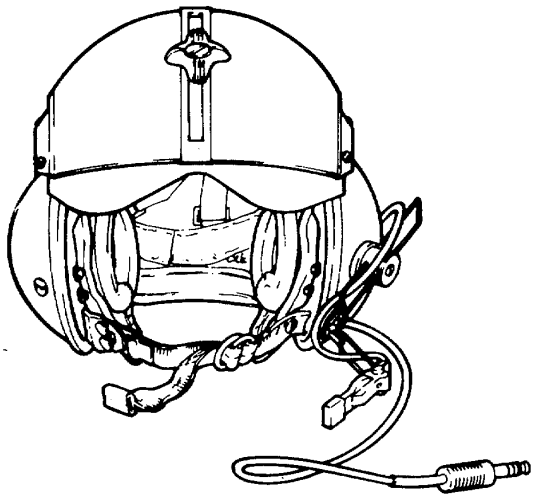
**TECHNICAL MANUAL**

**OPERATOR'S AND ORGANIZATIONAL**

**MAINTENANCE MANUAL**
**INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST**

**HELMET, FLYER'S PROTECTIVE**
**Model SPH-4, Regular,**
**NSN 8415-00-144-4981;**
**Model SPH-4, Extra Large,**
**NSN 8415-00-144-4985**





**This copy is a reprint which includes current pages from Changes 1 through 6.**


***THIS MANUAL SUPERSEDES TM 10-8415-206-13,13 APRIL 1972, INCLUDING ALL CHANGES.**
**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**5 MAY 1986**

CHANGE
NO. 6

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 18 January 1994

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYER'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981;
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| 1-1 and 1-2 | 1-1 and 1-2 |
| 4-77 and 4-78 | 4-77 and 4-78 |
| A-1/(A-2 blank) | A-1/(A-2 blank) |
| D-1 and D-2 | D-1 and D-2 |
| E-11 through E-14 | E-11 through E-14 |
| E-19 through E-22 | E-19 through E-22 |

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
*General, United States Army*
*Chief of Staff*

Official:

MILTON H. HAMILTON
*Administrative Assistant to the*
*Secretary of the Army*
06327

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25-E, block no. 2317, requirements for TM 10-8415-206-12&P.

CHANGE

NO. 5

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 29 JANUARY 1993

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYER'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981;
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| i and ii | i and ii |
| 4-76.3 and 4-76.4 | 4-76.3 and 4-76.4 |
| 4-77 and 4-78 | 4-77 and 4-78 |
| 4-105 through 4-126 | 4-105 and 4-106 |
| ----- | 4-135 through 4-142 |
| D-1 and D-2 | D-1 and D-2 |
| E-11 through E-14 | E-11 through E-14 |
| E-21 and E-22 | E-21 and E-22 |
| Index 3/(Index 4 blank) | Index 3/(Index 4 blank) |

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
*General, United States Army*
*Chief of Staff*

Official:

MILTON H. HAMILTON
*Administrative Assistant to the*
*Secretary of the Army*
03637

DISTRIBUTION:
To be distributed in accordance with DA Form 12-25-E, block no. 2317, requirements for TM 10-8415-206-12&P.

CHANGE
NO. 4

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 10 FEBRUARY 1992

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYER'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| a/b | a through c/d |
| i and ii | i and ii |
| 1-1 through 1-6 | 1-1 through 1-6 |
| 2-1 and 2-2 | 2-1 and 2-2 |
| 2-5 and 2-6 | 2-5 and 2-6 |
| 2-9 through 2-16 | 2-9 through 2-16 |
| 3-1 through 3-4 | 3-1 through 3-4 |
| 3-11 and 3-12 | 3-11 and 3-12 |
| 4-3 and 4-4 | 4-3 and 4-4 |
| 4-37 and 4-38 | 4-37 and 4-38 |
| 4-49 and 4-50 | 4-49 and 4-50 |
| 4-65 and 4-66 | 4-65 and 4-66 |
| 4-75 and 4-76 | 4-75 and 4-76 |
| 4-75.1 through 4-75.10 | 4-76.1 through 4-76.10 |
| 4-97 and 4-98 | 4-97 and 4-98 |
| A-1/A-2 | A-1/A-2 |
| B-6.1 and B-6.2 | B-6.1 and B-6.2 |
| E-9/E-10 | E-9/E-10 |
| E-13 and E-14 | E-13 and E-14 |
| E-17 through E-22 | E-17 through E-22 |
| 2028's and Envelopes | 2028's and Envelopes |

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

GORDON R. SULLIVAN
*General, United States Army*
*Chief of Staff*

Official:

MILTON H. HAMILTON
*Administrative Assistant to the*
*Secretary of the Army*
00808

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31-E, block no. 2315, -10 & CL and AVUM maintenance requirements for TM 10-8415-206-12&P.

