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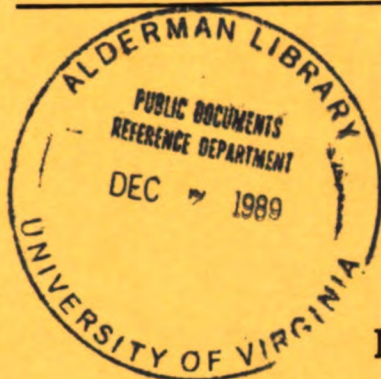
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TO 14P3-1-112  
TM 10-8400-202-13



## TECHNICAL MANUAL

### MAINTENANCE INSTRUCTIONS

# NOMEX FLIGHT GEAR COVERALLS, TYPES CWU-27/P AND CWU-28/P AND GLOVES, TYPE GS/FRP-2

JACKET, FLYER'S, SUMMER, TYPE CWU-36/P  
JACKET, FLYER'S, WINTER, TYPE CWU-45/P  
HOOD, WINTER, FLYER'S (CWU-17/P JACKET)  
TROUSERS, FLYER'S EXTREME COLD WEATHER CWU-18/P.

THIS TECHNICAL MANUAL IS A REPRINT OF AIR FORCE  
T.O. 14P3-1-112, 15 OCTOBER 1972, INCLUDING CHANGES 1 THRU 10.

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## DEPARTMENT OF THE ARMY

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## **MAINTENANCE INSTRUCTIONS**

**NOMEX FLIGHT GEAR  
COVERALLS, TYPES CWU-27/P AND CWU-28/P  
AND  
GLOVES, TYPE GS/FRP-2**

**JACKET, FLYER'S, SUMMER, TYPE CWU-36/P  
JACKET, FLYER'S, WINTER, TYPE CWU-45/P  
HOOD, WINTER, FLYER'S (CWU-17/P JACKET)  
TROUSER's, FLYER'S, EXTREME COLD WEATHER CWU-18/P**

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CHANGE }

NO. 1 }

HEADQUARTERS  
DEPARTMENT OF THE ARMY  
WASHINGTON, D.C., 22 July 1985

### Maintenance Instructions

NOMEX FLIGHT GEAR  
COVERALLS, TYPES CWU-27/P AND CWU-28/P  
AND  
GLOVES, TYPE GS/FRP-2

JACKET, FLYER'S, SUMMER, TYPE CWU-36/P  
JACKET, FLYER'S, WINTER, TYPE CWU-45/P  
HOOD, WINTER, FLYER'S (CWU-17/P JACKET)  
TROUSERS, FLYER'S EXTREME COLD WEATHER CWU-18/P

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# **TECHNICAL MANUAL**

## **MAINTENANCE INSTRUCTIONS**

### **NOMEX FLIGHT GEAR**

**COVERALLS, TYPES CWU-27/P AND CWU-28/P**

**AND**

**GLOVES, TYPE GS/FRP-2**

**JACKET, FLYER'S, SUMMER, TYPE CWU-36/P**

**JACKET, FLYER'S, WINTER, TYPE CWU-45/P**

**HOOD, WINTER, FLYER'S (CWU-17/P JACKET)**

**TROUSERS, FLYERS, EXTREME COLD WEATHER CWU-18/P**

**F41608-87-D-A288**

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**SECTION I**  
**INTRODUCTION**

1-1. This technical manual provides basic information which will be used as a general reference and guide to flying personnel using the various types of "NOMEX" flight gear fabric. This manual also includes inspection, care, and maintenance of the equipment.

1-2. The data contained herein pertain to equipment and methods considered standard by the Air Force and approved by the responsible development agencies.

1-3. The equipment described in this manual, when issued, and as authorized in applicable documents, will be retained by the individual as permanent retention items as long as it is required by the individual's assigned duties.



## SECTION II

### DESCRIPTION

#### 2-1. GENERAL.

2-2. "NOMEX" fabric is a high-temperature resistant and inherently flame retardant synthetic fabric with no-hot-melt point or drip characteristics. The fabric is light in weight, will not support combustion, but will begin to char at 700° to 800° F. The fabric has good abrasion resistance similar to nylon and is also non-absorbent like nylon and other synthetic fabrics.

2-3. DETAILED. The CWU-64/P Cold Weather Coverall MIL-C-87230 is a one-piece, lined garment with a slide fastener front closure, bias cut back with expansible section, hook and pile fastener tape adjustments for the sleeves, and a slide fastener on each leg inseam. The coveralls shall have two welt type pockets at the chest area, a concealed hood in the collar, one combination cigarette pack and multiple pencil compartment pocket on the upper front left sleeve, two thigh patch pockets, a knife pocket with a lanyard on the left thigh, two lower leg patch pockets and a multiple pencil compartment pocket on the right lower leg patch pocket. Except for the knife pocket on the left thigh and single welt pockets, all patch pockets shall have butted-beaded covered slide fasteners. (See figure 2-2A and 2-2B.) This coverall is intended to be worn in extreme cold weather by aircrew personnel.

#### Schedule of lengths and sizes

Short	32	34	36	38	40	42	44	46	
Regular	32	34	36	38	40	42	44	46	48
Long			36	38	40	42	44	46	48

#### Measurements

Size	Sleeve inseam length				Leg inseam length		
	1/2 Breast	S	R	L	S	R	L
32	18-1/2	20-1/4	22		28	30	
34	19-3/4	20-3/4	22		28	30	
36	21	20-3/4	22	23	28	30	32
38	22-1/2	21	22	23	28	30	32
40	23-1/2	21-1/4	22-1/4	23-1/4	28	30	32
42	24-1/2	21-1/4	22-1/4	23-1/4	28	30	32
44	25-1/2	21-1/4	22-1/4	23-1/4	28	30	32
46	26-1/2	21-1/4	22-1/4	23-1/4	28	30	32
48	27-1/2		22-1/4	23-1/4		30	32



Figure 2-1. CWU-27/P, CWU-28/P Coverall (Front)

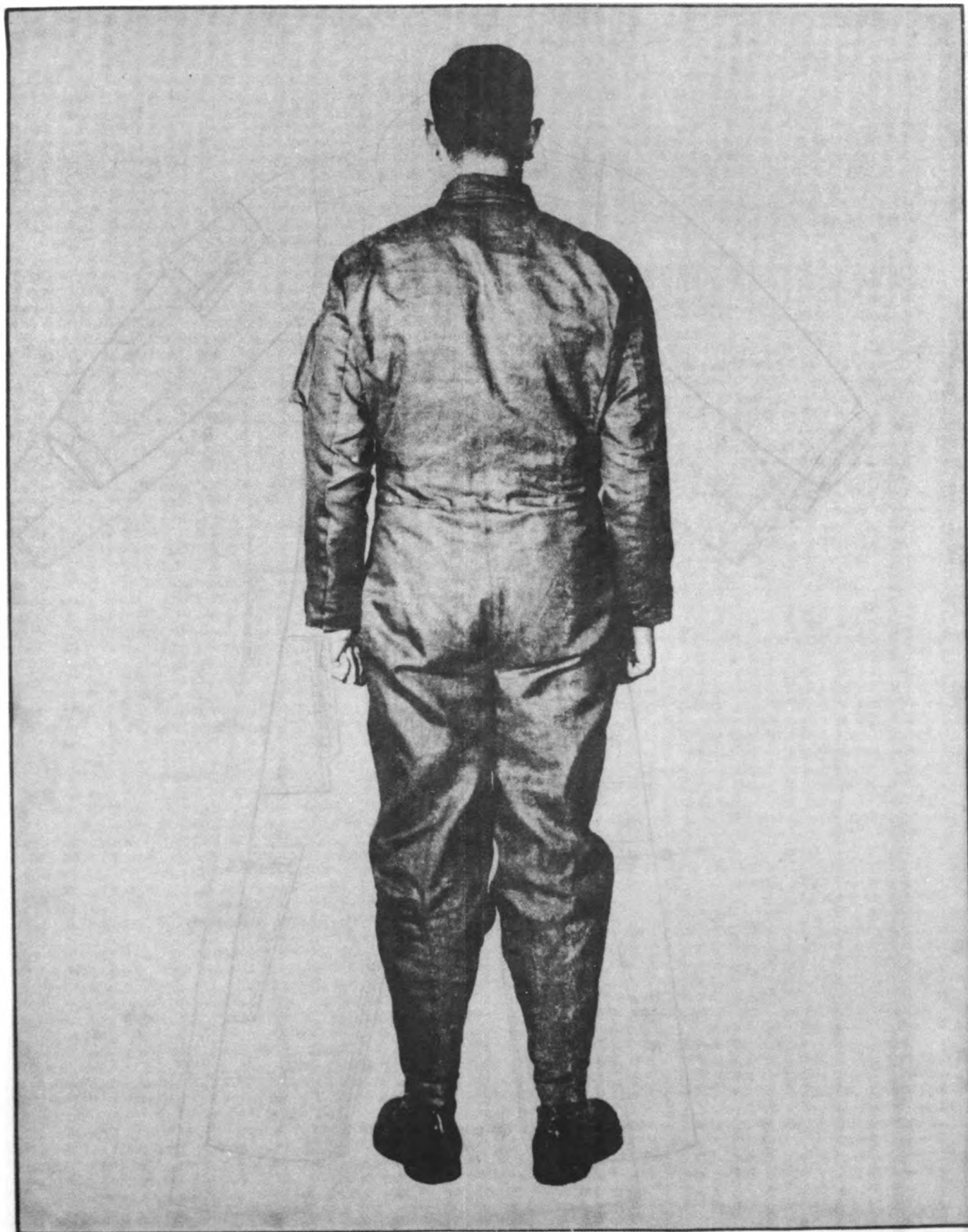


Figure 2-2. CWU-27/P, CWU-28/P Coverall (Back)

