

CHAPTER 9

CMU-23A/P SURVIVAL VEST, P/N 1774AS300-1

Section 9-1. Description

9-1. GENERAL.

9-2. The CMU-23A/P Survival Vest is an SV-2B Survival Vest or CMU-23/P Survival Vest which has been modified in accordance with ACC 616 (as amended) for compatibility with the man-mounted pusher fan of the A/P23P-14A(V) CBR Protective Assembly (Upgrade) and the A/P22P-14(V)1 Respirator Assembly. Survival vests modified by ACC 616, and redesignated CMU-23A/P are dual purpose vests. For routine missions where there is no potential for CBR exposure, the vest can be configured like a non-CBR configuration in SV-2B Survival Vest (figure 9-1). With its interchangeable pocket configuration, however, the CMU-23A/P vest can be quickly reconfigured for missions requiring CBR protection.

front of the vest by means of directional snap fasteners, and hook and pile tape. The pusher fan and battery pack, enclosed in their pocket assembly, are secured to the vest by a receiving bracket which provides easy donning and doffing of the respirator assembly.

9-5. The CMU-23A/P Survival Vest, P/N 1774AS201-1, used by aircrews of USN/USMC helicopter, E-2C, and C-2A aircraft shall be modified by ACC 639 to accommodate the SRU-40/P Helicopter Aircrew Breathing Device (HABD). After modification the modified CMU-23A/P Survival Vest shall be reidentified as CMU-23A/P, P/N 1774AS300-101.

9-3. CONFIGURATION.

9-4. When the CMU-23A/P vest is in the CBR configuration (figure 9-2), the SRU-36/P Helicopter Emergency Egress Device (HEED), Survival Knife, and MK-79 Illumination Signal Kit are stowed in individual pockets which are then attached to the

9-6. APPLICATION.

9-7. The CMU-23A/P Survival Vest is intended for use by USMC helicopter aircrews operating CH-46D/E, CH-53D/E, MH-53E, and UH-1N helicopters who are equipped with the A/P23P-14A(V) Respirator Assembly and all other USN/USMC rotary wing aircrews who are equipped with the A/P22P-14(V)1 Respirator Assembly.

Section 9-2. Modifications

9-8. GENERAL.

9-9. The CMU-23A/P Survival Vest shall be updated by comparing the configuration of the assembly with the directives listed in table 9-1.

Table 9-1. CMU-23A/P Directives

| Description of Modification | Application | Modification Code |
|---|--|-------------------|
| Modification of CMU-23A/P, P/N 1774AS201-1, to accommodate the SRU-40/P Helicopter Aircrew Breathing Device (HABD). After modification reidentify as CMU-23A/P, P/N 1774AS300-101 | All CMU-23A/P Survival Vests used in USN/USMC helicopter, E-2C, and C-2A aircraft. | 66-639 |

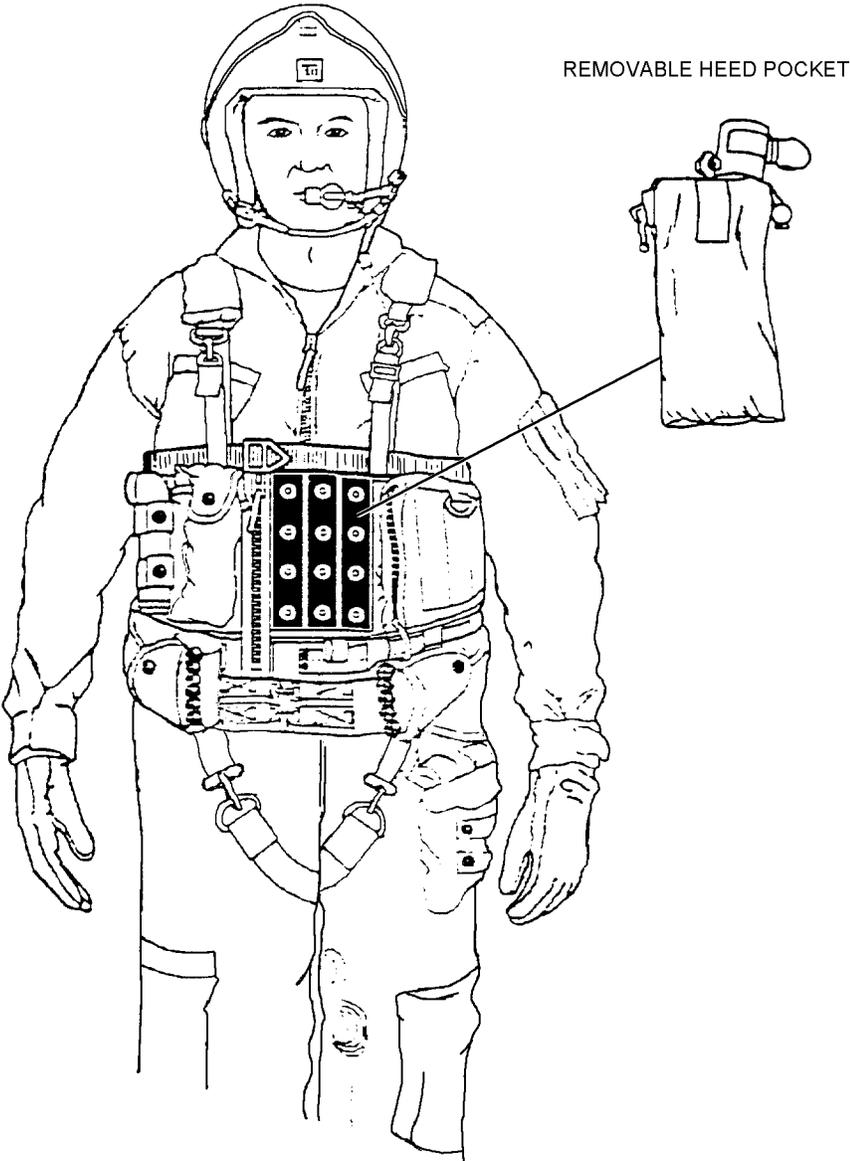


Figure 9-1. CMU-23A/P Survival Vest (Normal Configuration)

009001

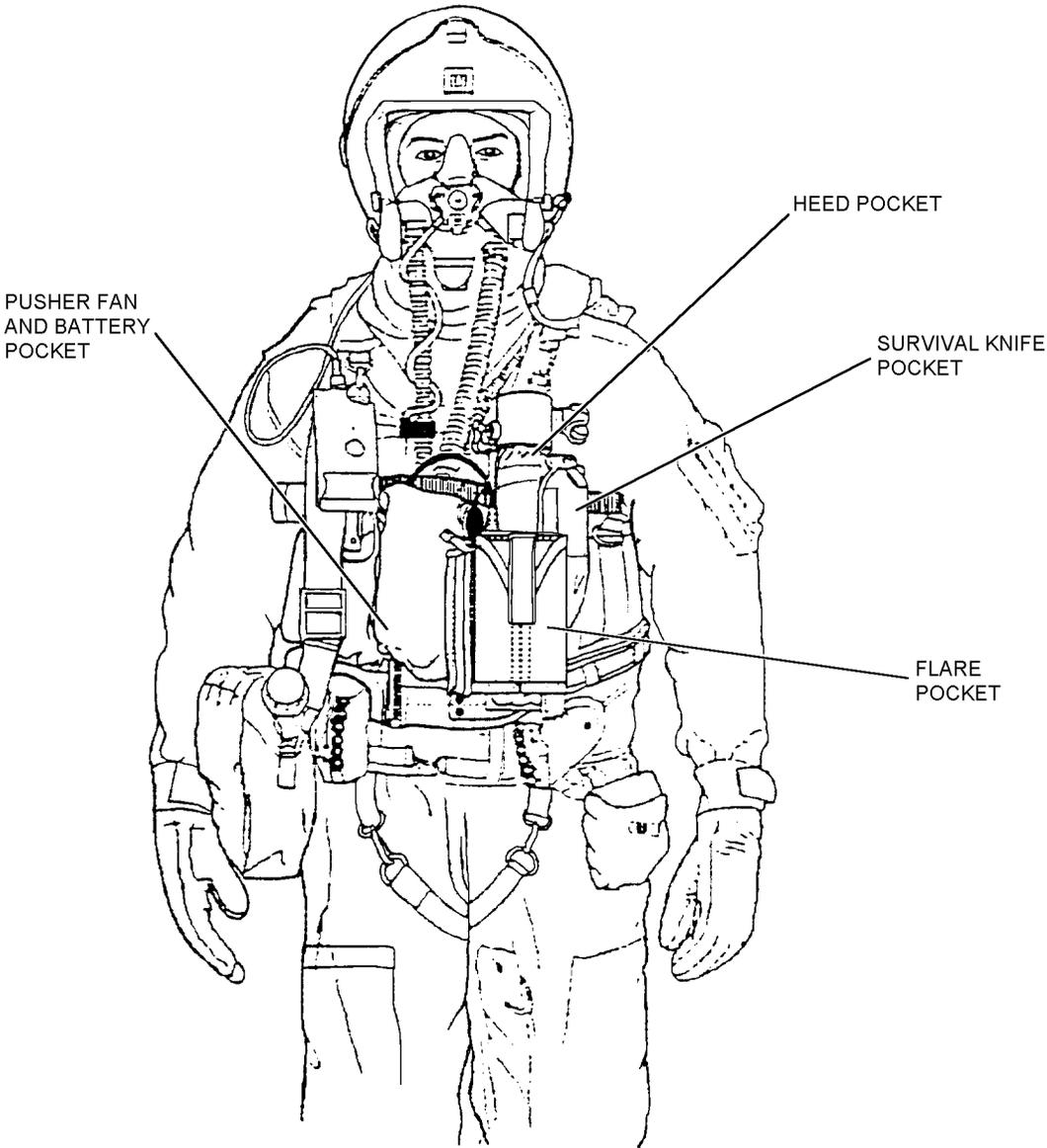


Figure 9-2. CMU-23A/P Survival Vest (CBR Configuration)

009002

Section 9-3. Maintenance

9-10. GENERAL.

9-11. Refer to the SV-2B Survival Vest section in Chapter 6 of NAVAIR 13-1-6.7-2 for inspection, cleaning, repair and, maintenance requirements applicable to the CMU-23A/P Survival Vest.

9-12. INSTALLATION OF CMU-23A/P CONFIGURATION. To modify SV-2B and CMU-23/P Survival Vests to CMU-23A/P configuration, proceed as follows:

1. Prepare vest for modification.

a. Remove equipment from pistol/HEED pocket.

b. (CMU-23/P only) Remove and discard velcro and snap fasteners used to secure tactical ventilator hose.

c. (CMU-23/P only) Remove four snap fasteners and webbing adjacent to slide fastener.

d. Remove approximately six inches of stitching securing V-ring end of hoisting strap to vest.

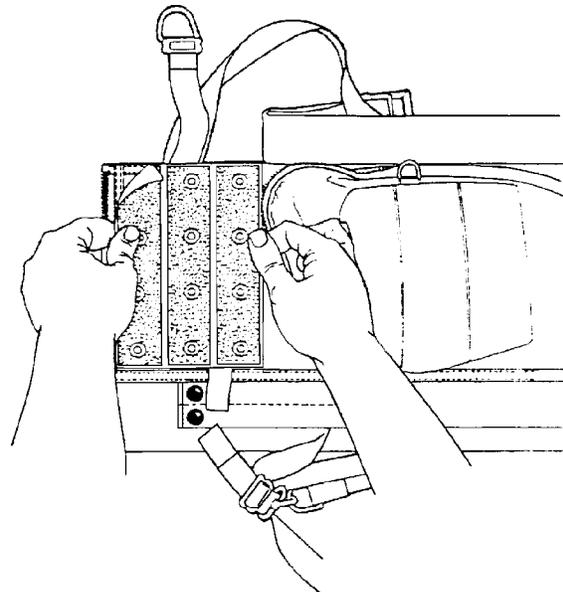
2. Remove pistol/HEED pocket from vest by carefully cutting stitching attaching it to vest and retain pocket for further modification.

