (figure 11-43) is included in the cold weather survival bag to be used for protection from precipitation and wind as well as storage, insulation, and gathering of food, ice and snow.

11-251. CONFIGURATION.

11-252. The Plastic Bag is a single wall polyethylene bag which is 39 x 33 inches. The bag has a 32/33 gallon capacity or 75 pound load capacity.

applications include storage of food, waste and ice/snow/water.

11-255. MAINTENANCE.

11-256. Maintenance of the Plastic Bag is limited to inspection.

11-257. INSPECTION. The Plastic Bag shall be inspected upon issue and every 90 days thereafter or at intervals to coincide with the inspection schedule of the survival kit or assembly in which the plastic bag is stored. Inspect the bag for rips, tears, and holes.

NOTE

The Plastic Bag is available through sources listed in [table 1-1](#) or [1-2](#).

11-253. APPLICATION.

11-254. The Plastic Bag is intended to be used as protection from precipitation and wind. The bag can also be used as a ground cover when opened up. Other

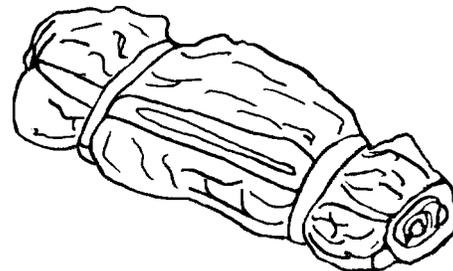


Figure 11-43. Plastic Bag

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