Change 15 2-2A



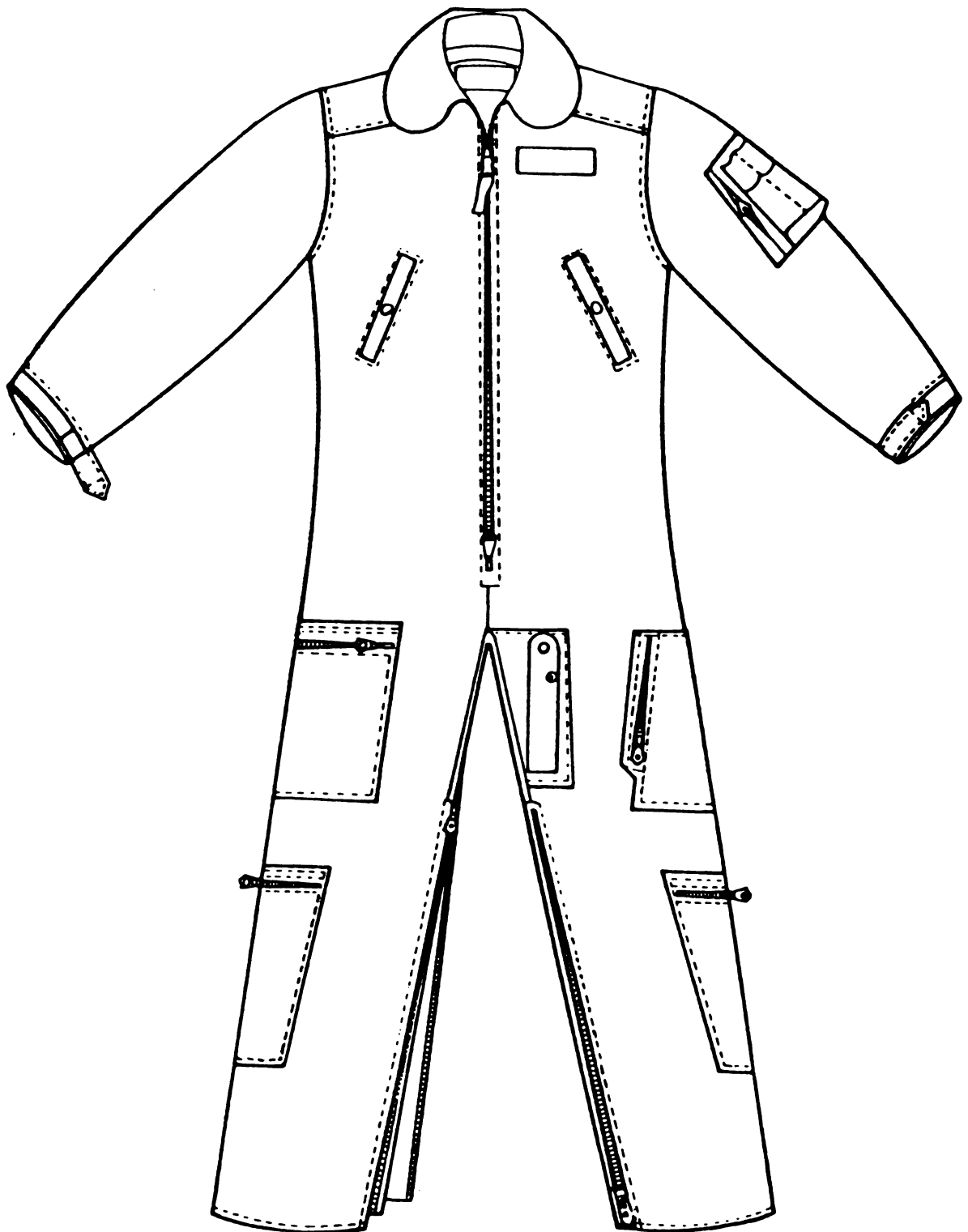


Figure 2-2A. CWU-64/P Coverall Cold Weather Front View

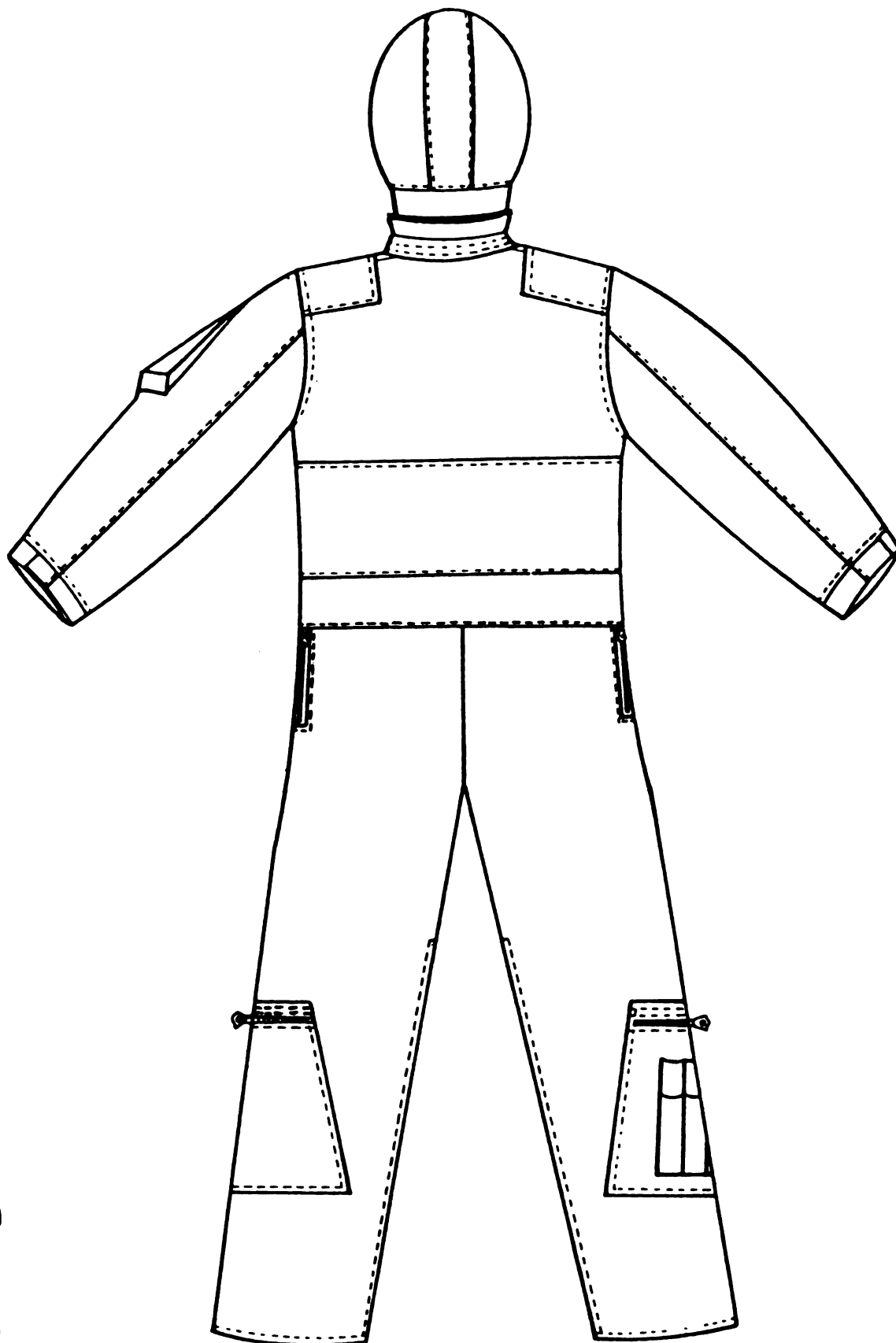


Figure 2-2B. CWU-64/P Coverall Cold Weather Back View

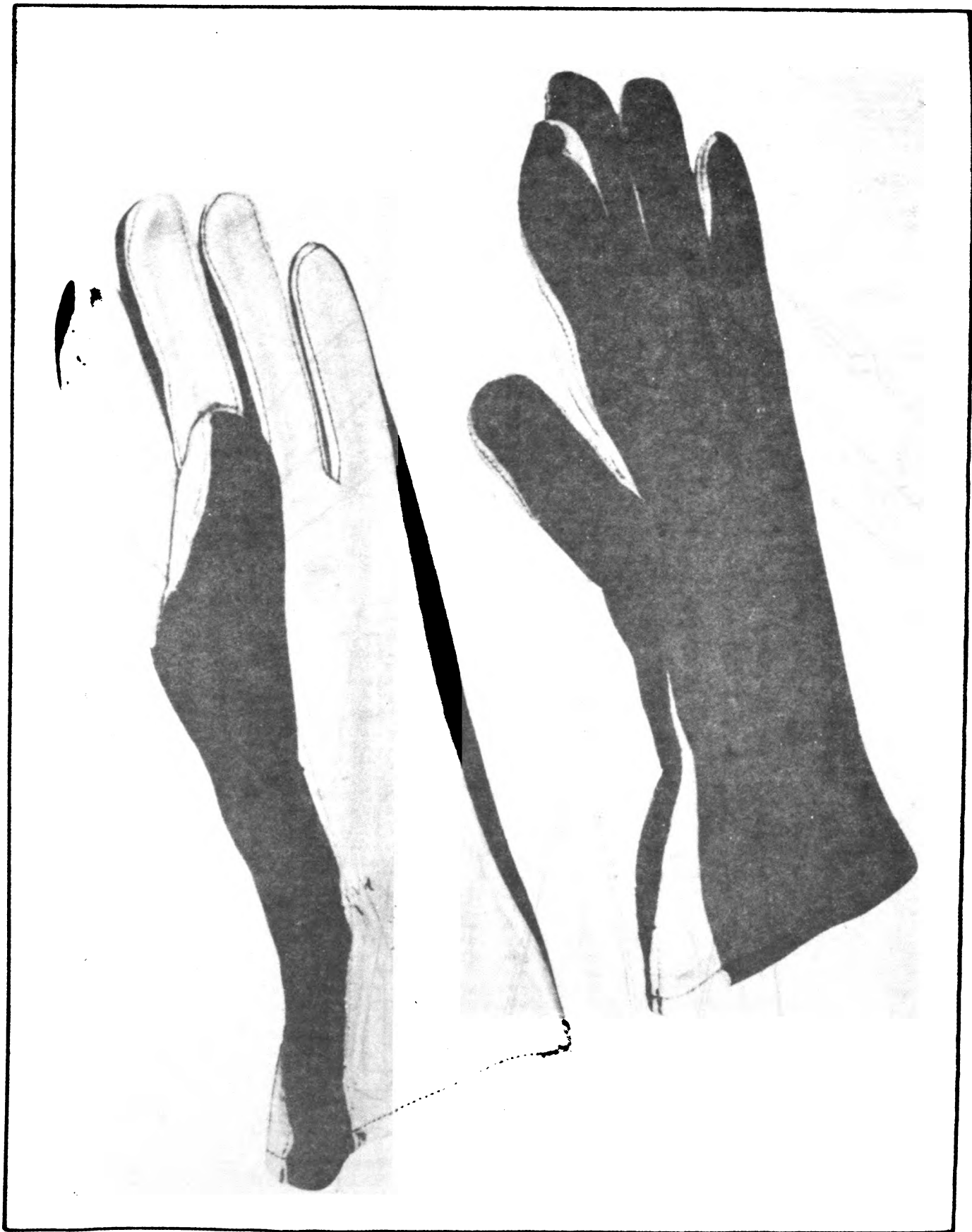


FIGURE 2-3. FLIGHT GLOVES.