3. Position Vest Snap Fastener Panel (with studs and pile tape) so 5 1/2-inch side is directly atop and even with the bound top edge of vest.

Materials Required

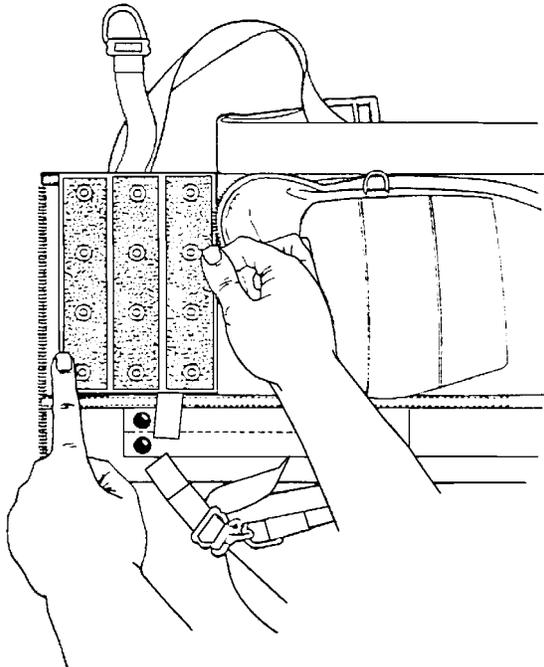
| Quantity | Description | Reference Number |
|-------------|---|---|
| As Required | Thread, Nylon, Sage Green, Size FF | V-T-295 NIIN 00-204-3787 (CAGE 81349) |
| 1 | Vest Snap Fastener Panel | 1774AS407-1 (CAGE 30003) |
| 1 | Pistol Snap Fastener Panel | 1774AS406-1 (CAGE 30003) |
| 1 | Pusher Fan and Battery Pocket Assembly | 1774AS401-1 (CAGE 30003) |
| 1 | Flare Pocket Assembly | 1774AS403-1 (CAGE 30003) |
| 1 | HEED Pocket Assembly | 1774AS404-1 (CAGE 30003) |
| 1 | Survival Knife Pocket Assembly | 1774AS405-1 (CAGE 30003) |
| 1 | Receiving Bracket Assembly | 1774AS408-1 (CAGE 30003) |
| 1 | HABD Hose Pocket Assembly | 1774AS412-1 (CAGE 30003) |
| 1 | HABD Bottle Pocket Assembly | 1774AS413-1 (CAGE 30003) |
| 1 | HABD Hose Pistol Pocket (Non-CBR Mode) Assembly | 1774AS414-1 (CAGE 30003) |

Note: Components for initial modification will be included with upgraded respirators as they are returned to fleet activities and are not available through normal supply channels. Components required for compliance with ACC 616 following initial modifications shall be requisitioned through normal supply channels using stock numbers that will be assigned at a future date and announced via separate correspondence.



Step 3 - Para 9-12

a. Position 7 1/2-inch side so it is atop and even with edge of vest fabric in which slide fastener is installed.

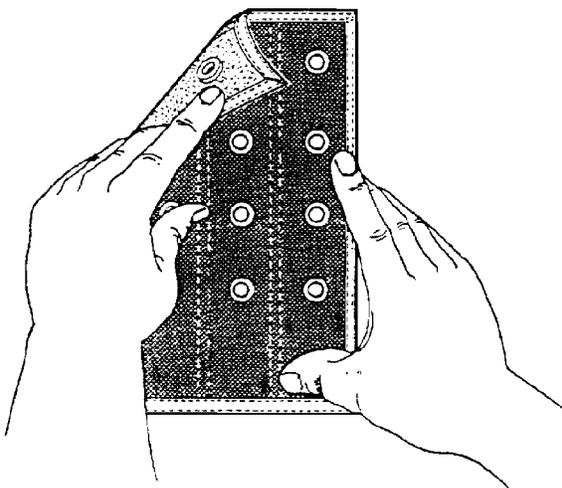


Step 3a - Para 9-12

9p12s3a

b. Sew in place with one row of stitching 1/8 inch from bound edge of panel, around perimeter of panel using 8 to 10 stitches per inch.

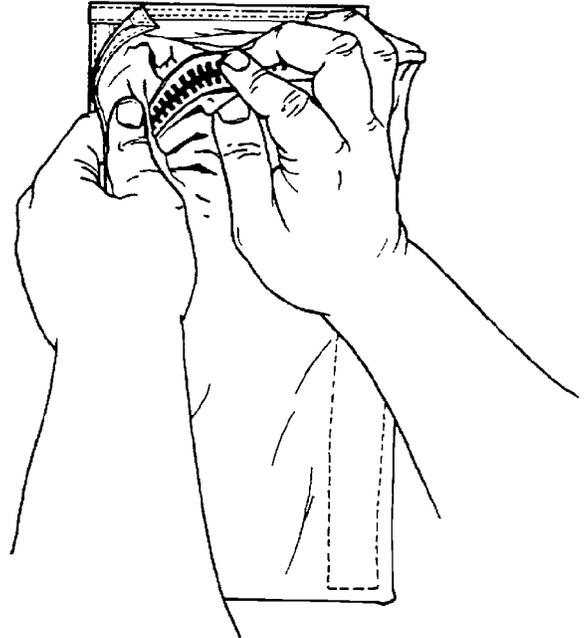
4. Lay Pistol Snap Fastener Panel, hook tape/sock-
et side down.



Step 4 - Para 9-12

9p12s4

a. Position rear face of pistol/HEED pocket over snap panel so edges align.



Step 4a - Para 9-12

9p12s4a

b. Sew pocket to panel around perimeters using one row of stitching 1/8 inch from edge at 8 to 10 stitches per inch.

5. Reinstall V-ring end of hoisting strap to vest in accordance with the SV-2B Survival Vest section in Chapter 6 of NAVAIR 13-1-6.7-2.

6. Reattach pistol/HEED pocket to vest using velcro and snap fasteners.

9-13. INSTALLATION OF CMU-23A/P SURVIVAL VEST CBR CONFIGURATION. To configure the CMU-23A/P vest for use on missions into CBR threat environments, proceed as follows:

CAUTION

Snap fasteners used to attach pockets to the vest are unidirectional Pull-the-Dot type which are used to prevent inadvertent separation. Resetting the snap fasteners may be difficult, use care to avoid damaging the snaps during attachment and removal.

1. Unsnap and remove pistol/HEED pocket.

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2. Remove HEED from pistol/HEED pocket and reinstall it in HEED Pocket Assembly securing it to D-ring inside the pocket.

3. Remove MK-79 Illumination Signal Kit from pistol/HEED pocket and reinstall it in Flare Pocket Assembly securing the retaining lanyards to grommet install in top flap of pocket using bowline knots.

4. Remove survival knife from pistol/HEED pocket and reinstall it in Survival Knife Pocket Assembly securing retaining lanyard to grommet near top of pocket using bowline knot.

5. Attach Survival Knife Pocket to side of HEED Pocket and the Flare Pocket to the front of HEED Pocket using snap fasteners and hook and pile tape.

6. Lay CMU-23A/P Survival Vest on flat surface with snap fastener panel facing up and on left. See [figure 9-3](#).

a. Attach Receiving Bracket Assembly to six snap fasteners in upper left quadrant of panel.

b. Attach HEED Pocket Assembly (with attached knife and flare pockets) to four vertically aligned snaps on right side of panel.

7. Enclose pusher fan and manifold of the respirator assembly in the Pusher Fan/Battery Pocket Assembly.

a. Ensure pusher fan inlet is not obstructed.

b. Route power cord so it exits pocket near pusher fan inlet.

c. Ensure slide fastener is fully closed.

8. Insert power cord in battery pack 3-pin receptacle and stow battery pack in pocket so power cord exits through battery pocket opening.

9-14. FABRICATION OF HELICOPTER AIRCREW BREATHING DEVICE, SRU-40/P (HABD) POCKET ASSEMBLY. The HABD pocket assembly consists of a Bottle Pocket and a CBR Hose Pocket or Non-CBR Hose Pocket to be fabricated as follows:

Materials Required

| Quantity | Description | Reference Number |
|-------------|--|-------------------------------|
| As Required | Cloth, Nylon Duck | MIL-C-7219, NIIN 01-173-4436 |
| As Required | Fastener Tape, Hook, 1-Inch | MIL-F-21840, NIIN 00-106-5973 |
| As Required | Fastener Tape, Pile, 1-Inch | MIL-F-21840, NIIN 00-405-2263 |
| As Required | Fastener Tape, Hook, 2-Inch | MIL-F-21840, NIIN 00-450-9837 |
| As Required | Fastener Tape, Pile, 2-Inch | MIL-F-21840, NIIN 00-405-2265 |
| As Required | Webbing, Textile, 1-Inch | MIL-W-5664D, NIIN 00-263-3600 |
| As Required | Webbing, Textile, 1-Inch | MIL-T-5038G, NIIN 00-261-8579 |
| As Required | Tape, Textile, 1-Inch | MIL-T-5038G, NIIN 00-753-6144 |
| As Required | Thread, Nylon, Size E, Sage Green | V-T-295, NIIN 00-204-3884 |
| 3 | Cap, Snap Fastener | MS27983-1, NIIN 00-891-9073 |
| 3 | Socket, Snap Fastener | MS27983-2, NIIN 00-945-2577 |
| 6 | Stud, Snap Fastener | MS27983-3, NIIN 00-276-4908 |
| 6 | Post, Snap Fastener | MS27983-4, NIIN 00-276-4978 |
| 3 | Grommet, Size 00 | MS20230B20, NIIN 00-291-0302 |
| 1 | Strap, Tie Down | MIL-S-23190, NIIN 00-111-3208 |
| 1 | Bead, Inflation Handle (Note) | 975AS122-1 |
| 1 | Breathing Device, Helicopter Aircrew, SRU-40/P | 1586AS301-1 |

Note: Obtain bead for inflation handle from Beaded Handle Assy (P/N 975AS121-11, NIIN 01-120-4752) or salvage from LPU-21 or LPU-23 beaded handles.