**TM 10-8415-206-12&P**
C3

CHANGE
NO. 3

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 16 OCTOBER 1989

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYER'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| B-6.1 and B-6.2 | B-6.1 and B-6.2 |
| D-1 and D-2 | D-1 and D-2 |
| E-9/E-10 | E-9/E-10 |
| E-13 and E-14 | E-13 and E-14 |
| E-21 and E-22 | E-21 and E-22 |

2. Retain this sheet in front of manual for reference purposes.

**By Order of the Secretary of the Army:**

**CARL E. VUONO**
***General, United States Army***
***Chief of Staff***

**Official:**

**WILLIAM J. MEEHAN II**
***Brigadier General, United States Army***
***The Adjutant General***

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, -10 & CL, and AVUM Maintenance requirements for All Fixed and Rotary Wing Aircraft.

CHANGE
NO. 2

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 15 October 1988

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYERS'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| a and b | a/b |
| i and ii | i and ii |
| 1-5 and 1-6 | 1-5 and 1-6 |
| 2-1 and 2-2 | 2-1 and 2-2 |
| 2-9 through 2-17/2-18 | 2-9 through 2-17/2-18 |
| --- | 2-33 through 2-36 |
| 4-5 and 4-6 | 4-5 and 4-6 |
| 4-8.1/4-8.2 | 4-8.1/4-8.2 |
| 4-9 and 4-10 | 4-9 and 4-10 |
| 4-69 through 4-72 | 4-69 through 4-72 |
| --- | 4-75.1 through 4-75.10 |
| 4-79 through 4-82 | 4-79 through 4-82 |
| 4-87 and 4-88 | 4-87 and 4-88 |
| 4-93 and 4-94 | 4-93 and 4-94 |
| 4-105 through 4-108 | 4-105 through 4-108 |
| D-3/D-4 | D-3 and D-4 |
| E-11 through E-14 | E-11 through E-14 |
| E-19 and E-20 | E-19 and E-20 |
| Index 1 through Index 3/4 | Index 1 through Index 3/4 |

2. Retain this sheet in front of manual for reference purposes.

By Order of the Secretary of the Army:

**CARL E. VUONO**
***General, United States Army***
***Chief of Staff***

Official:

**WILLIAM J. MEEHAN II**
***Brigadier General, United States Army***
***The Adjutant General***

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, AVUM and AVIM Maintenance requirements for All Fixed and Rotary Wing Aircraft.

**URGENT**

**TM 10-8415-206-12&P**
C1

CHANGE
NO. 1

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 3 AUGUST 1987

Operator's and Organizational
Maintenance Manual
Including Repair Parts and Special Tools List

HELMET, FLYER'S PROTECTIVE
Model SPH-4, Regular,
NSN 8415-00-144-4981
Model SPH-4, Extra Large,
NSN 8415-00-144-4985

TM 10-8415-206-12&P, 5 May 1986, is changed as follows:

1. Remove and insert pages as indicated below. New or changed text material is indicated by a vertical bar in the margin. An illustration change is indicated by a miniature pointing hand.

| Remove pages | Insert pages |
|---|---|
| i and ii | i and ii |
| 2-1 through 2-10 | 2-1 through 2-10 |
| 2-13 and 2-14 | 2-13 and 2-14 |
| 2-17/2-18 | 2-17/2-18 |
| 3-1 and 3-2 | 3-1 and 3-2 |
| 3-21 and 3-22 | 3-21 and 3-22 |
| 4-5 and 4-6 | 4-5 and 4-6 |
| --- | 4-8.1/4-8.2 |
| 4-81 and 4-82 | 4-81 and 4-82 |
| 4-85 through 4-87/4-88 | 4,85 through 4-88 |
| --- | 4-89 through 4-134 |
| A-1/A-2 | A-1/A-2 |
| B-5 and B-6 | B-5 and B-6 |
| --- | B-6.1 and B-6.2 |
| B-7/B-8 | B-7 and B-8 |
| C-1 and C-2 | C-1 and C-2 |
| D-1 and D-2 | D-1 and D-2 |
| --- | D-3/D-4 |
| E-1 through E-10 | E-1 through E-9/E-10 |
| E-11 through E-13 | E-11 through E-14 |
| --- | E-15/E-16 |
| --- | E-17 through E-22 |
| Index 1 and Index 2 | Index 1 through Index 3/ Index 4 |

**URGENT**

2. Retain this sheet in front of manual for reference purposes.

**By Order of the Secretary of the Army:**

**CARL E. VUONO**
***General, United States Army***
***Chief of Staff***

**Official:**

**R. L. DILWORTH**
***Brigadier General, United States Army***
***The Adjutant General***

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, AVUM and AVIM requirements for All Fixed and Rotary Wing Aircraft.