2-4. COVERALL, TYPES CWU-27/P (SAGE GREEN), CWU-28/P (INDIAN ORANGE). The coverall is one piece, unlined garment with a slide fastener front closure and side pass-throughs, a bi-swing back, hook and pile fastener tape size adjustments for the waist and sleeves, and a slide fastener size adjustment on each leg terminal. Also included are two breast patch pockets, one combination cigarette pack and multiple pencil compartment on the upper front left sleeve, two thigh and a multiple pencil compartment pocket on the right lower leg patch pocket. Except for the knife pocket on the left thigh and the multiple pencil compartment pocket on the right lower leg, all pockets and pass-throughs have butted-beaded covered slide fasteners. (See figures 2-1 and 2-2).

#### NOTE

The knife pocket is to accommodate the MC-1 knife. The knife should be tied to the pocket cord and stowed in the pocket with the hook blade open for emergency use. The cord shall be wrapped around the knife to prevent accidental opening of switch blade. Stowage of MC-1 knife should always be in outer garment, such as, anti-G suit, survival vest (location is a command option).

2-5. The coveralls contain an anti-static finish and are furnished in the following fourteen different sizes: 36S, 36R, 38S, 38R, 40S, 40R, 40L, 42R, 42L, 44R, 44L, 46R, 46L, and 48R.

#### NOTE

Individuals who cannot be fitted properly by using standard sized coveralls may obtain special fitting in accordance with AFM 67-1, Vol. IV, Part One, Chapter 18, paragraph 78.

2-6. In order to assure maximum fire protection, the sleeves of the coverall shall always be closed at the wrists. The sleeves have been designed so that it is very difficult, and sometimes impossible, to roll up the sleeves.

2-7. Because of the non-absorbent characteristic of the coverall, cotton underwear should be worn under the coverall for optimum comfort.

#### WARNING

The coveralls are not fireproof and will char at about 700 degrees Fahrenheit to 800 degrees Fahrenheit; therefore, ground egress procedures cannot be over emphasized.

2-8. FLIGHT GLOVES, TYPE GS/FRP-2. The glove is constructed with a soft gray cabretta gray leather for the palm and frontal portion with a stretchable type green plyamide (NOMEX) fabric for the entire back portion. The leather used in this glove is a non-slip type, especially when wet. The fabric portion of the glove is a high temperature resistant and inherently flame retardant synthetic fabric with no-hot-melt or drip characteristics. The fabric will not support combustion, but will begin to char at 700° to 800°F. See Figure 2-3.

2-9. SIZE AND FIT. Since the fabric portion of the glove is stretchable, five sizes (see Table 2-1), are considered sufficient to accommodate the entire population. The glove has been designed to permit a snug fit and provide sufficient dexterity and feel so as not to interfere in any way with the operation of the aircraft, manipulation of switches, and/or safety or parachute harness buckles.



Table 2-1. Glove Sizes		
NOMENCLATURE	SIZE	NSN
Glove, GS/FRP-2	7	8415-00-139-5408
Glove, GS/FRP-2	8	8415-00-139-5409
Glove, GS/FRP-2	9	8415-00-139-5410
Glove, GS/FRP-2	10	8415-00-139-5411
Glove, GS/FRP-2	11	8415-00-139-5412

MIL-G-81188

**2-10. JACKET, TYPES CWU-36/P (Summer) and CWU-45/P (Winter).** The jackets are both similar in design featuring a full-length front slide fastener, a bi-swing back, knit wristlets and waistband, and two front pockets with hook and pile fasteners. Also included is one combination cigarette pack and multiple pencil compartment on the upper left sleeve.

**2-11. The jackets and trousers are furnished in the following sizes:**

**CWU-36/P**

Size	NSN
Small	8415-01-010-1912
Medium	8415-01-010-1911
Large	8415-01-010-1910
Extra-Large	8415-01-010-1913

**MIL-J-83382**

**CWU-45/P**

Size	NSN
Small	8415-00-310-1111
Medium	8415-00-310-1126
Large	8415-00-310-1133
Extra-Large	8415-00-310-1140

**MIL-J-83388**

**CWU-18/P**

Size	NSN
28	8415-01-065-4956
30	8415-01-065-4957
32	8415-01-065-4958
34	8415-01-065-4959
36	8415-01-065-4960
38	8415-01-065-4961
40	8415-01-065-4962
42	8415-01-065-4963

**Required size should be determined by waist measurement.**

**2-12. HOOD, WINTER, FLYER'S (MIL-H-85037).** This hood features a front full-length slide fastener, rear partial-length slide fastener, hook and pile under arm fasteners, and a synthetic insulating material. It comes in one size and is designed to be worn under the flight jacket. The outer shell material is manufactured from filament Nomex NSN8415-01-027-6034.

**2-13. DONNING OF THE HOOD.** The hood is donned in a similar manner to a jacket (figure 2-4). The underarm fasteners are then adjusted for a snug fit (figure 2-5). The hood properly donned and in an open position is shown in figure 2-6, and closed position in figure 2-7. The hood in conjunction with the CWU-45/P jacket is shown in figure 2-8 and 2-9. The CWU-45/P Jacket becomes the CWU-17/P upon the addition of the Hood.

**2-14. DESIGNED HOOD TO JACKET, FLYER'S WINTER TYPE CWU-45/P.**

**a. Materials required:**

- (1) The thread shall conform to MIL-T-83193. The color shall match the basic fabric, shade No. 1565.
- (2) The buttons shall conform to V-B-371, Type II, Class D, Style 20 or 21, Size 30 line. The color shall approximately match the outershell cloth.

- (3) Pencil, china marking, Federal Specification SS-P-196.

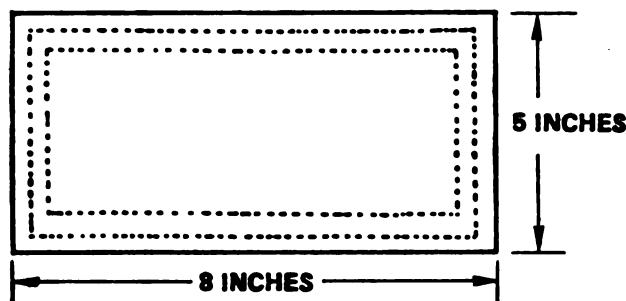
**b. Rework of hood.**

- (1) Take pencil and place a mark at the lower edge centered on the back panel of the hood (figure 2-10).

- (2) On the jacket at the collar joining seam on the back, mark center of collar (figure 2-11).
- (3) Match the hood mark with the jacket mark at the collar up and mark the location for the four buttons.
- (4) Sew the four buttons on the collar stand at marks.
- (5) Attach the collar to jacket (figure 2-12).

**2-15. REWORK OF THE 36/P AND 45/P JACKET.** The following recommendation would be used to rework the 36/P and 45/P jackets at organizational level.

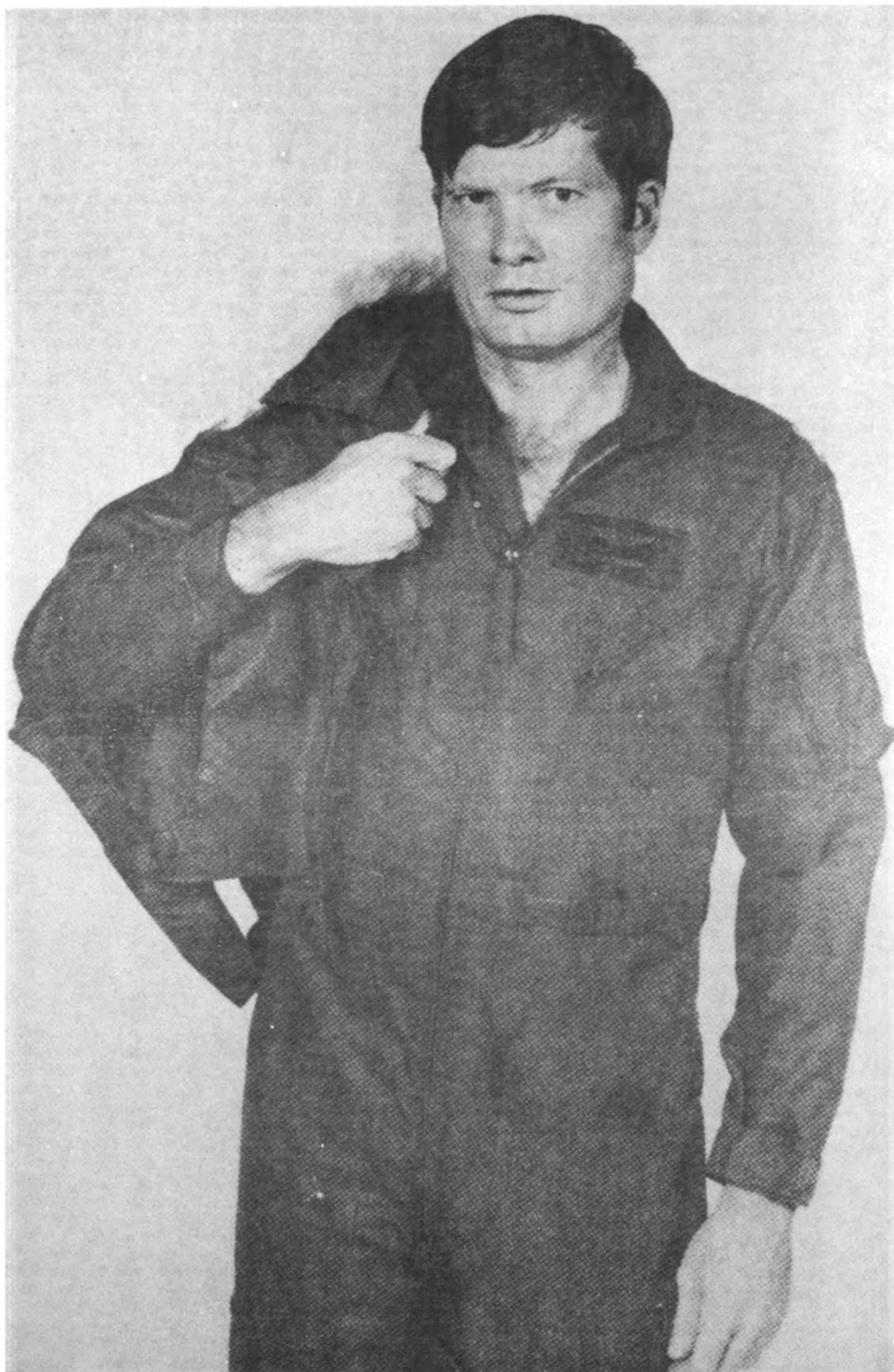
- a. Cut two pieces of Nomex fabric MIL-C-81814, size 5½ inches X 8½ inches color matching to the outer shell of the jackets.
- b. These pieces of fabric shall be stitched on the out and inside of underarm of jackets.
- c. All raw edges must be folded under minimum ½ inch.
- d. The finished dimensions of these added pieces shall be 5 inches X 8 inches. See Figure 2-3A.
- e. To stitch the added pieces into the jacket it is required that thread MIL-T-44100, size T-35, color matching with the outer shell of the jacket, be used. Two rows of stitching, stitch type 301 of FED-STD-751, 10 to 12 stitches per inch.