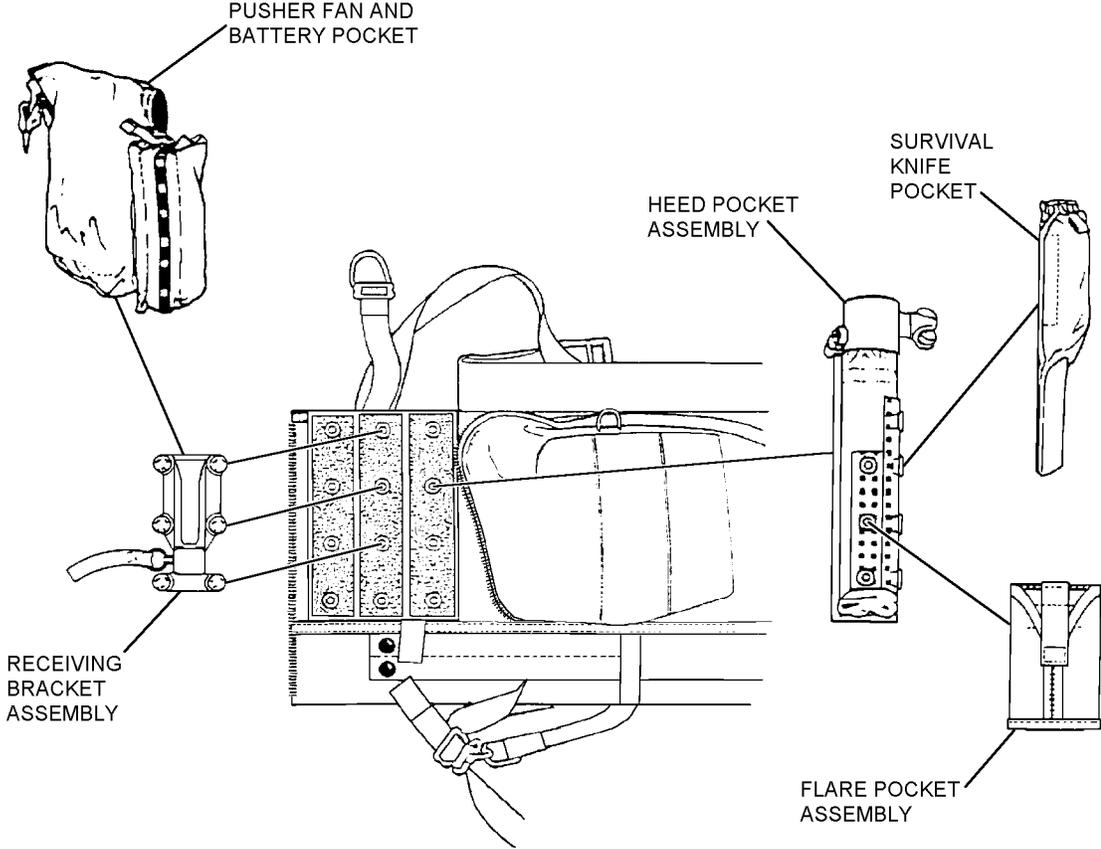


Figure 9-3. Attachment of CMU-23A/P Survival Vest CBR Components

009003

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NOTE

Sear all cut edges of nylon webbing and tape to prevent fraying (recommend use of Cutter, Nylon Webbing, NIIN 00-956-008). Do not form sharp edges. Unless otherwise specified all stitching shall be Type 301, 8 to 10 stitches per inch, with minimum 3/4-inch back or over stitch. All stitching shall be 1/8 inch from edge unless otherwise specified. All binding tape shall be sewn using two rows of stitching 1/8 inch apart. Use china marker or equivalent for all markings.

9-15. Fabrication of Bottle Pocket Panel. Refer to [figure 9-4](#) and proceed as follows:

1. Cut a piece of nylon duck cloth 4 3/4 x 8 inches and bind the 8-inch edges with 1-inch binding tape.

2. Cut two 4 3/4-inch lengths of 2-inch hook tape.

3. Orient duck cloth so 8-inch edges are at top and bottom.

4. Measure and mark bottom edge 1 3/4 inches from lower left-hand corner.

5. Measure and mark top edge 1 3/4 inches from top left-hand corner.

6. Draw a vertical line connecting the two 1 3/4-inch positions.

7. Place the two pieces of hook tape with 4 3/4-inch edges side by side along the right side of the vertical line.

8. Sew all edges of both pieces of hook tape in place.

9. Measuring from the top left-hand corner mark portions at 2 3/4 and 4 3/4 inches along top edge.

10. Measuring from the lower left-hand corner mark positions at 2 3/4 and 4 3/4 inches along bottom edge.

11. Draw vertical lines connecting the 2 3/4-inch portions and the 4 3/4-inch positions.

12. On the vertical line between the 2 3/4-inch positions, measuring from the top, mark portions at 1/2 inch, 2 1/2 inches, and 4 1/2 inches.

13. On the vertical line between the 4-3/4-inch positions, measuring from the top, mark positions at 1/4 inch, 2 1/4 inches, and 4 1/4 inches.

14. Punch holes at marked positions.

15. Set posts and studs in the holes with studs showing on the hook tape side.

16. From the top edge, between the two lengths of installed hook tape, measure down 3/8 inch and mark.

17. Punch a hole at the mark and set a grommet in the hole.

18. Measuring from the top left-hand corner mark a position on the top edge at 1/2 inch.

19. Measuring from the bottom left-hand corner mark a position on the bottom edge at 1/2 inch.

20. Draw a vertical line connecting the two 1/2-inch positions.

21. Fold the bottle panel in half so the 4 3/4-inch seared edges meet and the hook tape is showing.

22. Stagger the placement of the top and bottom edges to be side by side rather than stacked to reduce the number of layers.

23. Sew a row of stitches along the line connecting the 1/2-inch marks.

9-16. Fabrication of the HABD Hose Pocket Panel For Non-CBR Configuration. Refer to [figure 9-5](#) and proceed as follows:

1. Cut a piece of nylon duck cloth measuring 10 x 6 1/2 inches.

2. Orient the cloth so the 6 1/2-inch edges are at the top and bottom.

3. Measure and mark the right-hand edge 1 1/4 inches down from the top right-hand corner.

4. Draw a cutline from the top left-hand corner to the 1 1/4-inch mark on the right-hand edge and cut the fabric along the line.