**WARNING**

Head size up to 7-1/4 requires the regular size helmet, and head size 7-1/4 and larger requires the extra large helmet. Failure of personnel to use correct helmet size may cause severe headaches and dizziness which could also result in an aircraft crash.

**WARNING**

Prior to entering potentially hazardous situations, the chin and nape straps should be secured very tightly. Failure of personnel to comply with this procedure can result in their injury.

**WARNING**

Rubber base adhesive and silicone rubber base adhesive are extremely flammable. Do not use when smoking or in the vicinity of an open flame.

**WARNING**

Paint could be flammable, toxic in sufficient concentrations, and it could cause dermatitis with skin contact. Care should be taken to avoid breathing of the vapors and skin contact. Avoid use while smoking or in the vicinity of open flames.

**WARNING**

Headaches can result if the cross straps are too tight. If they are too loose, hearing protection can be affected.

**WARNING**

Due to the serious limitations imposed by the laser protective visors (LPVs) on visual acuity outside of the aircraft as well as on flight displays within the cockpit, the LPVs will only be used when actual laser hazards exist. For day or night VFR flights at altitudes below low level flight, the pilot and co-pilot will analyze the current situation and both will decide if flight should be continued with the LPVs in use. Some considerations are the local laser hazards, ambient light levels, and terrain. Approval for use must be annotated on the flights crews mission brief.

**WARNING**

The dark LPVs (AMBER) are not compatible with aircraft or ground support night lighting and are not safe for twilight or night flight.

Do not use the dark LPVs during twilight or at night.

**WARNING**

The dark LPVs (AMBER) will change the appearance of and possibly eliminate some red and/or green light sources. Testing indicates that some red lights take on an orange hue, that some cockpit warning lights are difficult to read though still visible, and that some cockpit gauges are illegible.

Do not use the dark LPVs for IFR flight.

**WARNING**

The light LPVs (GREEN) will change the appearance of and possibly eliminate some red light sources. Testing indicates that some red lights take on an orange hue, that some cockpit warning lights are difficult to read though still visible, that the distance one can see some exterior red lights is reduced, and that red cockpit map lights are virtually unusable.

Use extra caution at night.

**WARNING**

The LPVs are laser wavelength specific and will protect against only those lasers of the designated wavelength. The light LPV (GREEN) will protect against ruby and neodymium lasers only. The dark LPV (AMBER) will protect against ruby, neodymium, and one other (classified wavelength) lasers only.

**WARNING**

If lased, do not stare at the laser source. Some lasers have secondary harmonic wavelengths that may cause some eye damage-these secondary wavelengths may not be filtered by these LPVs.

**WARNING**

The LPVs are not intended to provide protection against broad spectrum bright light. Do not use the LPVs to view solar eclipses, electric welding or other potentially eye damaging light sources.

**WARNING**

The LPVs are not to be used as a substitute for other types of laser eye protection. Protection during maintenance or servicing of specific laser systems should be as specified by the appropriate technical manual.

**WARNING**

The LPVs reduce ambient light levels available to the eye. Eye Accommodation should be allowed prior to operation during periods of dusk or dawn.

**CAUTION**

Excessive scratching may degrade the laser protection factor of the LPVs. Clean according to instructions. Turn in LPVs with an excessive number of scratches or any deep scratches.

**CAUTION**

Exposure to direct sunlight may degrade the laser protection factor of the LPVs. Unnecessary sunlight exposure should be avoided.

**Technical Manual**

**No. 10-8415-206-12&P**

**HEADQUARTERS**
**DEPARTMENT OF THE ARMY**
**WASHINGTON D.C., 5 May 1986**

# OPERATOR'S AND ORGANIZATIONAL MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST

**HELMET, FLYER'S PROTECTIVE:**
**Model SPH-4, Regular,**
**NSN 8415-00-144-4981:**
**Model SPH-4, Extra Large,**
**NSN 8415-00-144-4985**

**REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS**

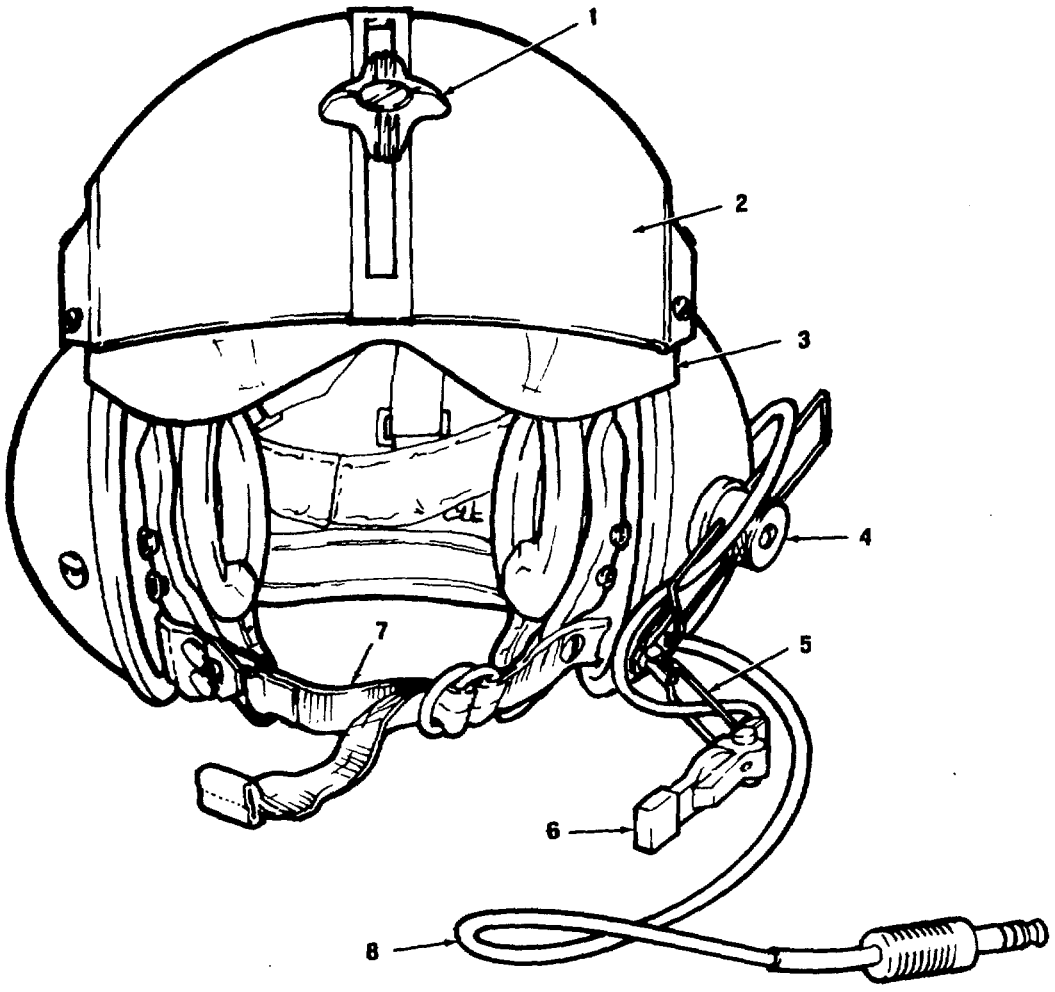
You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedure, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) located in the back of this manual, direct to: Commander, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. A reply will be furnished to you.

**DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.**

## Table of Contents

**TABLE OF CONTENTS-Continued**

## LIST OF TABLES




1. Visor Lock
2. Visor Housing
3. Visor
4. Boom Adjusting Knob
5. Microphone Boom
6. Microphone
7. Chin Strap
8. Microphone Cord

Figure 1-1. Protective Flyers Helmet, Model SPH-4

# CHAPTER 1

# INTRODUCTION



## OVERVIEW

Chapter 1 of this TM Is Intended to give you a general idea of the type of equipment, its use ar. The main characteristics of the flyer's protective helmet covered by this publication.

## Section I. GENERAL INFORMATION

### 1-1. SCOPE

a. This manual contains instructions required by the Operator and Organizational Maintenance personnel to use and maintain the flyer's protective helmet, Models SPH-4 Regular and SPH-4 Extra Large (fig. 1-1).

b. The helmet provides crash and noise protection.

c. A retractable shatter resistant visor provides protection from secondary fragments, glare, dust and wind blast.

d. The helmets are also equipped with noise attenuative earcups and communication equipment that includes a microphone, cord, headset and connectors.

## 1-1. SCOPE-Continued

e. Snap fastener studs, on the retention harness, not used for the chin strap, provides for attachment of the oxygen mask. Proper fit and securing are accomplished by adjustments made at buckles located on the chin strap, nape strap, earsection cross straps, and various straps on the suspension assembly.

## 1-2. MAINTENANCE FORMS, RECORDS AND REPORTS

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-751, the Army Maintenance Management System-Aviation (TAMMS-A).

## 1-3. HAND RECEIPT (-HR) MANUALS

Not applicable.

## 1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR'S)

If your helmet needs improvement, let us know. Send us an EIR. You, the user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design or performance. Put it on an SF368 (Quality Deficiency Report). Mail it to us at:

Commander
US Army Aviation and Troop Command
ATTN: AMSAT-I-MDO
4300 Goodfellow Boulevard
St. Louis, MO 63120-1798

We'll send you a reply.