**Figure 2-3A. Stitching Pattern**







**Figure 2-4. Donning the Hood**

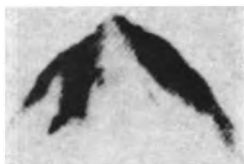
**Change 7 2-7**



Figure 2-5. Adjusting Underarm Fasteners



**Figure 2-6. Hood in Open Position**







**Figure 2-8. Hood with CWU-45/P Jacket — Front View**



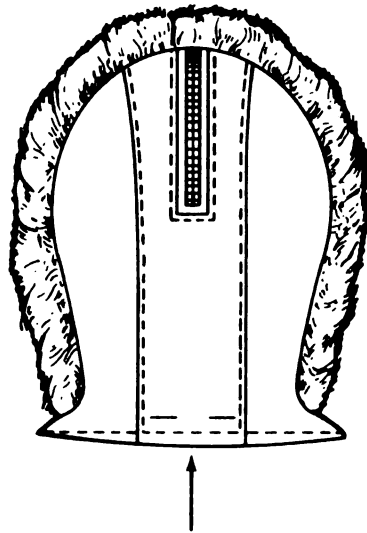


Figure 2-10. Locate and Mark Center of Hood.

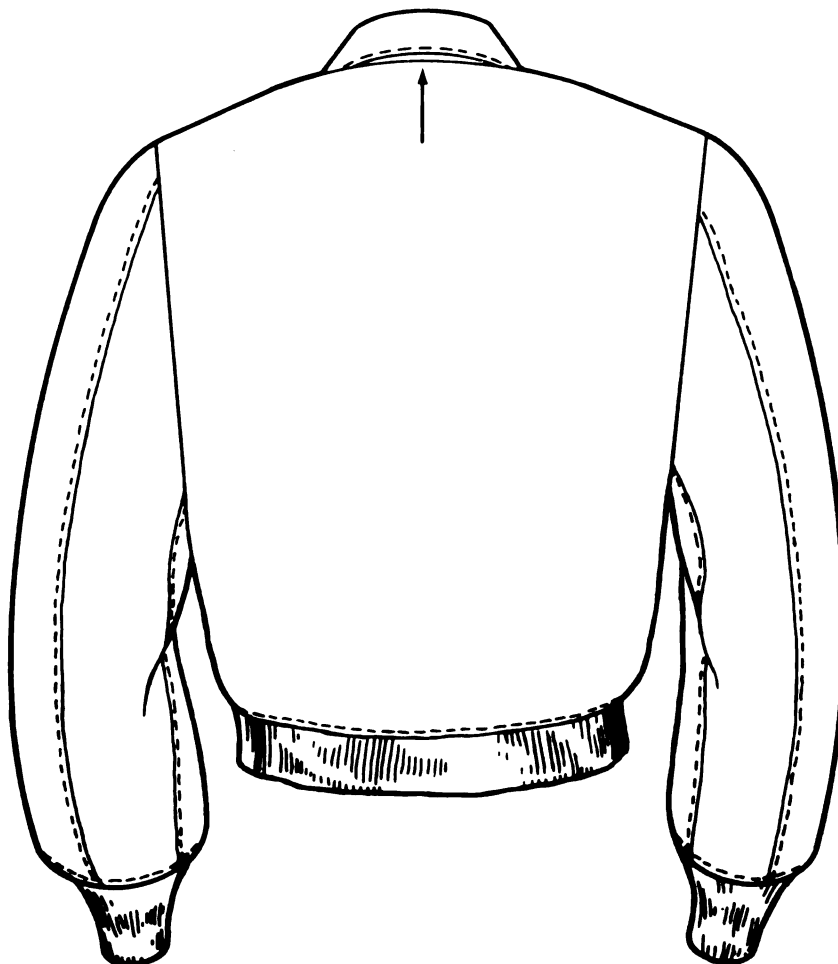


Figure 2-11. At Collar Joining Seam on Back, Mark Center of Collar.



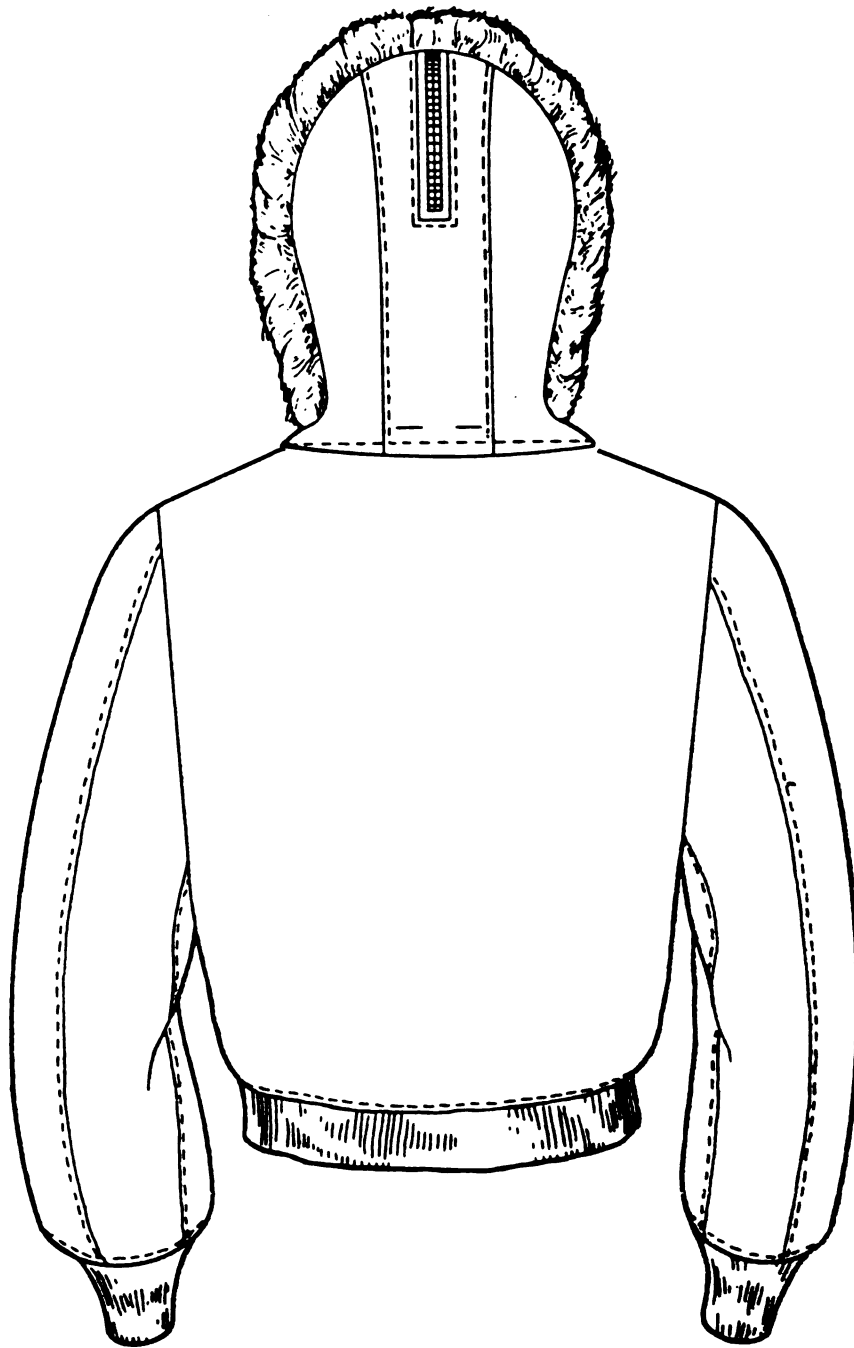


Figure 2-12. Jacket, Rear View, With Hood Attached

**SECTION III****INSPECTION****3-1. PRIOR TO ISSUE — COVERALL.****CAUTION**

Do not use bleaching compounds or starches.

3-2. Each coverall fabric is a drip-dry requiring no special handling and is launderable and dry-cleanable. Laundering is preferred, and may be washed at home or in a commercial-type washer and dryer.

Each Coverall shall be inspected prior to issue follows:

- a. Check all slide fasteners for proper function and operation.

**NOTE**

Use of a commercial type paraffin wax or candle wax on the chain of the closed slide fastener will aid in preventing corrosion and facilitate opening and closing.

- b. Inspect velcro fastener tapes and snap fasteners for proper attachment, opening, and closing characteristics.

- c. Check **entire coverall** for soil, open seams, small tears, holes, or snags.

**WARNING**

If JP-4 fuel, grease, or other combustible material is embedded in the fabric, these agents will burn at their normal flash points even though the "NOMEX" will not burn until a higher temperature is reached. Assure the coverall is clean.