9-8 Change 5

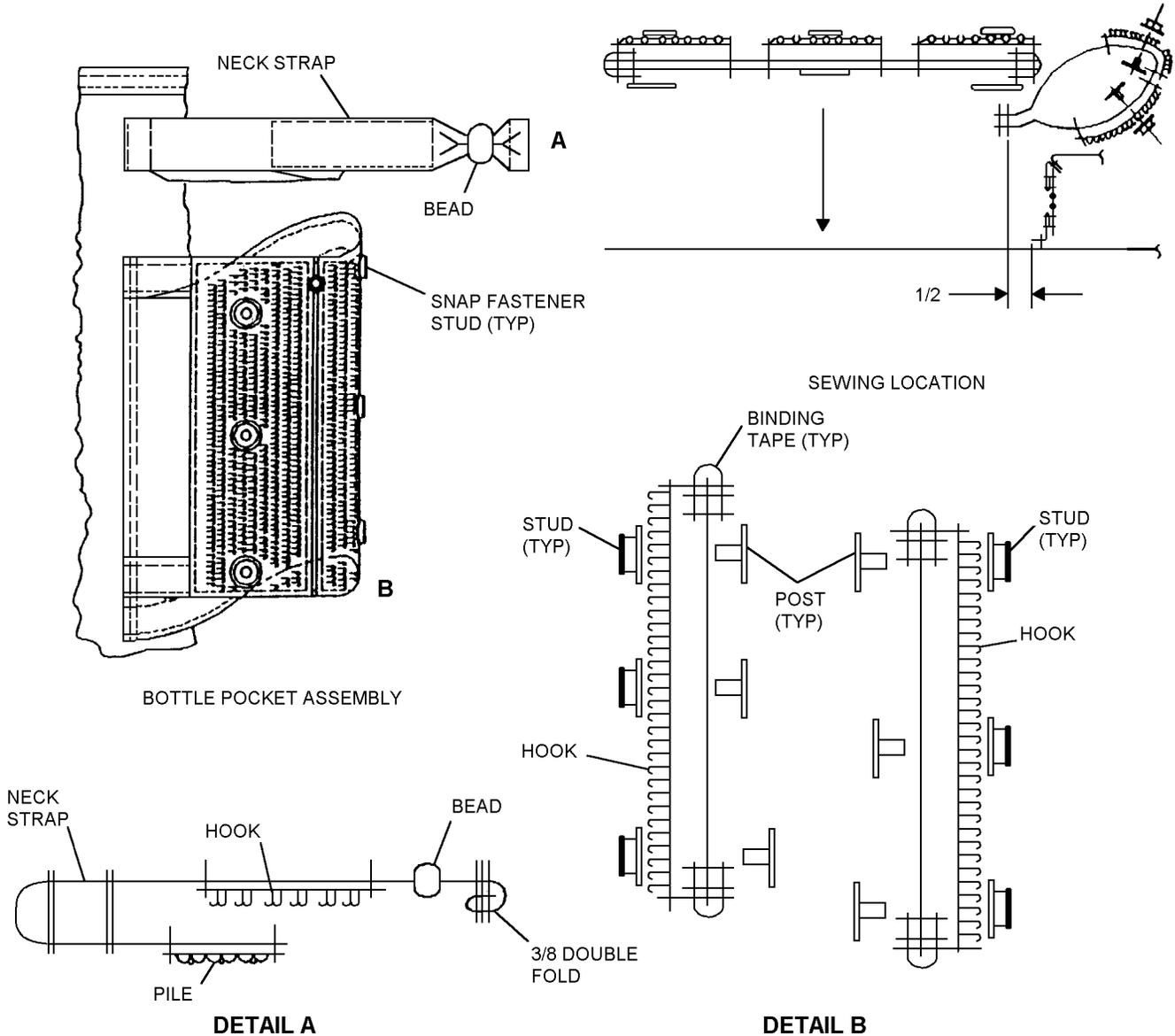


Figure 9-4. Fabrication of SRU-40/P HABD Bottle Pocket Assembly

009004

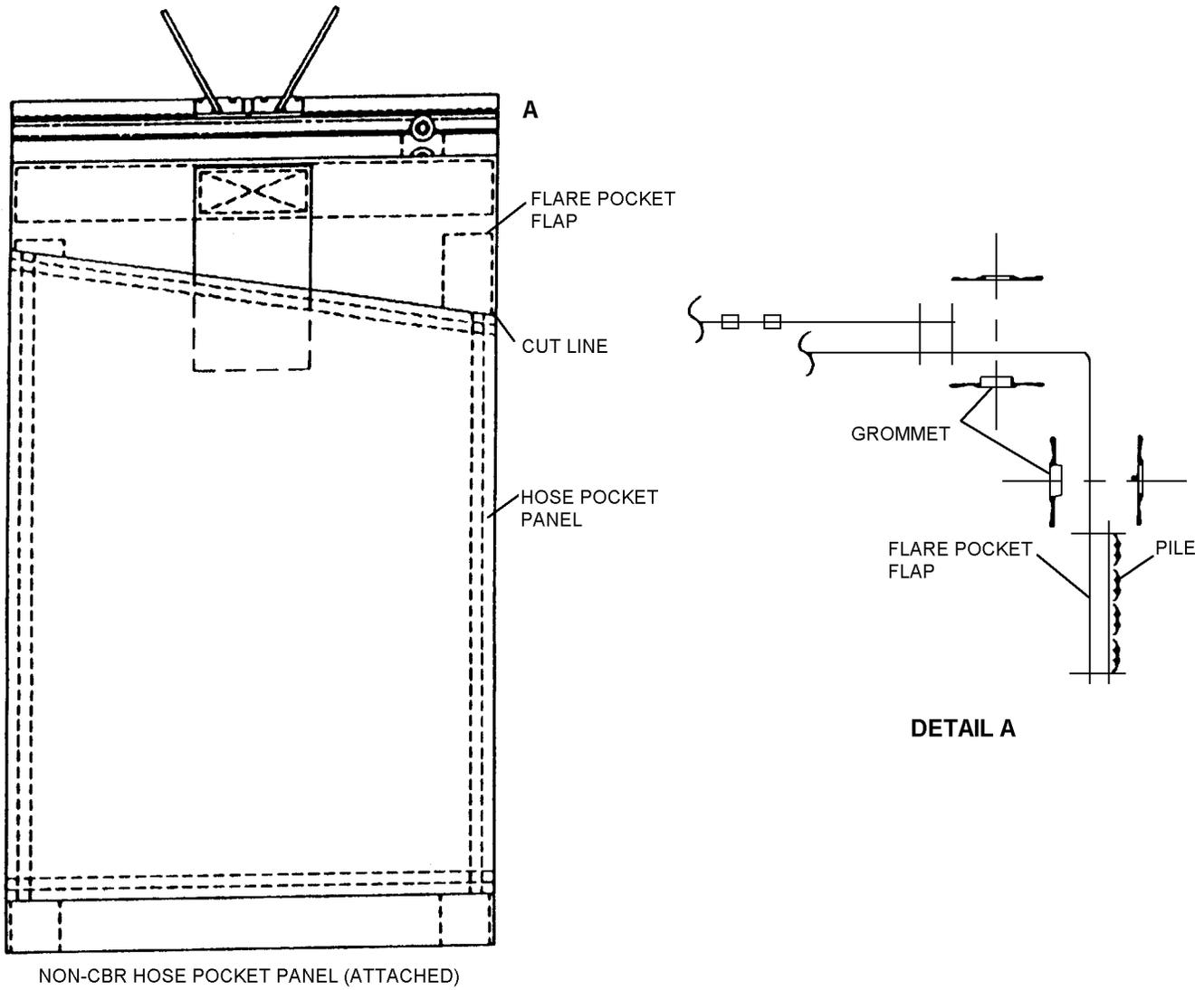


Figure 9-5. Non-CBR Hose Pocket Assembly

009005

5. Double fold the top and bottom edges 3/8 inch to the back side of the fabric.

6. Stitch a hemline 1/8 inch from the outer edge and another 1/4 inch from the edge.

7. Single fold the side edges 3/8 inch to the back side of the fabric and sew edges in place 1/8 inch from folded edge.

9-17. Attaching HABD Hose Pocket Panel to Pistol Pocket. Refer to figure 9-5 and proceed as follows:

1. Unfasten the flare pocket on the pistol pocket.

2. On the face of the flare pocket flap, measure and mark the left edge 1 inch down from the top left-hand corner.

3. On the face of the flare pocket flap, measure and mark the right edge 2 1/4 inches down from the top right-hand corner.

4. Position the hose pocket panel on the outside face of the flare pocket flap so the top left-hand corner of the panel is aligned at the 1-inch mark and the top right-hand corner is aligned with the 2 1/4-inch mark.

5. Sew the left and right sides of the panel in place on the flare pocket flap using one row of stitches 1/8 inch from the outer edge and another 1/4 inch from the outer edge. Reinforce with a minimum backstitch of 1 inch.

9-18. Fabrication of HABD Bottle Neck Strap. Refer to figure 9-4 and proceed as follows:

1. Cut a 12 1/2-inch length of 1-inch webbing. Measure and mark 2 inches from one end.

2. Turn webbing over and, measuring from the same end as in step 1, mark webbing at 4 inches, 6 1/2 inches, and 9 1/2 inches.

3. Cut a 2-inch length of 1-inch pile tape and sew on webbing between the end and the 2-inch mark measured in step 1.

4. Cut a 3-inch length of 1-inch hook tape and sew in place on webbing between 6 1/2-inch and 9 1/2-inch marks measured in step 2.

5. On hook tape end of webbing, slide a bead onto the webbing until it touches the hook tape.

6. Make 3/8-inch double fold, end over end, on end of webbing and sew the fold together using three rows of stitches placed side by side.

7. Fold webbing at the 4-inch mark so hook tape is on the inside and pile tape is outside.

9-19. Setting Grommet on Pistol Pocket. Refer to figure 9-5 and proceed as follows:

1. Unfasten the upper flap of the flare pocket.

2. Turn pocket over and lay it flat so the pile tape is facing up and is at bottom.

3. Measure and mark the right-hand edge in two places; 1 1/4 inches and 1 3/4 inches up from the bottom right-hand corner.

4. Measure and mark grommet locations 1 1/2 inches to the left of the 1 1/4 and 1 3/4-inch marks made in step 3.

5. Punch holes at marked locations and set grommets.

9-20. FABRICATION OF HABD HOSE POCKET FOR CBR CONFIGURATION. The HABD hose pocket consists of two major parts, the back panel and the front panel.

9-21. Fabrication of Back Panel of HABD Hose Pocket. Refer to figure 9-6 and proceed as follows:

1. Measure and cut a piece of nylon duck cloth 16 inches x 4 1/2 inches.

2. Orient the cloth so the 4 1/2-inch edges are at the top and bottom.

3. Measure and mark the right-hand edge of the cloth 1 1/4 inches up from the lower right-hand corner.

4. Measure and cut 6 1/2-inch length of 2-inch pile tape.

a. With pile facing up and the length of the pile tape positioned with its right edge aligned with the right edge of the cloth, place lower right-hand corner of pile tape at the 1 1/4-inch mark made in step 3.

b. Sew the left edge of the pile tape in place.

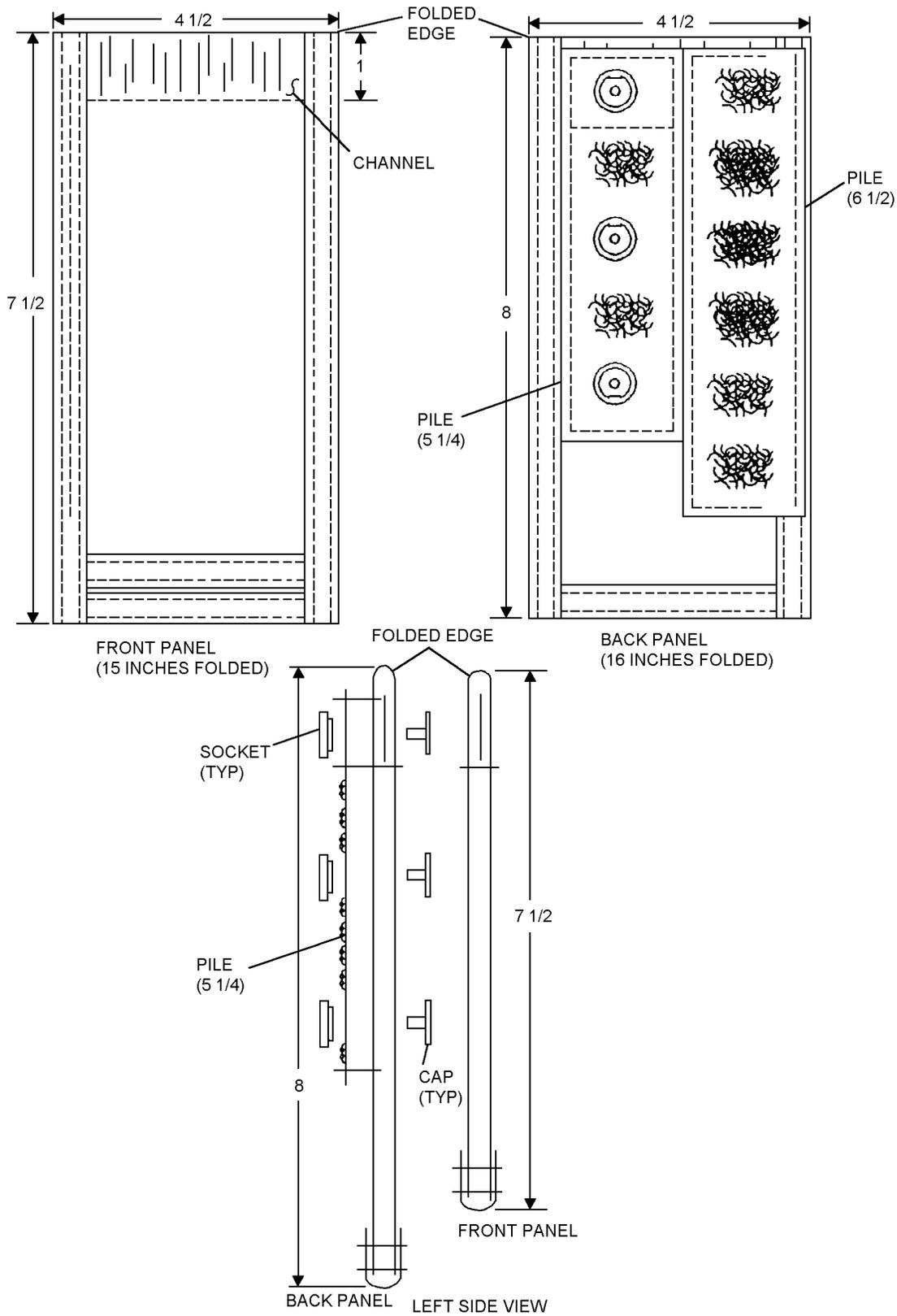


Figure 9-6. Fabrication of CBR Hose Pocket Assembly

009006

c. Sew the top and bottom of the pile tape in place to within 3/4 inch of the right edge of the cloth.

5. From the lower left-hand corner of the sewn pile tape, measure up 2 1/2 inches and mark the position on the left edge of the tape.

6. Measure and cut a 5 1/4-inch length of 2-inch pile tape.

a. Place pile tape next to the sewn edge of the pile tape attached in step 4b aligning the top edges and ensuring the lower right-hand corner of the tape is positioned at the 2 1/2-inch mark made in step 5.

b. Sew all edges of the 5 1/4-inch pile tape in place.

c. Measure and mark a line down the center of the 5 1/4-inch length of pile tape.

d. Measuring up the center line from the bottom edge of the 5 1/4-inch tape, mark positions at 3/4 inch, 2 3/4 inches, and 4 3/4 inches.

7. Fold the panel in half leaving the 4 1/2-inch folded edge as the top.

a. Bind the bottom edge of the panel with 1-inch textile tape.

b. Measure and mark the right and left edges 1 inch down from the folded edge of the top.

c. Draw a sew line connecting the 1-inch marks.

d. Sew along the sew line to 3/4 inch from the right edge creating a 1-inch wide channel.

8. Measure and cut a 3-inch length of 1-inch elastic and slide the elastic through the channel created in step 7d.

9. Align the right end of the elastic with the right edge of the channel.

10. Fold back the 6 1/2-inch pile tape installed in steps 4c through 4c and sew the right end of the elastic to the pile tape (through the elastic and the nylon fabric, not through the pile tape).

9-22. Fabrication of Front Panel of HABD Hose Pocket. Refer to figure 9-6 and proceed as follows:

1. Measure and cut a piece of nylon duck cloth 15 inches X 4 1/2 inches.

2. Orient the cloth so the 4 1/2-inch edges are at the top and bottom.

3. Fold the cloth in half so the 4 1/2-inch folded edge is now at the top.

4. Bind the two bottom edges with 1-inch textile tape.

5. Measure and mark right and left edges 1 inch down from the top folded edge.

a. Draw a sew line connecting the 1-inch marks.

b. Sew along the sew line creating a 1-inch channel.

6. Measure and cut a 3-inch length of 1-inch elastic and slide the elastic into the channel.

7. Align one end of the elastic with one of the edges of the channel and sew the edges together.

9-23. Assembly of the HABD Hose Pocket. Refer to figure 9-6 and proceed as follows:

1. Place the back panel on top of the front panel with the pile tape side of the back panel facing up and the sewn elastic edges of each panel aligned, one on top of the other.