## Section II. EQUIPMENT DESCRIPTION

### 1-5. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES

a. Purpose of Flyer's Protective Helmet, SPH-4:

Provides aircraft personnel with eye, crash, and noise protection and a means for radio communication.

b. Capabilities and Features:

(1) Hand portable or stows in aircraft.
(2) Integrated communications equipment.
(3) Retractable shatter resistant visor in neutral or clear.
(4) Buckle adjustments for fitting.
(5) All weather operational.
(6) Extra snap fasteners incorporated for attachment of oxygen mask.

c. Laser Protective Visors:

Laser Protective Visors (LPVs) for the SPH-4 flyer's helmet consist of two visor assemblies; a light laser protective visor assembly (green color) for night use, and a dark laser protective visor assembly (amber color) for day use. The light LPV provides protection against ruby and neodymium type lasers, the dark LPV provides protection against three types of lasers, including ruby and neodymium. The visors are intended to be used, one at a time, with the SPH-4 flyers helmet standard single visor housing, the Anvis visor housing, or the AH-1 helmet sight assembly. The LPVs are intended to be replacements for the standard clear and neutral gray visors in a laser hazardous flight scenario.

## 1-6. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

LOCATION AND DESCRIPTION OF HELMET COMPONENTS:

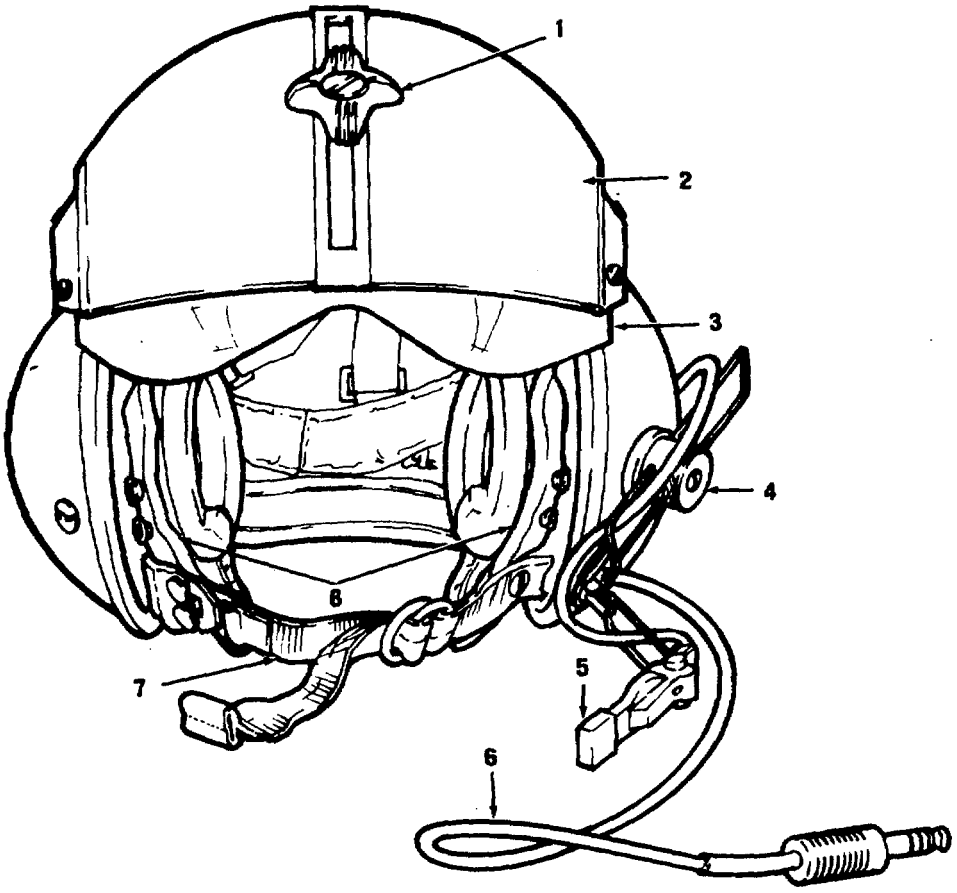
VISOR LOCK (1) ..... Provides means for adjusting and locking visor.

VISOR HOUSING (2) ..... Protects visor when helmet is not in use.

VISOR (3)..... Provides eye protection.

MICROPHONE BOOM ADJUSTMENT KNOB (4) ..... Allows microphone to be adjusted to and secured in desired position.

MICROPHONE(5) ..... Provides means for radio communication.




MICROPHONE CORD (6) ..... Provides power source from radio to microphone.