**3-3. PRIOR TO ISSUE — FLIGHT GLOVES.**

3-4. "NOMEX" gloves shall be inspected prior to issue as follows:

- a. Check "NOMEX" backing for small holes, tears, and/or snags.
- b. Check elastic wrist adjustment for proper elasticity.
- c. Inspected for missing or broken stitches in fingers and thumb areas.
- d. Assure gloves are clean.

3-5. All noted defects of the coveralls and gloves shall be repaired, as required, in accordance with Section IV.

**3-6. PRIOR TO ISSUE – JACKETS AND HOOD.**

**3-7. The jackets and hood should be inspected using the same procedure as the coveralls.**

**NOTE**

**The jackets and hood should be dry cleaned only.**

## SECTION IV MAINTENANCE

### 4-1. CLEANING.

#### NOTE

Determination as to who will launder/clean the garments is the responsibility of the MAJCOM.

4-2. The Type CWU-27/P coverall fabric is a drip-dry type requiring no special handling and may be washed as frequently as needed. The coverall may be laundered at home or in a commercial - type washer and dryer. The CRU-36/P can be laundered or dry cleaned. Dry cleaning is recommended for CWU-45/P Jacket and CWU-18/P Trousers to reduce batting migration and bunching.

4-3. Laundering in water up to 400 degrees Fahrenheit maximum, and tumble drying up to 180 degrees Fahrenheit, will not damage or shrink the coverall. Coveralls may be hand laundered using mild soap and warm water. All soap should be thoroughly rinsed out. Use of a commercial fabric softener (stay-puff, downy, etc.), during rinse, will remove body oil during laundry process. The fabric softeners also serve to inhibit static generation. Ironing or pressing is permissible; however, it is difficult to remove wrinkles or creases, due to the high temperature resistant qualities of Nomex fabric. Dry cleaning or laundering will not compromise the flame retardant properties of the "NOMEX" and no renewable flame retardant treatment is required. Do not starch or use bleach. This process will deteriorate the flame resistant material.

#### **WARNING**

Launder with slide fasteners and hook and pile fasteners engaged. Do not press hook and pile fasteners.

#### NOTE

It is recommended that a new coverall be laundered prior to use in order to soften the fabric and eliminate any possible skin irritation that might occur due to original fabric harshness. It is recommended that immediately after tumble drying or during drip drying, the coverall be hung on a hanger. Lubricate slide fasteners with lead pencil, graphite or wax after cleaning.

4-4. FLIGHT GLOVES. The leather portion of the glove is a launderable type and the fabric portion is a drip-dry type. The gloves may be laundered with warm water and mild soap by one of the following methods:

a. Don the gloves and wash with soap and water in a similar manner as washing the hands. When gloves appear clean, rinse and remove from hands. Squeeze, but do not wring or twist gloves to remove excess water. After removing excess water, place individual glove flat on a towel, roll towel to cover glove making sure that the gloves do not come in contact with each other.

b. The gloves may also be laundered at home or in a commercial-type washer and dryer. Laundering in water up to 140°F maximum and tumble drying up to 180°F will not damage or shrink the glove.

#### NOTE

Do not use any type of bleaching compound in laundering. To avoid excess wear on the gloves during washing and drying, make sure there are sufficient articles in the wash to absorb tumbling shock.

4-4.1. The jackets and hood should be commercially dry cleaned only.

4-5. REPAIRS. Same as CWU-27/P.

4-6. COVERALLS/JACKETS: Repair of the "NOMEX" flying coveralls, jackets shall be restricted to open seams and replacement of hook and pile/slide fasteners. Thermal protection is reduced as coverall fabric becomes thin or excessively worn. Garment shall be condemned when it no longer presents an acceptable military appearance from standpoint of structural integrity, as determined by local commander.

NOTE

- Attachment of organizational insignias is permissible. Method of attachment is a command option. If sewn, use thread MIL-T-83193.
- Attachment of Velcro tape for garter restraint system is a MAJCOM option. If attached sew, using thread MIL-T-83193.
- Thread used for all repairs shall conform to Specification MIL-T-83193, Federal Stock No. 8310-405-2252 (color - sage green), and Federal Stock No. 8310-405-2271 (color - Indian orange).

a. SEAMS. Open seams (no restriction to length) shall be repaired by restitching using the same type stitch and stitches per inch as the original seam.

b. Deleted.

c. HOOK AND PILE FASTENER. Any damaged hook and pile fastener tape may be replaced. Tapes shall conform to Type I, Specification MIL-F-21840, and sized to Table 4-1. Tapes shall be replaced as originally installed. Replacement Velcro name plates, cut to size are available under Federal Stock No. 8315-403-1285 (color - sage green) and Federal Stock No. 8315-403-1284 (color - Indian orange).

d. SLIDE FASTENER. Defective or nonoperative slide fasteners shall be replaced. Installation shall be in the same manner as the original fastener. Refer to Table 4-2 for CWU-27/P coverall (sage green) and Table 4-3 for the CWU-28/P coverall (Indian orange) and Table 4-4 for the CWU-36/P and CWU-45/P flight jackets.

NOTE

All frayed edges on coveralls shall be trimmed to prevent jamming of the pocket slide fasteners.

e. Deleted.

NOTE

- New procured flight suit has a pencil pocket protective flap installed. Personnel not requiring the pencil pocket protective flap may have flap removed by cutting the stitches that attach the flap.

- MAJCOM OPTION: Older flight suits/flight jackets may have the pencil pocket protective flaps added.

4-7. GLOVES. Repair of the gloves are restricted to restitching of open seams using thread conforming to MIL-T-83193

Table 4-1. Hook and Fastener Tape

Coverall Size	WIDTH AND CUT LENGTHS OF FASTENER TAPES (INCHES)				
	Back Belt 1/	Waist 1/	Tab 2/	1 Cuff 2/	Nameplate
	Hook	Pile	Hook	Pile	Hook and Pile
36S	1 by 4	1 by 6	1-1/2 by 2	1-1/2 by 6	2 by 4
36R	1 by 4	1 by 6	1-1/2 by 2	1-1/2 by 6	2 by 4
38S	1 by 4	1 by 6	1-1/2 by 2	1-1/2 by 6	2 by 4
38R	1 by 4	1 by 6	1-1/2 by 2	1-1/2 by 6	2 by 4
40S	1 by 4	1 by 7	1-1/2 by 2	1-1/2 by 6	2 by 4
40R	1 by 4	1 by 7	1-1/2 by 2	1-1/2 by 6	2 by 4
40L	1 by 4	1 by 7	1-1/2 by 2	1-1/2 by 6	2 by 4
42R	1 by 4	1 by 7	1-1/2 by 2	1-1/2 by 6	2 by 4
42L	1 by 4	1 by 7	1-1/2 by 2	1-1/2 by 6	2 by 4
44R	1 by 4	1 by 8	1-1/2 by 2	1-1/2 by 6	2 by 4
44L	1 by 4	1 by 8	1-1/2 by 2	1-1/2 by 6	2 by 4
46R	1 by 4	1 by 8	1-1/2 by 2	1-1/2 by 6	2 by 4
46L	1 by 4	1 by 8	1-1/2 by 2	1-1/2 by 6	2 by 4
48R	1 by 4	1 by 9	1-1/2 by 2	1-1/2 by 6	2 by 4

4-8. Repair of Jackets, Hoods, and Trousers shall be accomplished in accordance with paragraph 4-6.

4-9. Modification to close bi-swing on jackets CWU-36/P and CWU-45/P individual option.

a. The individual desiring the modification may don the jacket and have it chalk marked at the bi-swing opening or pull sleeves to wrong side of jacket. Place on corner of a flat table and chalk mark the bi-swing opening from shoulder seam to side seam.

b. Pin bi-swing to chalk mark on outershell only on each side of the back.

c. Open the jacket at the neck by removing the collar.

d. Turn the jacket through the neck opening.

e. Stitch the bi-swing on the outer edge at pin/chalk marks on each side of the back of the jacket.

#### NOTE

The thread shall conform to MIL-T-83195. The color shall match the basic fabric shade no. 1565.

f. Pull the jacket to the right side through the neck opening.

g. Join the under collar to the neck opening with a 3/8 inch seam.

h. Turn the raw edge of the top collar under 3/8 inch and topstitch 1/16 inch from the folded edge.

4-10. HOOD, WINTER, FLYERS REWORK, NSN 8415-01-027-6034 TO ELIMINATE UNDERARM DONNING.

a. Cut the slide fastener at the front opening off back to the joining seam. (See figure 4-1, front view.)

b. Take the fastener tape hook and pile off at the underarm donning location. (See figure 4-2, back view.) Retain the tape for front closure.

- c. At the neck joining seam of the hood, measure up and mark one (1) inch all the way around. Cut on mark line. (See figure 4-3, side view.)
- d. Turn under raw edge  $\frac{3}{8}$  inch and stitch on folded edge with raw edge enclosed in stitching. (See figure 4-4, side view.)
- e. Use fastener tape from operation (b) for front closure. Place the hook on the flap at right side and pile on left inside and stitch on all four sides of each piece. (See figure 4-5, front view.)
- f. Cut six pieces of leather, 2 x 2 inches.
- g. Place one piece of leather on the inside of the center panel flush with the bottom edge and stitch on all four sides. On the inside right and left side front  $3\frac{1}{2}$  inches from the joining center panel seam, place a piece of leather and stitch on all four sides. (See figure 4-5.)
- h. On the outside of the hood, place the other three pieces, one at each location on top at the stitch marks and stitch thru all pieces  $\frac{1}{8}$  inch from the edge and  $\frac{1}{4}$  inch in. (See figure 4-5.)
- i. Make a 1 inch cut in the leather for the button. (See figure 4-5.)
- j. With the collar turned up and the slide fastener closed, place the hood at the center of the collar joining seam, mark for the three buttons and sew the three buttons at the marks under the collar.

**NOTE**

The thread shall conform to MIL-T-83195. The color shall match the basic fabric, Shade No. 1565.

The buttons shall conform to V-B-871, Type II, Class D, Style 20 or 21, Size 30 Line. The color shall approximately match the outershell cloth.

The leather shall conform to Type I,  $1\frac{1}{2}$  to  $3\frac{1}{2}$  ounces of KK-L-169, color black or match basic fabric.