2. Align the top edges, top corners, and the left and right edges of the panels.

3. Fold back the 6 1/2-inch pile tape and bind the right edges of the panels together with 1-inch textile tape.

4. Sew right edge of 6 1/2-inch pile tape in place over binding tape.

5. Stretch remaining edge of elastic of back panel through the channel to opposite edge and sew in place.

6. Punch holes through back panel only at 3/4-inch, 2 3/4-inch, and 4 3/4-inch marks made on center line of pile tape in step 6d, paragraph 9-21.

a. Set caps and sockets in holes so sockets show on the pile tape side.

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b. The top two sockets shall have their flat locking edge on top and the lowest socket shall have the flat locking edge downward to the bottom (figure 9-6).

7. Stretch elastic of the front panel through channel to opposite edge and sew remaining edge in place.

8. Bind left edges of panels together using 1-inch textile tape.

9-24. Attachment of HABD Bottle Pocket. Refer to figure 9-4 and proceed as follows:

1. Locate the point between the attachment point of the snap panel to the vest and the bottom edge of the side fastener tape of the general pocket.

2. Draw a line outlining where the right edge of the snap panel lays on the vest.

3. Carefully remove the stitching from the right edge of the snap panel that attaches the panel to the vest.

4. Measure and mark a line 1/2 inch to the left of the snap panel edge line.

5. Place the bottle pocket on the vest with the bottom of the bottle pocket just above the edge of the lower binding on the vest.

6. Align the 4 3/4-inch seared edges with the 1/2-inch line on the vest and the 1/2-inch marks on the pocket with the line from the snap panel edge.

7. Sew the bottle pocket in place with two rows of stitches side by side beginning 1/4 inch from the seared edge of the 4 3/4-inch side. Be careful not to sew beyond the stitching of the bottle pocket.

9-25. Attachment of the HABD Bottle Neck Strap. Refer to figure 9-4 and proceed as follows:

1. Locate the binding on the top edge of the vest.

2. Measure and mark 1 inch to the left of the snap panel edge line at the bottom edge of the binding.

3. Orient the bottle neck strap so the folded edge is on the left edge and the bead is on the right.

4. Place the top corner of the fold at the 1-inch mark.

5. Sew strap in place with two rows of stitches side by side 1-inch from the folded edge.

6. Resew the snap panel onto the vest using two rows of stitches along the original stitch lines.

9-26. Attaching Hook Tape to CBR Pusher Fan Pocket When Using the HABD Bottle. Refer to figure 9-7 and proceed as follows:

1. Measure and cut a 5-inch length of 2-inch hook tape.

2. Locate top left corner of the right side panel of the CBR pusher fan battery pocket.

3. Place the hook tape on the battery pocket aligning the 2-inch edge of the hook tape with the top edge of the pocket and the left edge of the pocket.

4. Sew hook tape in place.

9-27. REMOVAL AND DISPOSITION OF THE SRU-36/P HELICOPTER EMERGENCY EGRESS DEVICE (HEED). Prior to beginning the modification in accordance with ACC 639 the SRU-36/P and its supporting modifications must be removed from the vest as follows:

1. Remove the SRU-36/P from the pistol pocket and return it to supply in F condition.

2. Remove stitching securing the SRU-36/P tether inside the pistol pocket; remove and discard the tether.

3. If vest is configured with the SRU-36/P pocket assembly, P/N 1774AS304-1, unsnap pocket assembly from vest and return it to supply in F condition.

9-28. STOWING THE SRU-40/P HELICOPTER AIRCREW BREATHING DEVICE (HABD) IN RECONFIGURED SURVIVAL VEST. Ensure the SRU-40/P HABD has been inspected in accordance with NAVAIR 13-1-6.5 and proceed as follows:

1. Check to ensure HABD is in RFI condition.

2. Place HABD in new pocket and secure bottle neck strap around bottle neck.

3. Route regulator hose down through top of hose pocket in a single U-shaped loop, leaving regulator out.

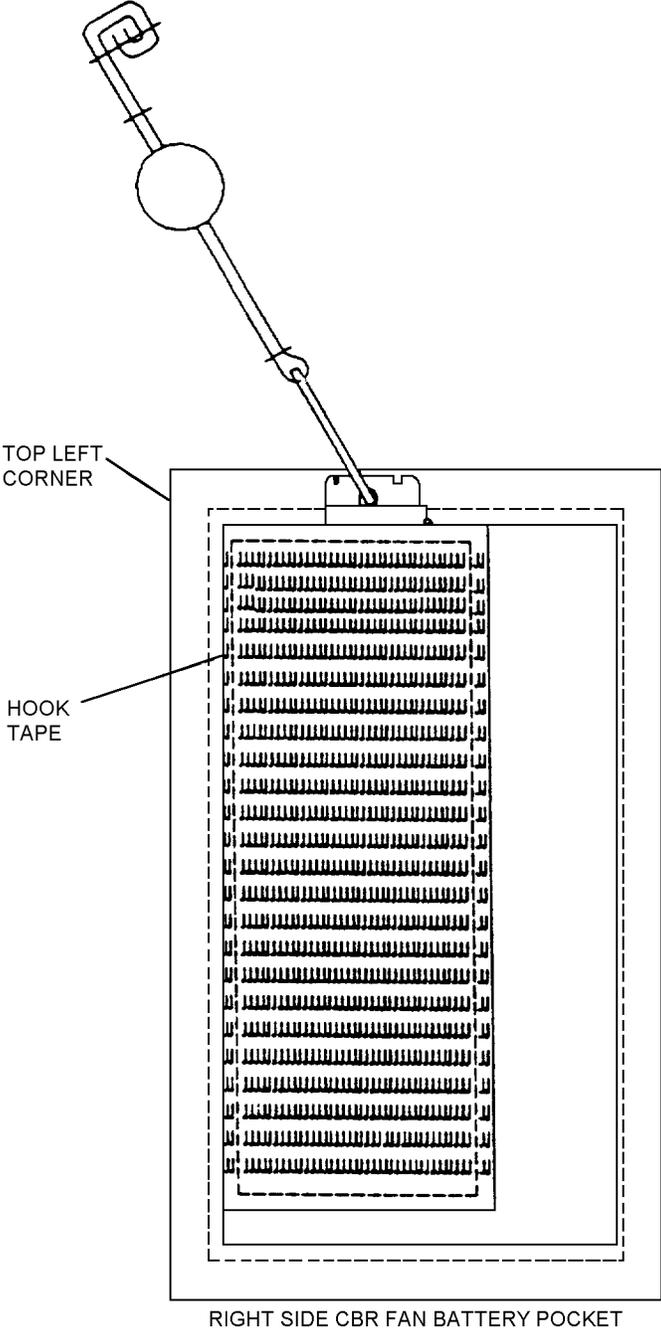


Figure 9-7. Attachment of Hook Tape to CBR Pusher Fan Battery Pocket

009007

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9-29. Stowing Non-CBR Configuration.

1. Pass a plastic tie wrap through the center of the mouthpiece cover, around the top and through both grommets.

2. Secure tie wrap so it is tight around the cover, but not pinching.

3. Place regulator inside mouthpiece cover and position the mouthpiece so it is between the bottle and the regulator with the regulator purge cover facing toward the entrance slide fastener of the vest.

9-30. Stowing CBR Configuration.

1. Pass plastic tie wrap through the center of the mouthpiece cover, around the narrowest part of the cover and through both grommets.

2. Secure the tie wrap tightly around the cover.

3. Place regulator inside mouthpiece cover and position the mouthpiece so it is between the bottle and the regulator with the regulator purge cover facing toward the entrance slide fastener of the vest.

9-31. FABRICATION OF HEED TETHER. The HEED Tether is comprised of two assemblies, a snap hook assembly and a handle assembly. Each assembly is fabricated as follows:

Materials Required (Cont)

| Quantity | Description | Reference Number |
|-------------|--|--------------------------------|
| As Required | Webbing, 1-Inch, Nylon, Type II, Shade 33538 | MIL-W-4088 |
| As Required | Tape, Webbing, 1-Inch, (Alternate) | MIL-T-5038 NIIN 00-262-1643 |

NOTE

All stitching shall be 301 lock stitch, 6 to 9 stitches per inch, 1/8 inch from edge.

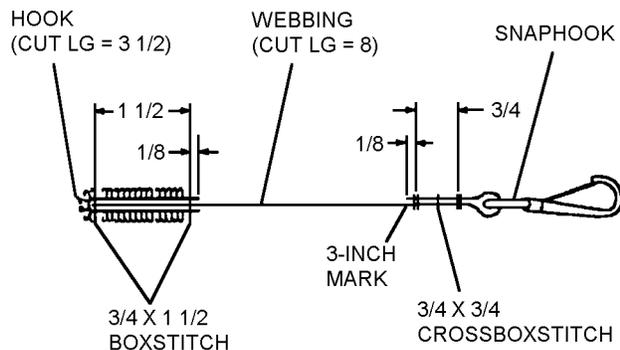
1. For snap hook assembly, measure 8-inch length of 1-inch webbing and sear cut ends.

a. Measure and mark 3 inches from either end of webbing.

b. Insert marked end of webbing through snap hook and fold over to 3-inch mark and sew using 3/4 x 3/4-inch crossboxstitch.

c. Cut 3 1/2-inch of 1-inch hook tape and fold in half with hook side out. Sandwich free-end of webbing between folded hook tape and sew together using 3/4 x 1 1/2-inch boxstitch.

| Materials Required | | |
|--------------------|--|-----------------------------------|
| Quantity | Description | Reference Number |
| 1 | Bead, Inflation Handle | 975AS122-1 |
| As Required | Thread, Nylon, Size E, SG Type 1 or Type 2 | V-T-295 NIIN 00-204-3884 |
| As Required | Fastener Tape, Pile, 1-Inch | MIL-F-21840 NIIN 00-106-5974 |
| As Required | Fastener Tape, Hook, 1-Inch | MIL-S-21840 NIIN 00-106-5973 |
| 1 | Snap Hook, 1-Inch Base | MIL-S-43770/1 NIIN 01-187-9402 |
| As Required | Cord, Type 1A | MIL-C-5040 NIIN 00-292-9920 |



Steps 1b and 1c - Para 9-31

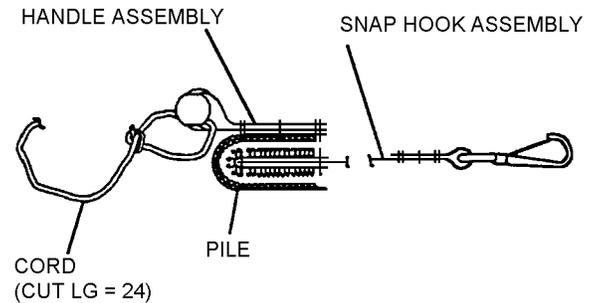
9p31s1b

2. For handle assembly, measure 6-inch length of 1-inch webbing and sear cut ends.

a. Thread end of webbing through inflation handle bead; center, fold in half, and align webbing ends.

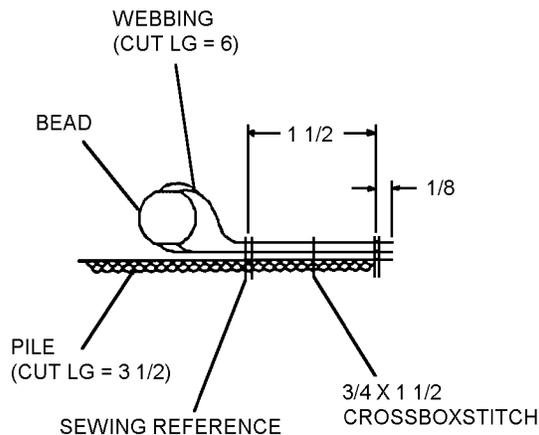
b. Cut 3 1/2-inch length of pile tape. Measure and mark sewing reference line at mid point of pile tape.

c. Place pile tape on top of folded webbing with pile facing out. Align end of pile with ends of webbing and sew together using 3/4 x 1 1/2-inch cross-boxstitch leaving opposite end of pile tape free and extending beyond handle bead.