CHIN STRAP (7) ..... Provide stability and retention

RETENTION HARNESS (8) ..... Supports noise attenuation earcups, and chin strap. Has a nape strap and extra snap fasteners for attachment of oxygen mask.

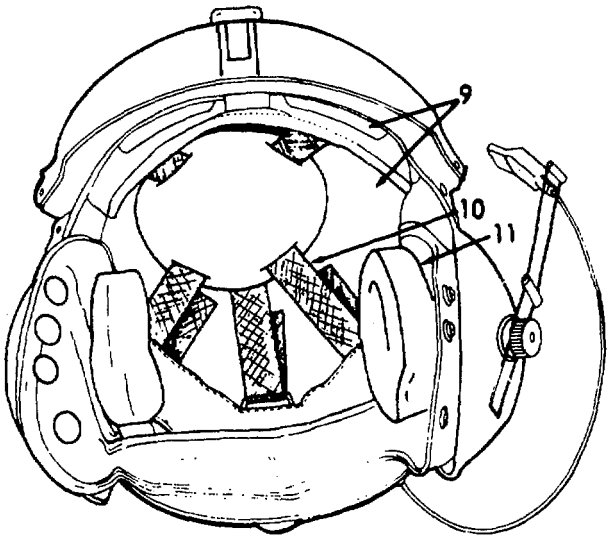
## 1-6. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS-Continued

LOCATION AND DESCRIPTION OF HELMET COMPONENTS-Continued:

LINER (9) ..... Provides crash protection

SUSPENSION ASSEMBLY (10) ..... Provides adjustments for fit, comfort, and stability.

EARPADS (11) ..... Provides comfortable acoustic seal around the ear.



## 1-7. DIFFERENCES BETWEEN MODELS

a. The regular size SPH-4 will fit personnel that wear hat sizes up to about 7-1/4.

b. The extra large size will fit those who cannot fit into the regular size SPH-4 comfortably.

c. The following components are larger in the extra large size:

(1) Shell

(2) Liner

(3) Suspension Assembly

## 1-8. EQUIPMENT DATA

For equipment data refer to table 1-1.

*Table 1-1. EQUIPMENT DATA*

HELMET

| | |
|---|---|
| Design and performance Specification | MIL-H-43925 |
| Model | SPH4, Regular |
| NSN | 8415-00-144-4981 |
| Model | SPH-4, Extra Large |
| NSN | 8415-00-144-4985 |
| BAG | 8415-00-782-2989 |

COMMUNICATIONS EQUIPMENT

HEADSET-MICROPHONE KIT

| | |
|---|---|
| Model | MK-896A/AIC |
| Design and Performance Specification | MIL-H-43925 |
| Operator's and Maintenance Manual | TM 11-5965-279-13&P |

# CHAPTER 2

# OPERATING INSTRUCTIONS



## OVERVIEW

This chapter provides and illustrates the necessary instructions needed by the operator on the fitting, adjusting and operation of the flyer's protective helmet. The wearer's safety and comfort depends on the correct adjustment and fit of the helmet. Proper fit and adjustment assures maximum comfort and stability and prevents interference with combat efficiency.

**CAUTION**

**Never use the helmet as a stool, or place to stow things.**

**Do not stow gloves in helmet.**

**Never carry helmet, using mike boom, cord, nape strap or chin strap as a handle.**

**Carry the helmet only in the helmet bag, with the mike boom pivoted inside the helmet.**

**When traveling by commercial airlines carry the helmet on board and stow the helmet in the overhead compartment. Never stow the helmet in the lower baggage area.**

**Never leave helmet in closed cockpit or automobile.**

**Failure of personnel to comply with these procedures may result in damage to the helmet.**

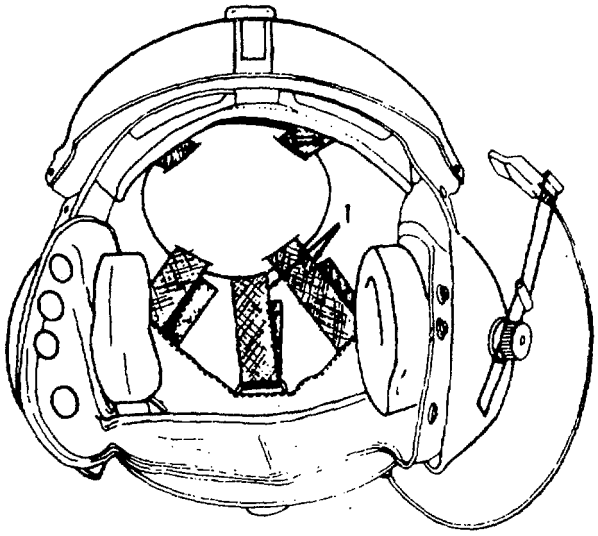
## Section I. CONTROLS AND INDICATORS

### 2-1. CONTROLS, DESCRIPTION AND USE

CONTROLS AND INDICATORS

a. CROWN STRAPS (1).