**4-11. JACKET, COVERALL, FLIGHT, CLIP TAB (OPTIONAL).****NOTE**

**THREAD.** The thread shall conform to MIL-T-83193 and shall match the basic fabric, shade no. 1565.

**WEBBING.** The webbing for the clip tab shall be Type XII of MIL-W-4088,  $1\frac{3}{4}$  inches wide and shall match the basic fabric.

- a. Fabricate clip tab. Webbing shall be cut 5 inches long.
- b. Mark the location for the top of the clip tab on the left front of the jacket/coveralls  $4\frac{1}{2}$  - 5 inches down from the collar joining seam and  $\frac{1}{2}$  inch in front closure edge.
- c. One of the long sides shall be turned under  $\frac{1}{4}$  inch and  $\frac{1}{8}$  inch double stitched.

STITCH TYPE	SEAM TYPE	STITCHES PER INCH
301	Efa-2	8 - 10

- d. Turn ends of webbing under  $\frac{1}{4}$  inch. Finished tab shall be  $4\frac{1}{4}$  inches (+  $\frac{1}{16}$  inch) in length after ends have been turned under and ready to attach to jacket/coveralls.

- e. Sew tab to left side. The hemmed edge of the tab shall be  $\frac{1}{2}$  inch from front opening. Sew tab in position with a double row of stitching  $\frac{5}{16}$  inch gage on three sides, leaving the hemmed edge free.

STITCH TYPE	SEAM TYPE	STITCHES PER INCH
301	LSd-2	8 - 10

- f. See figure 4-6 for attached clip tab.

**4-12. Replace wristlets and waistband on:**

Jacket, Flyer's, Men's, Summer, Fire Resistant, CWU-36/P. MIL-J-83382 Jackets, Flyer's, Cold Weather, MIL-J-83388.

**NOTE**

**Thread.** The thread shall conform to MIL-T-83195. As an option, cotton thread conforming to type IA3, Ticket No. 30, 3 ply of V-T-276. The color shall match the basic fabric, Shade No. 1565.

**Wristlets and Waistband.** The wristlets shall conform to Type IV, Class 2, Size 2 of MIL-C-3735. The waistband shall conform to Type IV, Class 3 of MIL-C-3735. The color shall be Shade No. 1525.

**WIDTH OF WAISTBAND MATERIAL**

SIZE OF JACKET	WIDTH (INCHES) IN DIRECTION OF COURSES OF MATERIAL
SMALL	24
MEDIUM	25
LARGE	26
EXTRA LARGE	27
EXTRA EXTRA LARGE	28

**4-13. To replace the wristlets or waistband on the jacket:****a. Wristlets NSN: 8315-01-028-3627.**

- (1) Open the jacket at the top collar from right shoulder seam to left shoulder seam.
- (2) Turn the jacket thru neck opening. Mark or thread tack the joining seams of undersleeve to keep from twisting sleeve. Remove wristlets at sleeve bottom. Replace new wristlets on outershell first. Join the lining to the outershell, matching the marks. Pull thru neck opening and topstitch/raisestitch 1/4 inch from joining seam of cuff.
- (3) Topstitch collar to neck from shoulder to shoulder 10/16 from edge.

**b. Waistband NSN: 8315-01-028-4896.**

- (1) See 4-13A (1) above.
- (2) Turn the jacket thru opening. Mark the center back to keep from twisting the waistband. Remove the waistband at the bottom and extension facing pieces.
- (3) Join new waistband to extension facing pieces with a 1/2 inch stitch. Turn and raisestitch 1/4 inch from the edges.
- (4) Join waistband to bottom of jacket. Pull thru neck opening and topstitch/raisestitch 1/4 inch from joining seam of waistband.
- (5) Topstitch collar to neck from shoulder to shoulder 1/16 inch from edge.