9p31s3

Steps 3 and 4 - Para 9-31



9p31s2a

Steps 2a thru 2c - Para 9-31

3. To assemble snap hook assembly and handle assembly, align sewn end of pile tape on handle assembly with end of hook tape sewn to top of snap hook webbing. Mate pile tape with hook tape around end of snap hook assembly and along bottom of webbing.

4. Cut a 24-inch length of cord and thread end through webbing loop on which handle bead is installed and secure loose loop with bowline knot and lock with overhand knot. Total length of assembled tether from tip of snap hook to neck of HEED should be 29 inches ± 1 inch.

NOTE

The opposite end of the cord is secured to neck of HEED bottle.

9-32. FABRICATION OF CMU-23A/P CONFIGURATION COMPONENTS. Figure 9-8 illustrates the locations of the components which make up the CBR mode configuration of the CMU-23A/P Survival Vest.

Materials Required

| Quantity | Description | Reference Number |
|-----------------------|-----------------------------|----------------------------------|
| 1 Yd | Nylon Fabric | MIL-C-7219 NIIN 01-173-4436 |
| 20-Inches x 20-Inches | Vinyl Coated Nylon | MIL-C-20696 NIIN 00-616-0022 |
| 2 | Slide Fastener, Size MED | A-A-55634 NIIN 00-252-5398 |
| 2 | Bottom Stops, LG | A-A-55634 NIIN 00-472-8679 |
| As Required | Thread, Nylon, Size E | V-T 295 NIIN 00-204-3884 |
| 8 Inches | Elastic, 1-Inch | MIL-W-5664 NIIN 00-263-3600 |
| 2 | Grommet, Size 00 | MS20230B20 NIIN 00-291-0302 |
| 4 | Rivet | MS20426AD4-6 NIIN 00-117-6951 |
| 12 Inches | Webbing, Textile, Type IV | MIL-T-5038 NIIN 00-655-5123 |
| 1 Yd | Fastener Tape, Hook, 2-Inch | MIL-F-21840 NIIN 00-450-9837 |
| 1 Yd | Fastener Tape, Pile, 2-Inch | MIL-F-21840 NIIN 00-405-2265 |
| 26 | Cap, Snap Fastener | MS27983-1 NIIN 00-891-9073 |
| 26 | Socket, Snap Fastener | MS27983-2 NIIN 00-893-6243 |
| 20 | Stud, Snap Fastener | MS27983-3 NIIN 00-276-4908 |
| 20 | Post, Snap Fastener | MS27983-4 NIIN 00-276-4978 |

Materials Required (Cont)

| Quantity | Description | Reference Number |
|-----------|--|------------------------------------|
| 1 Yd | Fastener Tape, Hook, 1-Inch | MIL-F-21840 NIIN 00-106-5973 |
| 1 Yd | Fastener Tape, Pile, 1-Inch | MIL-F-21840 NIIN 00-106-5974 |
| 6 | Tape, Textile, Nylon, Type III, 1-Inch | 92XE-18103-A2B NIIN 00-753-6144 |
| 24 Inches | Tape, Textile, Nylon, Type III, 1/2-Inch | MIL-T-5038 NIIN 00-255-7673 |
| 22 Inches | Tape, Textile, Nylon, Type III, 1/2-Inch | MIL-T-5038 NIIN 00-255-7673 |

7 to 10 stitches per inch with 3/4-inch backstitching or overstitching unless otherwise stated. All nylon material will be sear cut. Position all patterns with the warp direction of the fabric. Edge stitching shall be 1/8 inch from edge unless otherwise stated.

1. Place pistol pocket snap fastener panel pattern (figure 9-10) on the nylon fabric, mark a point, sew line edges and cut out the panel. Turn panel over, position snap fastener panel pattern on fabric and mark reinforcement panel location sew lines.

2. Place pistol pocket snap fastener reinforcement panel pattern (figure 9-11) on the Herculite fabric, trace and cut out the reinforcement panel.

3. Lay reinforcement panel fabric onto the snap fastener panel nylon fabric within the sew lines indicated and sew in place.

4. All four sides of the cut edge fabric of the snap fastener panel shall be folded inboard 3/4 inch, covering all raw edges of the reinforcement panel and sew in place.

9-33. Fabrication of CBR Pistol Pocket Snap Fastener Panel (figure 9-9).

NOTE

All stitching shall be in accordance with ASTM-D-6193. Stitches per inch shall be

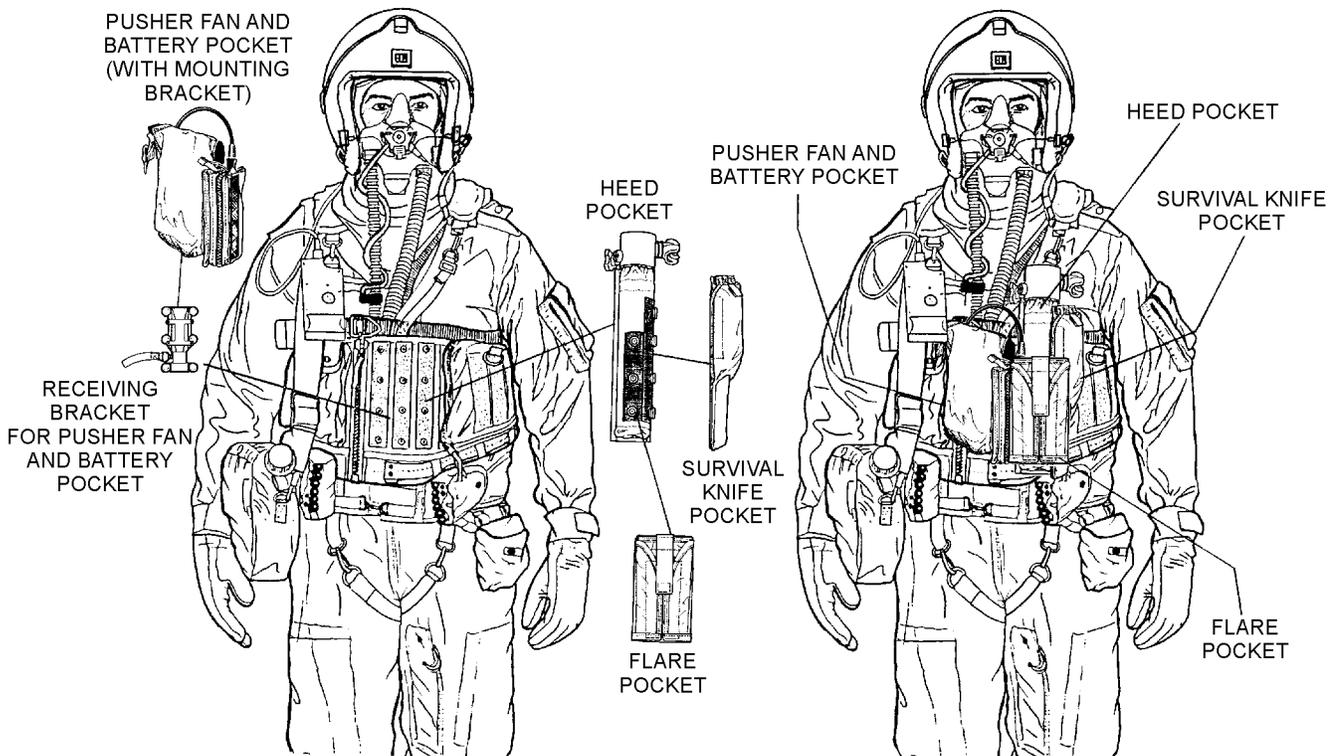


Figure 9-8. CMU-23A/P Survival Vest (CBR Mode)

009008

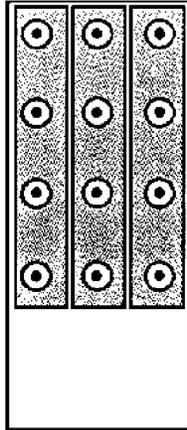


Figure 9-9. CBR Pistol Pocket Snap Fastener Panel

009009

5. With the snap fastener panel nylon side face up, position the reinforcement panel pattern properly on top and mark locations for hook tape placement. Cut three pieces of two-inch hook tape 7 1/2 inches long and sew in place at locations marked.

6. With the two inch hook tape sewn, position reinforcement panel pattern on top of hook tapes, mark the 12 snap locations and punch cut holes for installation of snaps.

NOTE

Install the six snap sockets closest to the top with the lock lug towards the top edge of panel. When positioned, the pull the dot release action will be from the center of

the panel. Install the six remaining snap sockets with the locking lug towards the bottom, so the pull the dot release action from the center will be the opposite direction of the previously installed snaps.

7. Install the 12 sockets (MS27983-2) and caps (MS27983-1) with the sockets on the hook tape side of the pistol pocket snap panel.

8. Refer to ACC 616 for location and sewn placement onto pistol pocket back.

9-34. Fabrication of CBR Vest Snap Fastener Panel (figure 9-12).

NOTE

All stitching shall be in accordance with ASTM-D-6193. Stitches per inch shall be 7 to 10 with 3/4-inch backstitching or over stitching unless otherwise stated. All nylon material will be sear cut. Position all patterns with the wrap directions of the fabric. Edge stitching shall be 1/8 inch from edge unless otherwise stated.