Adjustments increase or decrease the helmet standoff distance. They must be adjusted such that the ears are centered in the earcups.

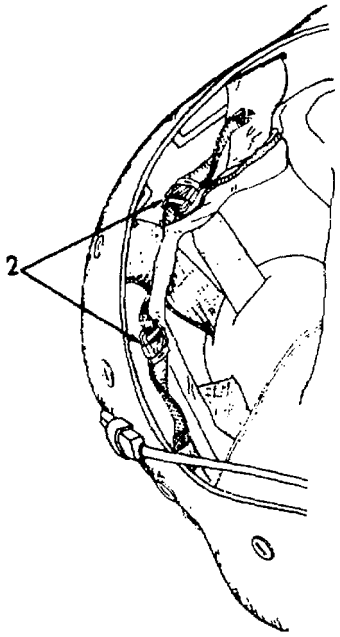



**CAUTION**

**Straps should be adjusted equally to eliminate "hot spots". There should be 1/2 in. of space between the helmet liner and crown pad of the suspension assembly.**

b. HEADBAND SUSPENSION (2).

Adjustment loosens or tightens the headband. Headband should be snug but not tight. If snug it will aid in stabilizing the helmet.

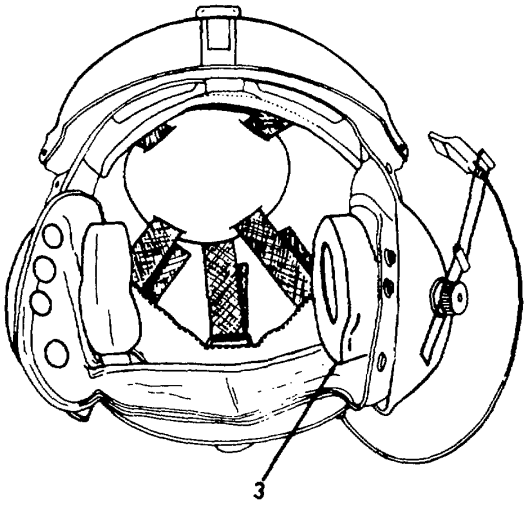


**2-1. CONTROLS, DESCRIPTION, AND USE-Continued I**

CONTROLS AND INDICATORS-Continued:

c. EARCUP PAD ROTATION (3)

Rotate earcup pad such that it completely surrounds the ear, and such that its bump meets the depression just below the ear.




**NOTE**

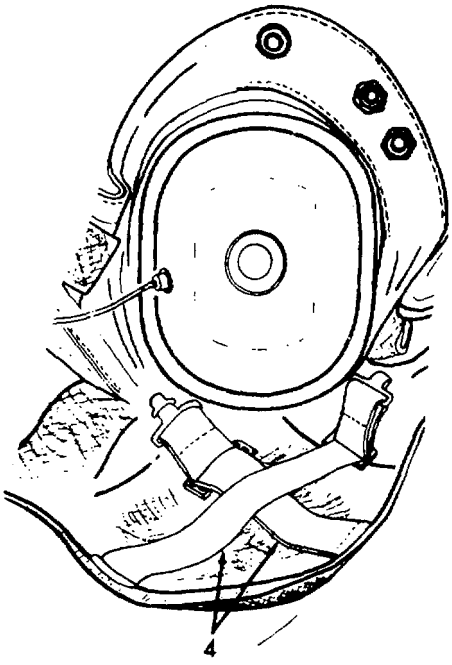
**The earcup may have to be rotated to accomplish this.**

**WARNING**

**Headaches can result if the cross straps are too tight. If they are too loose, hearing protection can be affected.**

d. CROSS STRAPS (4)

Tightening or loosening the cross straps will vary the earcup forces.




**NOTE**

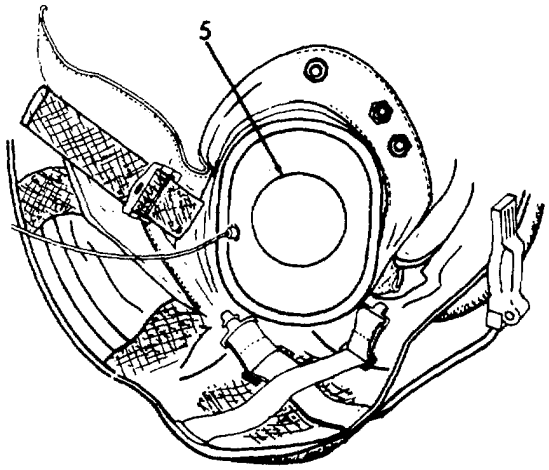
**If a good acoustic seal cannot be obtained, then use earcup spacers.**