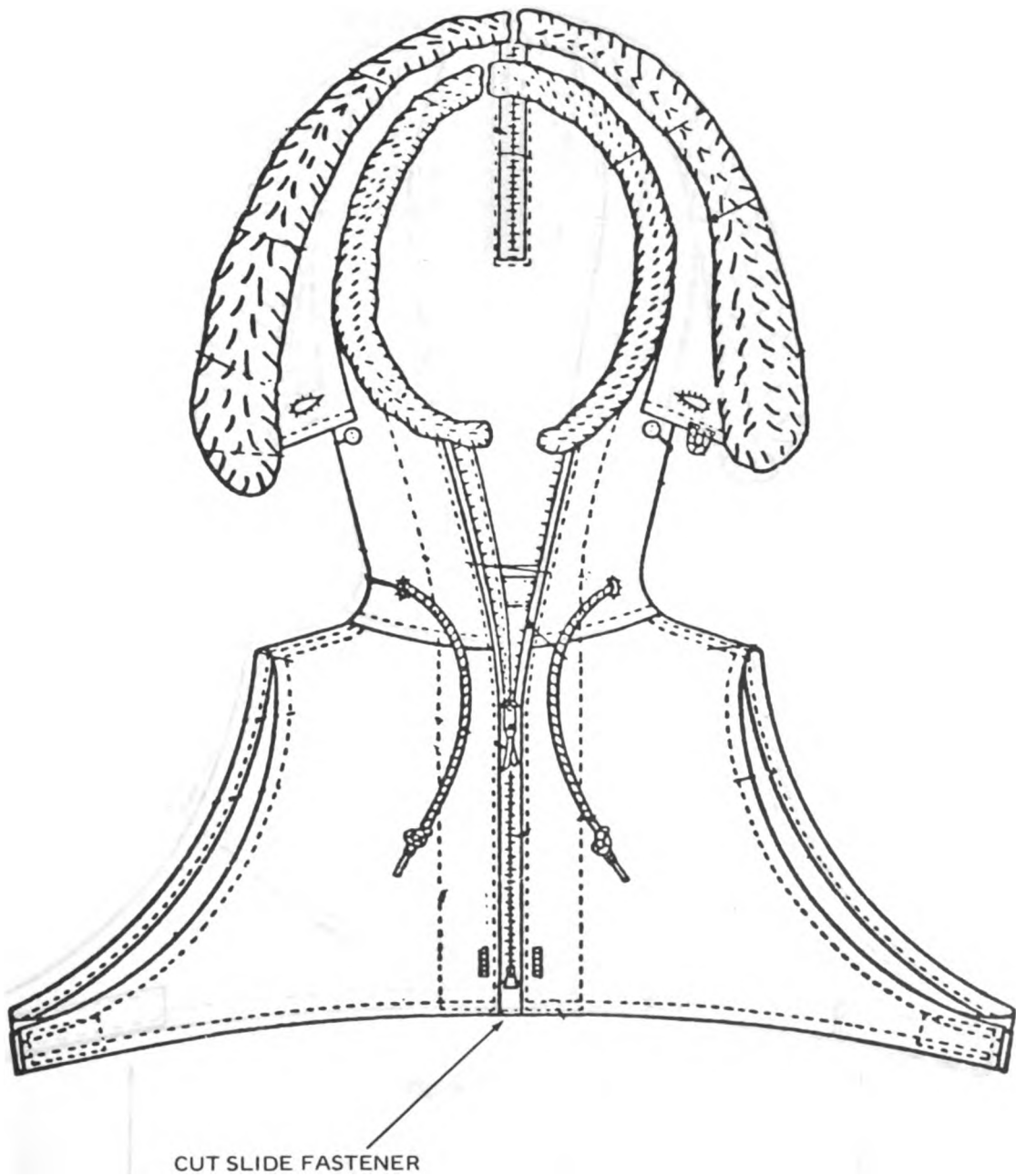


Figure 4-1. Hood, Front

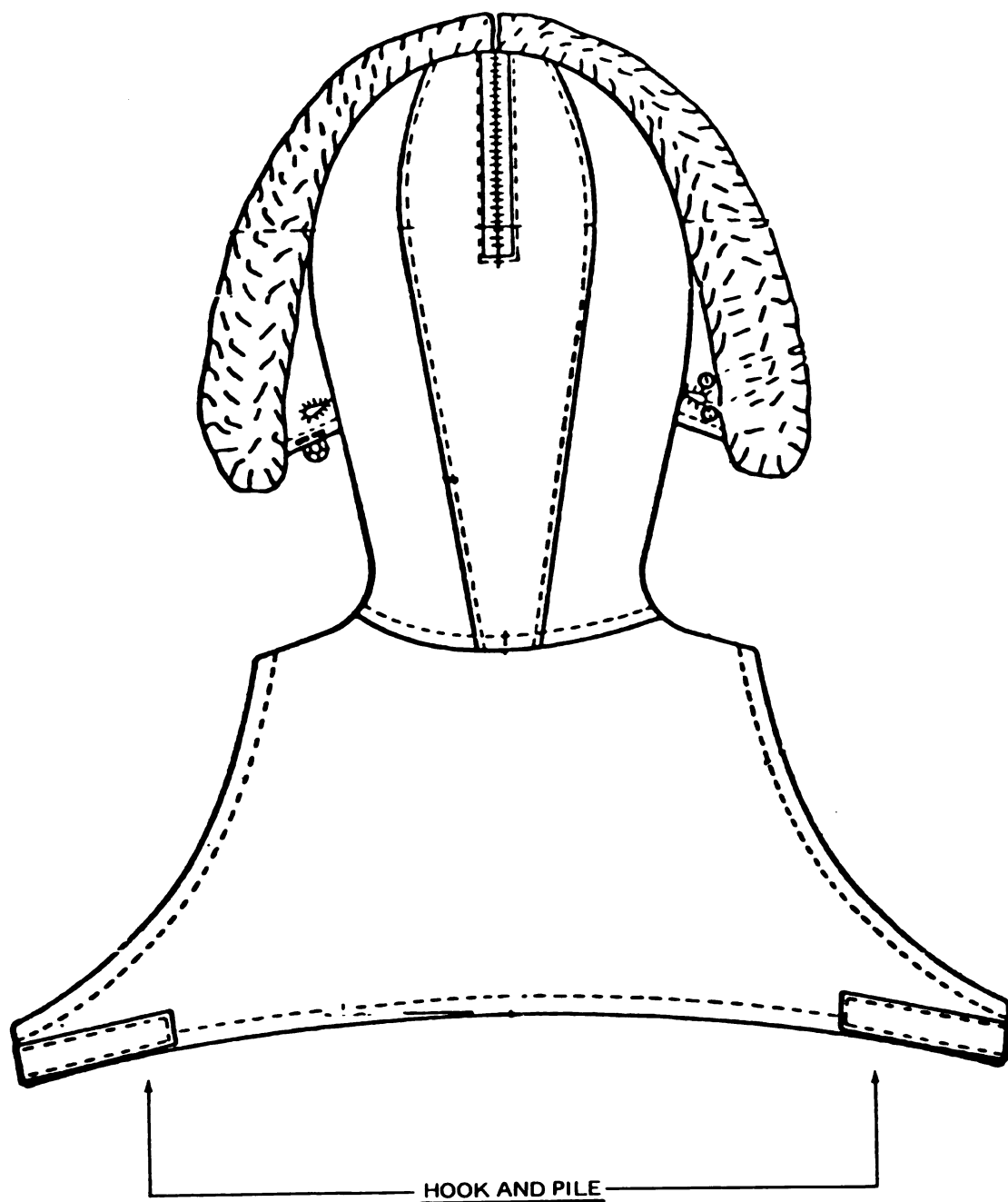


Figure 4-2. Hood, Back

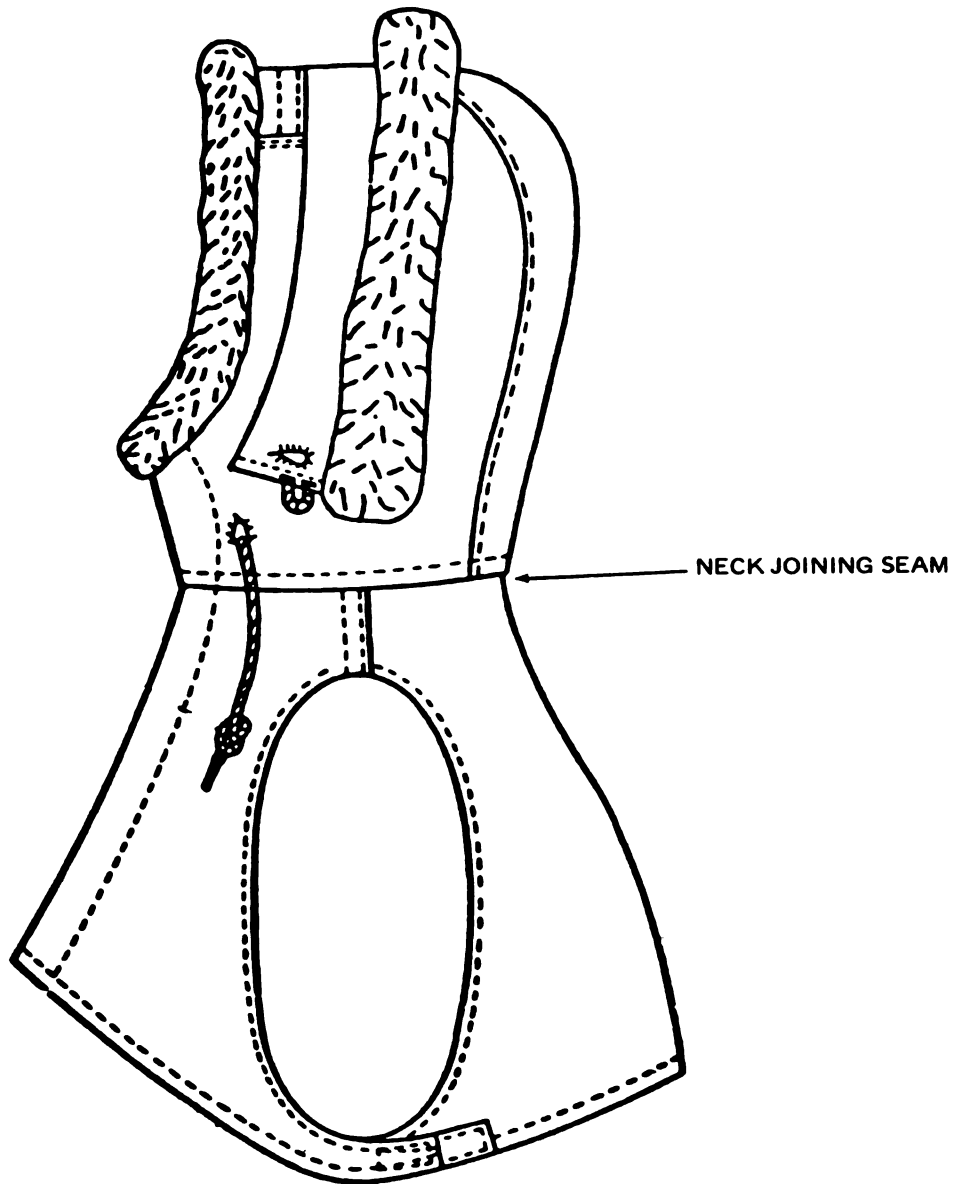


Figure 4-3. Hood Side

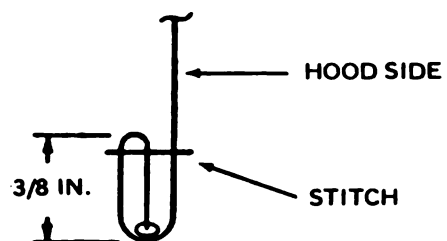


Figure 4-4. Raw Edge Enclosed

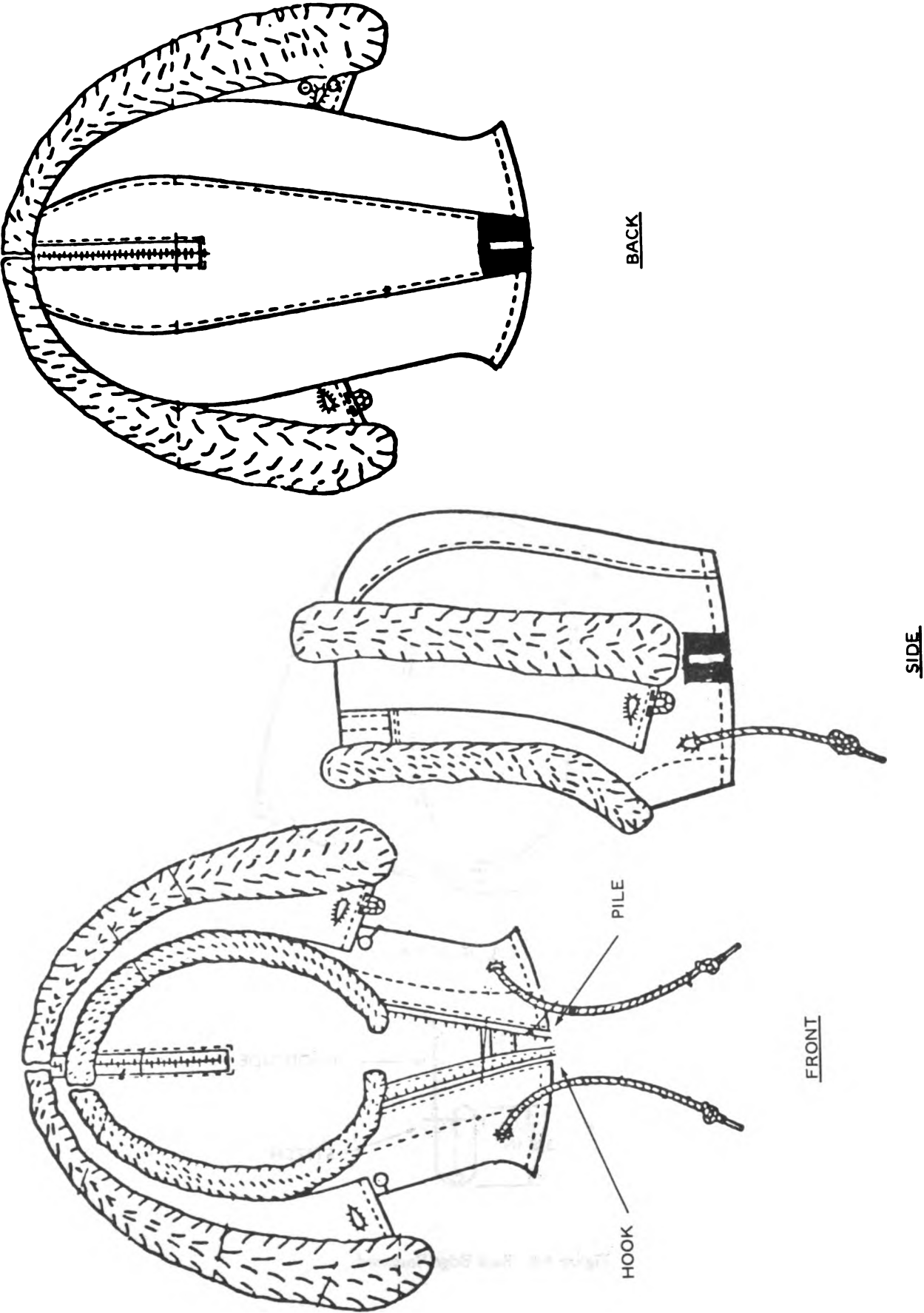


Figure 4-5. Finish Hood

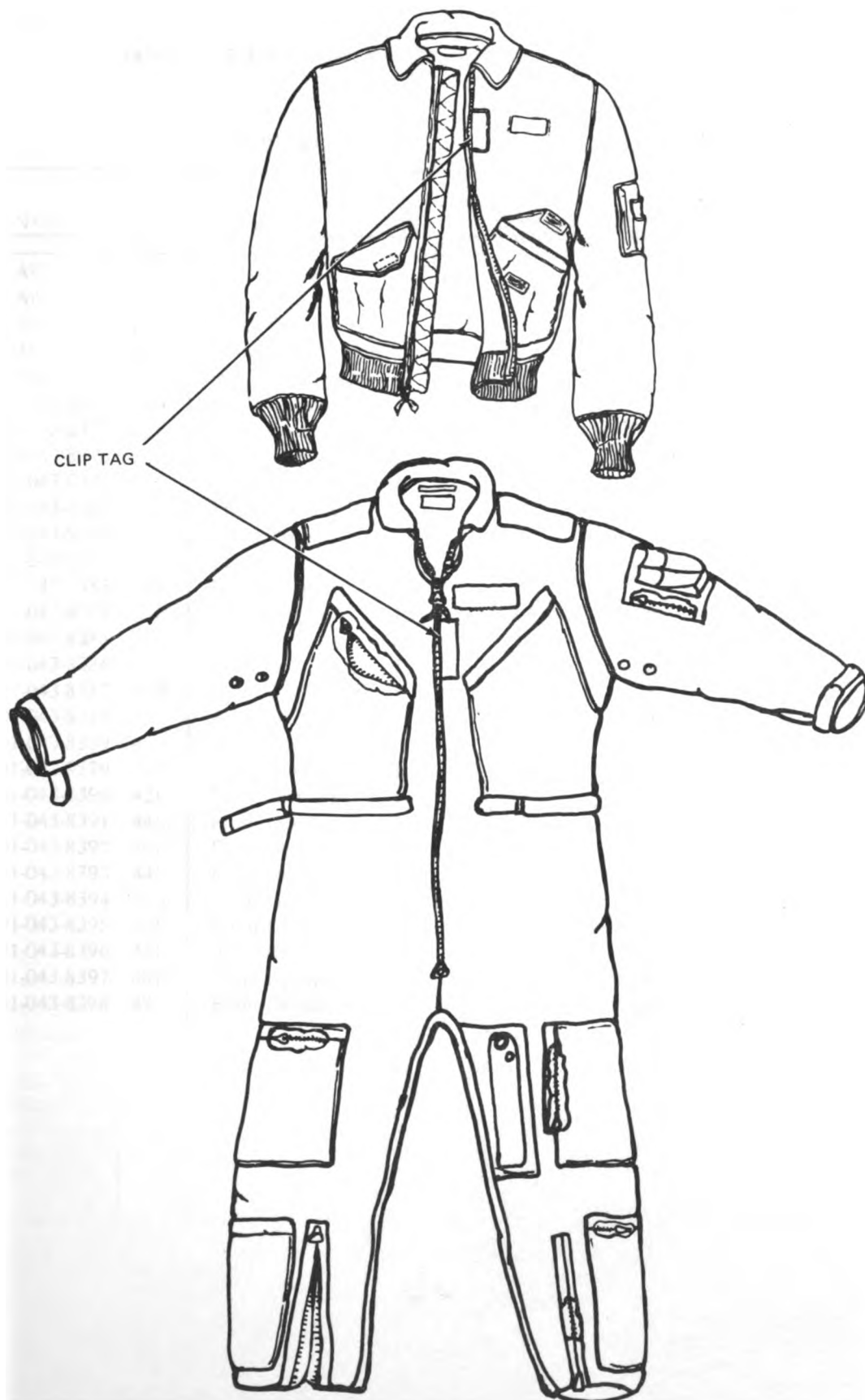


Figure 4-6. Front View of Coveralls and Jacket



Table 4-2. Slide Fasteners, V-F-106, For Repair of Flyer's Coveralls, CWU-27/P

COVERALLS, CWU-27/P		SLIDE FASTENERS, V-F-106					
NSN	SIZE	LOCATION	TYPE	STYLE	SIZE	LENGTH (Inches)	NSN
All	All	Leg Opening	I	3	M	10	5325-00-138-4651
All	All	Brease Pockets	I	7	M	6-1/2	5325-01-049-0724
All	All	Thigh Pockets	I	7	M	7	5325-00-138-4648
All	All	Lower Leg Pockets	I	7	M	8-1/2	5325-00-138-4649
All	All	Side Pass-Through	I	7	M	10	5325-00-138-4650
8415-01-043-8376	32S	Front Opening	I	15	MS	25	5325-01-069-8247
8415-01-043-8377	32R	Front Opening	I	15	MS	26	5325-00-478-0713
8415-01-043-8378	34S	Front Opening	I	15	MS	25-1/2	5325-01-069-8248
8415-01-043-8379	34R	Front Opening	I	15	MS	26-1/2	5325-00-478-0714
8415-01-043-8380	36S	Front Opening	I	15	MS	26	5325-00-478-0713
8415-01-043-8381	36R	Front Opening	I	15	MS	27	5325-00-478-0715
8415-01-043-8382	36L	Front Opening	I	15	MS	28	5325-00-495-3368
8415-01-043-8383	38S	Front Opening	I	15	MS	26-1/2	5325-00-478-0714
8415-01-043-8384	38R	Front Opening	I	15	MS	27-1/2	5325-01-049-0720
8415-01-043-8385	38L	Front Opening	I	15	MS	28-1/2	5325-00-476-7622
8415-01-043-8386	40S	Front Opening	I	15	MS	27	5325-00-478-0715
8415-01-043-8387	40R	Front Opening	I	15	MS	28	5325-00-495-3368
8415-01-043-8388	40L	Front Opening	I	15	MS	29-1/2	5325-00-476-7624
8415-01-043-8389	42S	Front Opening	I	15	MS	27-1/2	5325-01-049-0720
8415-01-043-9529	42R	Front Opening	I	15	MS	28-1/2	5325-00-476-7622
8415-01-043-8390	42L	Front Opening	I	15	MS	29-1/2	5325-00-476-7624
8415-01-043-8391	44S	Front Opening	I	15	MS	28	5325-00-495-3368
8415-01-043-8392	44R	Front Opening	I	15	MS	29	5325-00-476-7623
8415-01-043-8393	44L	Front Opening	I	15	MS	30	5325-00-478-0716
8415-01-043-8394	46S	Front Opening	I	15	MS	28-1/2	5325-00-476-7622
8415-01-043-8395	46R	Front Opening	I	15	MS	29-1/2	5325-00-476-7624
8415-01-043-8396	46L	Front Opening	I	15	MS	30-1/2	5325-00-476-0725
8415-01-043-8397	48R	Front Opening	I	15	MS	30	5325-00-478-0716
8415-01-043-8398	48L	Front Opening	I	15	MS	31	5325-01-049-0721



Table 4-3. Slide Fasteners (CWU-28/P)

		CWU-28/P COVERALL				
		SLIDE FASTENERS (V-F-106)				
Coverall Size	Location	Type	Style	Size	Length Inches	Stock No.
All sizes	Leg opening	I	3	M	10	5325-411-5297
All sizes	Breast pockets	I	7	M	7	5325-434-1632
All sizes	Thigh pockets	I	7	M	7	
All sizes	Lower leg pocket	I	7	M	8-1/2	5325-404-5116
All sizes	Side pass-through	I	7	M	10	5325-404-5124
36S	Front opening	I	15	MS	26	5325-411-5299 or 5325-478-0713
36R-40S	Front opening	I	15	MS	27	5325-235-9988 or 5325-478-0715