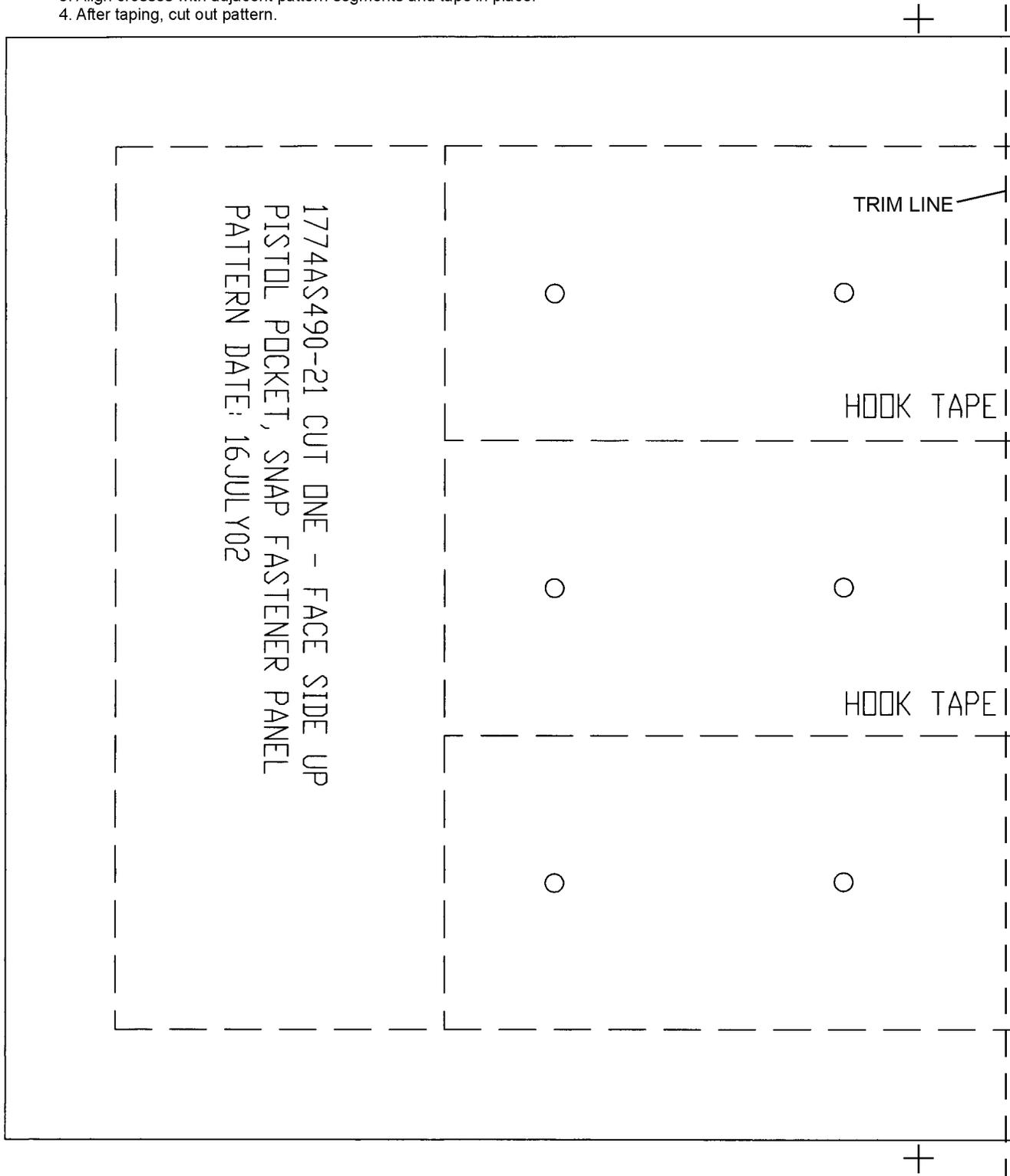
1. Place pistol pocket vest snap fastener panel front pattern (figure 9-13) onto nylon fabric, mark all points, sew line edges and cut out the panel. Turn panel over, position snap fastener panel front pattern on fabric, and mark snap fastener panel location sew lines.

2. Place pistol pocket vest snap fastener pattern (figure 9-13) on Herculite fabric, trace and cut out the panel.

NAVAIR 13-1-6.10

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 9-10. Pistol Pocket Snap Fastener Panel Pattern (Sheet 1 of 2)

00901001

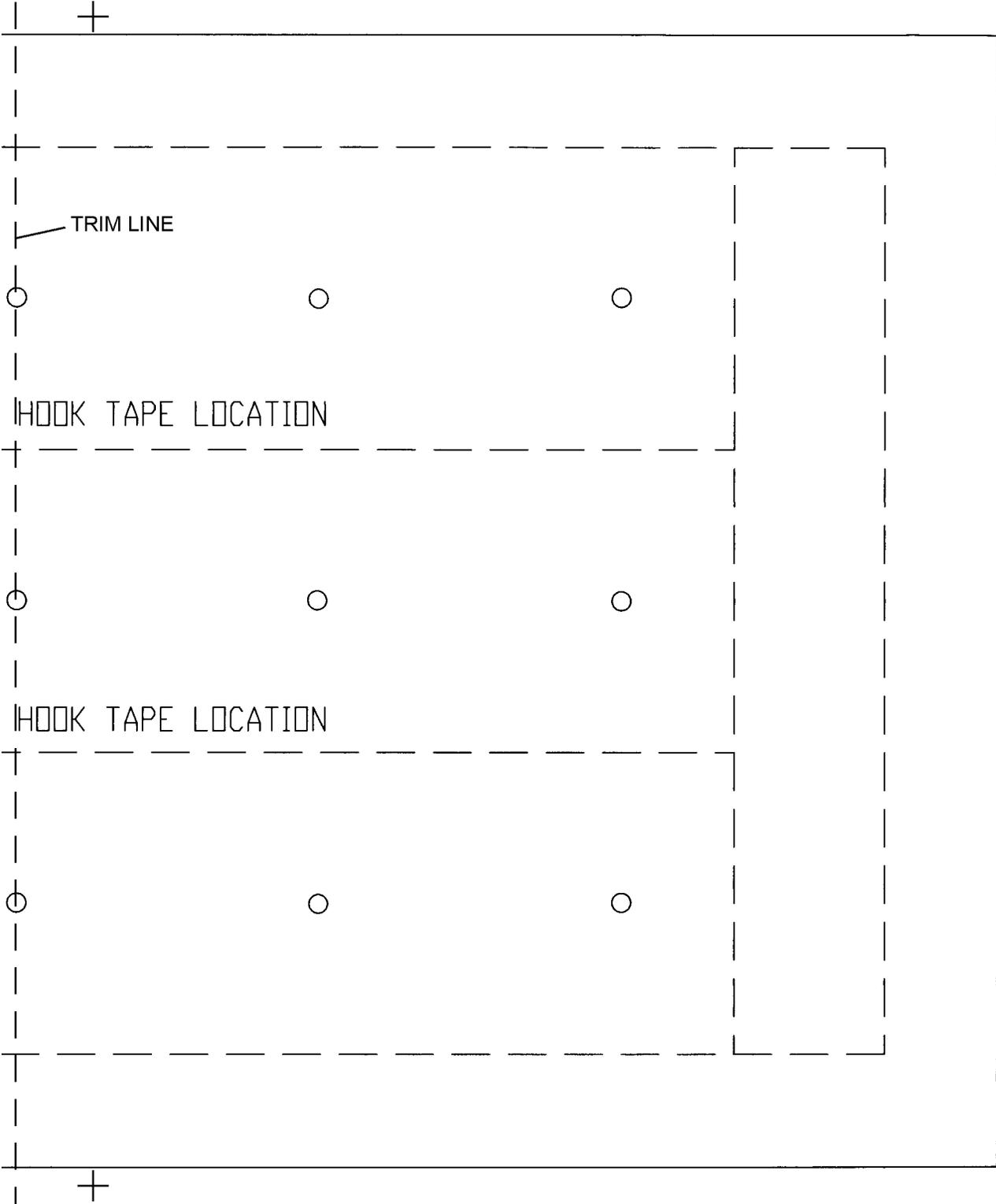


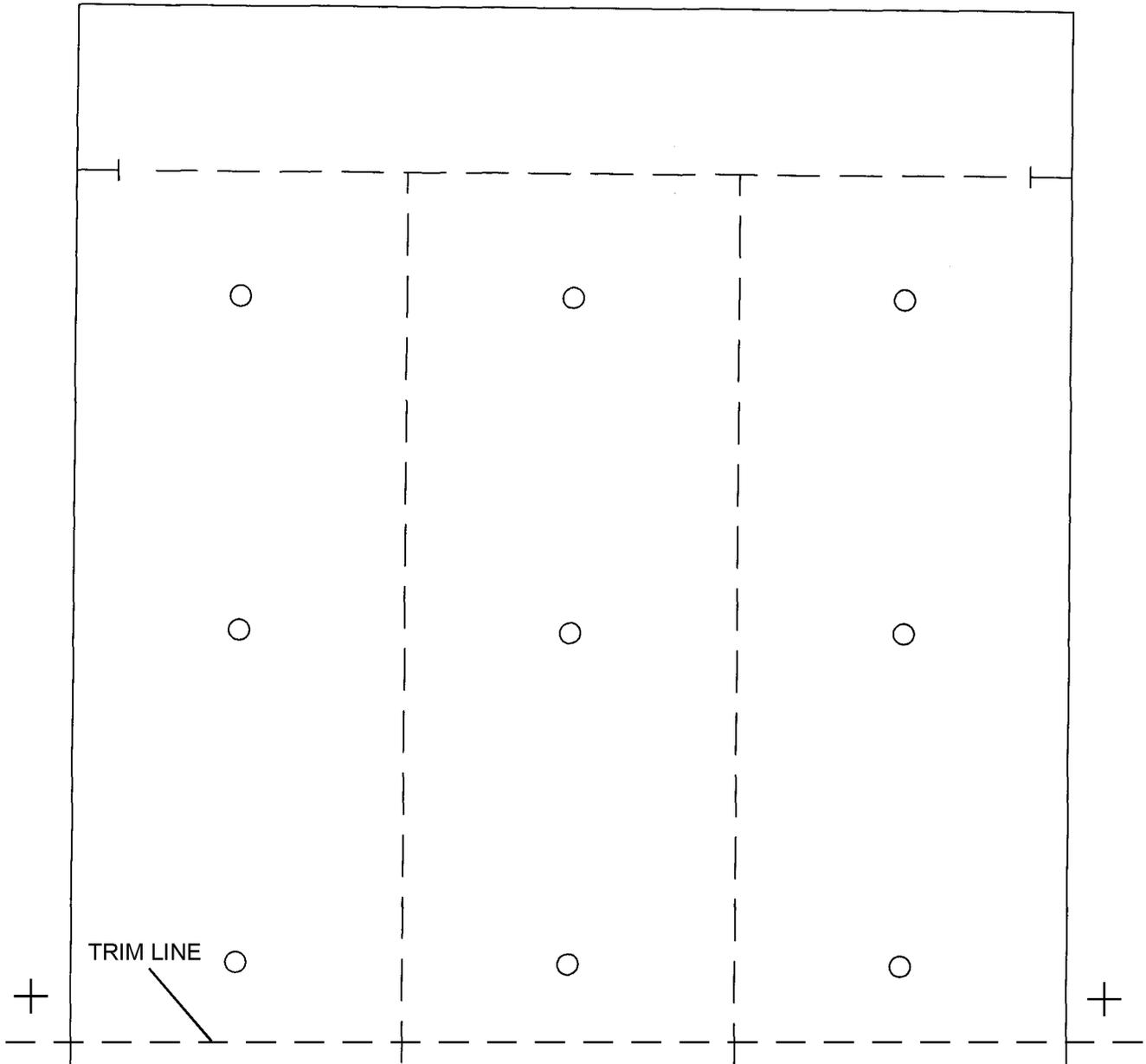
Figure 9-10. Pistol Pocket Snap Fastener Panel Pattern (Sheet 2 of 2)

00901002

NAVAIR 13-1-6.10

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 9-11. Pistol Pocket Snap Fastener Reinforcement Panel Pattern (Sheet 1 of 2)