38S	Front opening	I	15	MS	26-1/2	5325-763-2887 or 5325-478-0714
38R	Front opening	I	15	MS	27-1/2	5325-435-2069 or 5325-476-7621
40R	Front opening	I	15	MS	28	5325-240-9571 or 5325-495-3368
40L/44R	Front opening	I	15	MS	29	5325-235-9989 or 5325-479-7623
42R	Front opening	I	15	MS	28-1/2	5325-254-0003 or 5325-476-7622
42L/46R	Front opening	I	15	MS	29-1/2	5325-194-9796 or 5325-476-7624
44L/48R	Front opening	I	15	MS	30	5325-254-0008 or 5325-478-0716
46L	Front opening	I	15	MS	30-1/2	5325-194-9724 or 5325-476-7625

Table 4-4. Jacket, Flyers

			CWU-36/P FLIGHT JACKET SLIDE FASTENERS (VF106)				NSN
JACKET	SIZE	LENGTH	LOCATION	TYPE	STYLE	SIZE	
CWU-36/P	SMALL	20 1/2 IN.	FRONT	IV	8	M	5325-01-093-5237
CWU-36/P	MEDIUM	21 IN.	FRONT	IV	8	M	5325-01-097-8997
CWU-36/P	LARGE	21 1/2 IN.	FRONT	IV	8	M	5325-01-097-8998
CWU-36/P	EXTRA LARGE	22 IN.	FRONT	IV	8	M	5325-01-093-5238
			CWU-45/P FLIGHT JACKET SLIDE FASTENERS (VF106)				NSN
JACKET	SIZE	LENGTH	LOCATION	TYPE	STYLE	SIZE	
CWU-45/P	SMALL	21 IN.	FRONT	IV	8	MH	5325-01-093-5239
CWU-45/P	MEDIUM	21 1/2 IN.	FRONT	IV	8	MH	5325-01-036-2830
CWU-45/P	LARGE	22 IN.	FRONT	IV	8	MH	5325-01-036-0130
CWU-45/P	EXTRA LARGE	22 1/2 IN.	FRONT	IV	8	MH	5325-01-036-0129

Table 4-5. Slide Fasteners CWU-18/P

APPLICATION	SPECIFICATION V-F-106			LENGTH IN INCHES
	Type	Style	Size $\frac{1}{2}$	Plus or Minus $\frac{1}{2}$
Size 28				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	8-3/4
leg opening	I	3	M	15-1/2
Size 30				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	9
leg opening	I	3	M	15-1/2
Size 32				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	9-1/4
leg opening	I	3	M	15-1/2
Size 34				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	9-1/2
leg opening	I	3	M	15-1/2
Size 36				
pass through opening	I	7	M	10-1/2
fly opening	I	3	M	9-3/4
leg opening	I	3	M	15-1/2
Size 38				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	10
leg opening	I	3	M	15-1/2
Size 40				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	10-1/4
leg opening	I	3	M	15-1/2
Size 42				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	10-1/2
leg opening	I	3	M	15-1/2
Size 44				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	10-3/4
leg opening	I	3	M	15-1/2
Size 46				
pass-through opening	I	7	M	10-1/2
fly opening	I	3	M	11
leg opening	I	3	M	15-1/2

MIL-T-83385

$\frac{1}{2}$  the width of the tape shall be  $\frac{3}{4}$  inch (plus  $\frac{3}{32}$  or minus  $\frac{1}{32}$  inch). The slide fastener tapes for the CWU-18/P shall be a high temperature resistant, nonmelting polyamide and shall be dyed so that the color of the tapes will approximately match the color of the trousers USAF color shade No. 1565.

By Order of the Secretary of the Army:

**JOHN A. WICKHAM, JR.**  
*General, United States Army*  
*Chief of Staff*

Official:

**ROBERT M. JOYCE**  
*Major General, United States Army*  
*The Adjutant General*

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