00901101

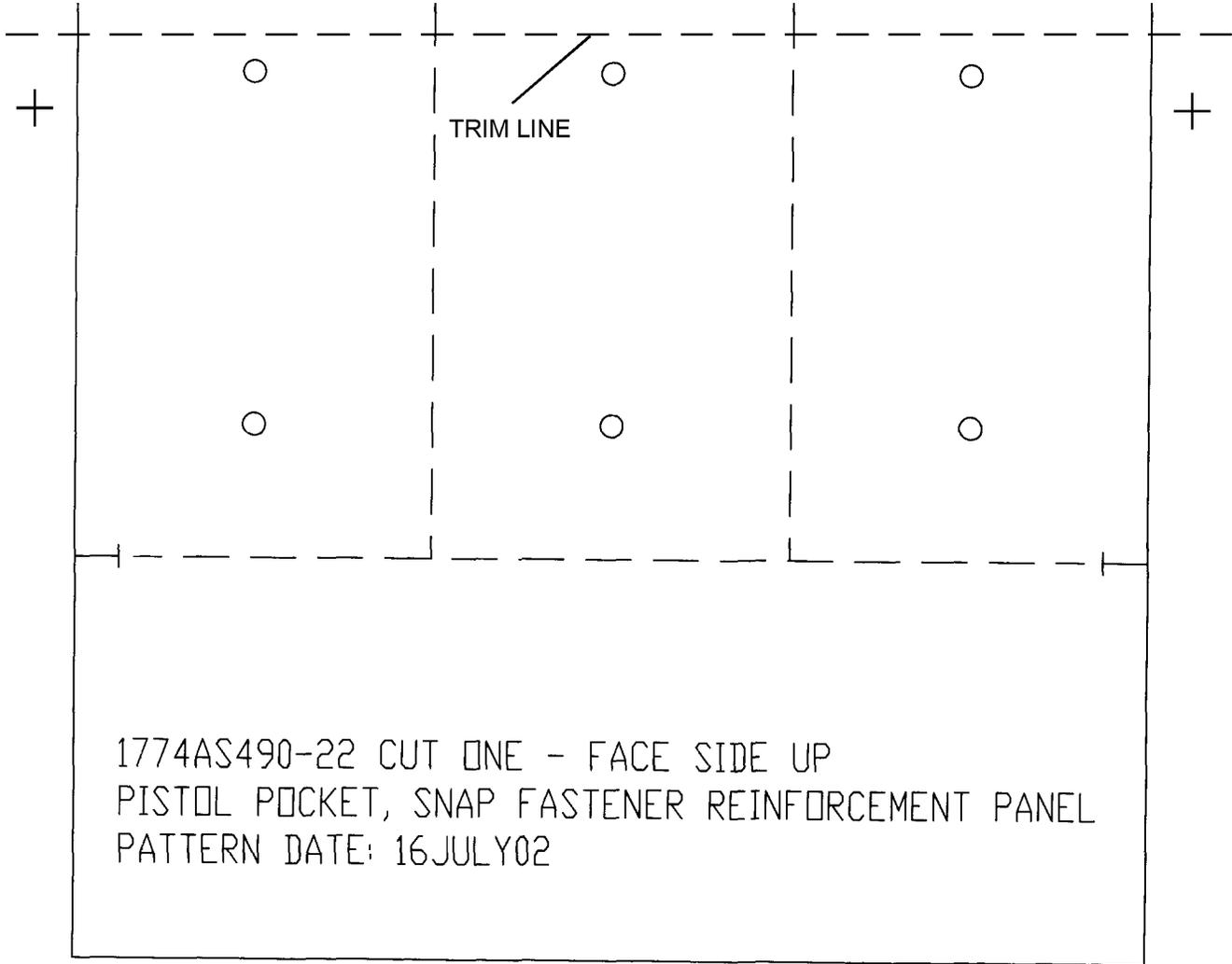


Figure 9-11. Pistol Pocket Snap Fastener Reinforcement Panel Pattern (Sheet 2 of 2)

00901102

NAVAIR 13-1-6.10

3. Lay snap fastener panel fabric onto the snap fastener front panel nylon fabric within the sew lines indicated and sew in place.

4. All four sides of the cut edge fabric of the snap fastener panel front shall be folded inboard 3/4 inch, covering all raw edges of the snap fastener panel and sewn in place.

5. With the snap fastener panel front nylon side face up, position the snap fastener panel pattern on top and mark location for the pile tape placement. Cut three pieces of two-inch pile tape 7 1/2 inches long. While sewing pile tape in place, overlap tape as indicated on snap fastener panel pattern.

6. With the two-inch pile tapes sewn, again position snap fastener panel pattern on top of pile tape, mark the 12 snap locations and punch cut holes for installation of snaps.

7. Install the 12 studs (MS27983-4) and eyelets (MS27983-3) with the studs on the pile tape side of the vest snap fastener panel.

8. Refer to ACC 616 for location and sewn placement on SV-2 vest.

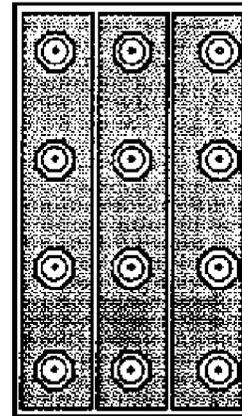
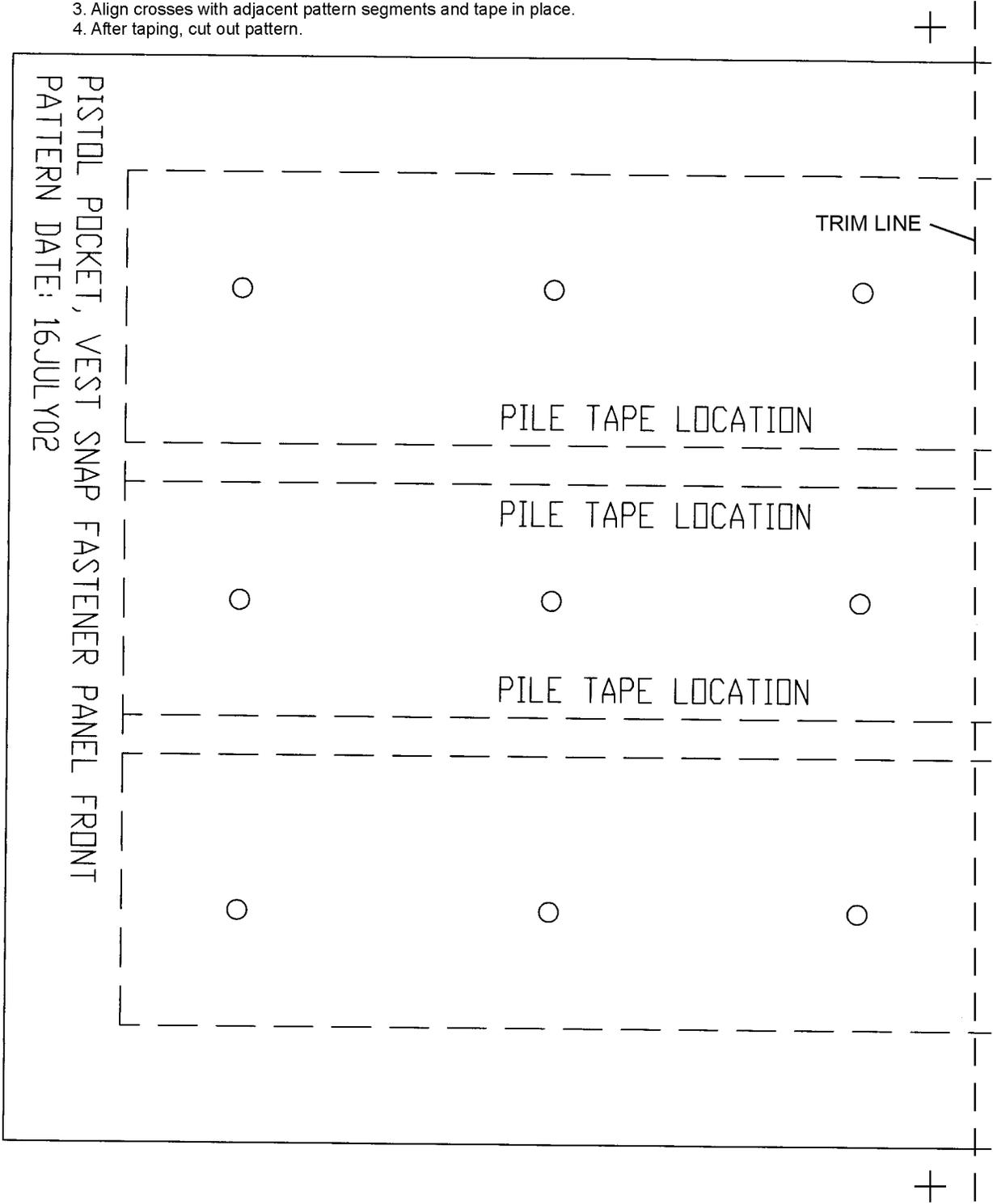


Figure 9-12. CBR Vest Snap Fastener Panel

009012

NOTE: Procedures for the construction of the pattern.

- 1. Print out all segments of pattern.
- 2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
- 3. Align crosses with adjacent pattern segments and tape in place.
- 4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 9-13. Pistol Pocket Vest Snap Fastener Panel Front Pattern (Sheet 1 of 2)

00901301

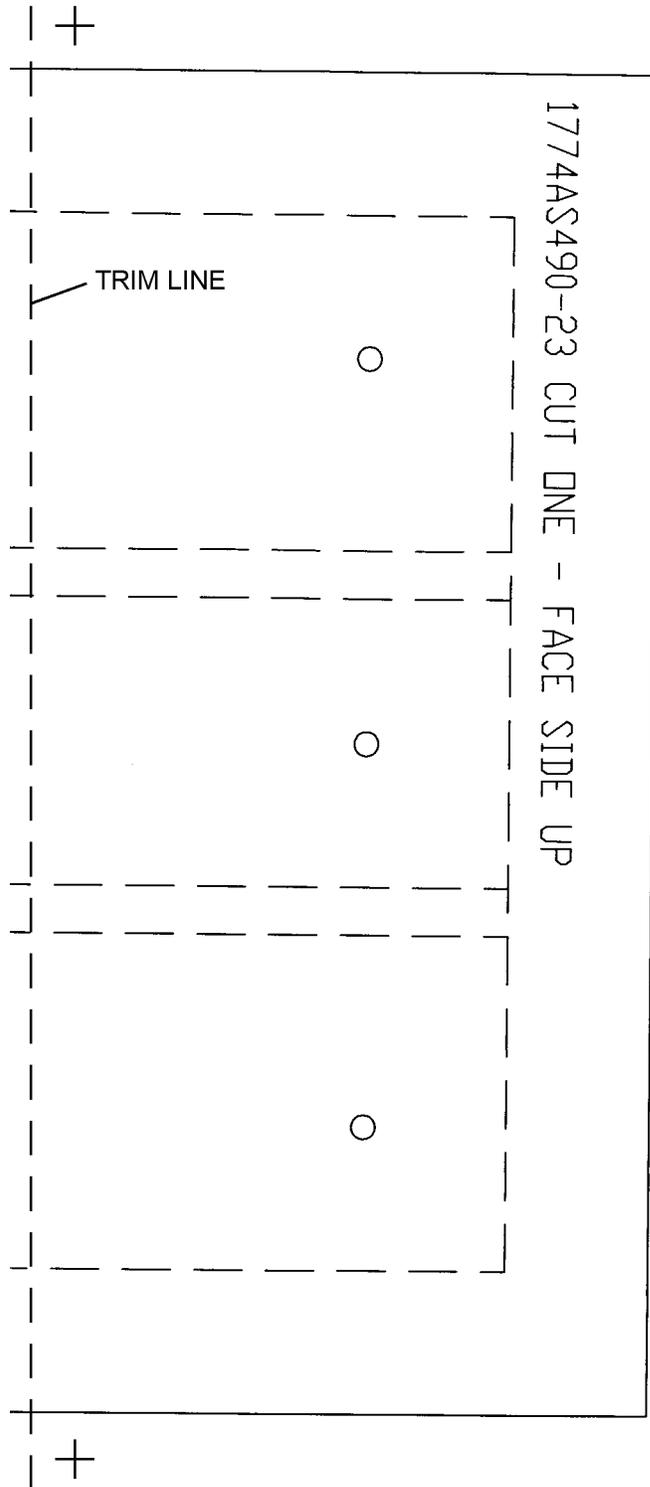


Figure 9-13. Pistol Pocket Vest Snap Fastener Panel Front Pattern (Sheet 2 of 2)

00901302