**2-1. CONTROLS, DESCRIPTION, AND USE-Continued**

CONTROLS AND INDICATORS-Continued:

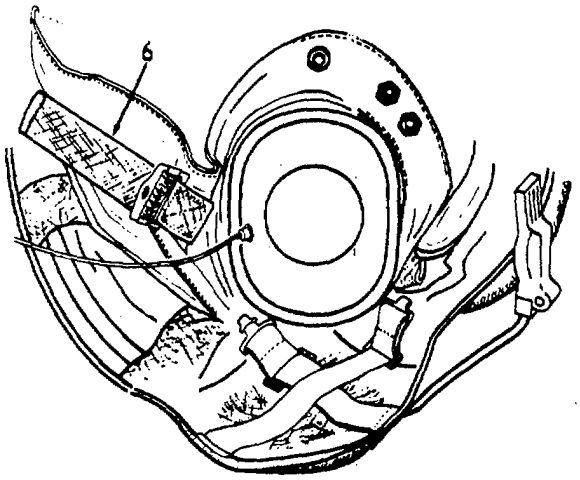
e. SPACER PADS (5)

Add to rear of earcups only if an acoustic seal cannot be obtained without them, only after cross straps have been fully tightened.




f. NAPE STRAP (6)

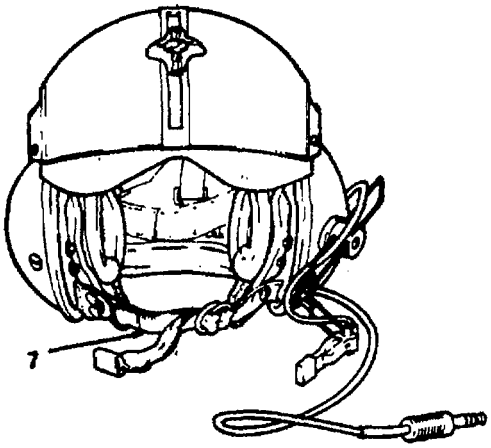
When adjusted snugly, it stabilizes the helmet and secures it to the head.



**2-1. CONTROLS, DESCRIPTION, AND USE-Continued**

CONTROL AND INDICATORS-Continued:

g. CHIN STRAP (7)
When snugged, it secures helmet to wearer's head. To remove quickly, pull on tab located on right end of chin strap.

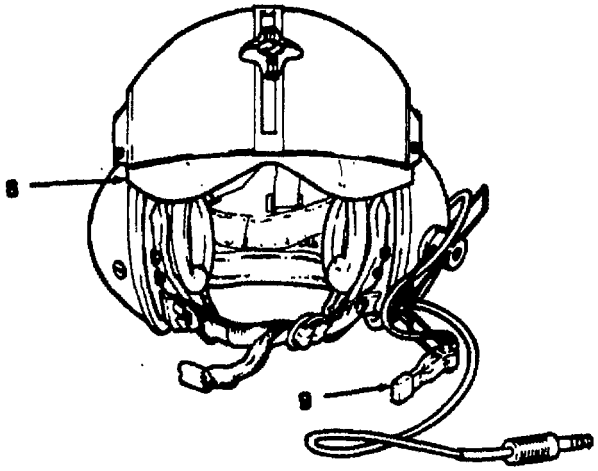



h. VISOR (8)

Provides eye protection when in down position. Four types are available:
(1) Clear.
(2) Neutral (smoke color)
(3) LPV (day use amber)
(4) LPV (night use, green)

i. HEADSET-MICROPHONE (9)

Provides communications within the aircraft and air ground-air.



## Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 2-2. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

a. To insure that the helmet is ready for use at all times, deficiencies must be discovered and corrected before they result in serious damage or failure. All deficiencies and shortcomings will be recorded, together with corrective action taken, on DA Form 2404 (Equipment Inspection Maintenance Worksheet) at the earliest opportunity.

b. Before you operate: Always keep in mind the CAUTIONS and WARNINGS. This is for your protection. Perform BEFORE (B) PMCS.

c. While you operate: Always keep in mind the CAUTIONS and WARNINGS. Perform DURING (D) PMCS.

d. After you operate: Be sure to perform AFTER (A) PMCS.

e. If your equipment fails to operate, troubleshoot with proper equipment. Report any deficiencies using the proper forms. See DA PAM 738-751.

f. Perform operators' preventive maintenance checks and services in accordance with table 2-1.

g. Perform operators' PMCS on headset-microphone in accordance with TM 11-5965-279-13&P.

h. Perform operators' PMCS on night vision goggles in accordance with TM 11-5855-238-10.

i. Perform operators' PMCS on helmet directed fire control sub/system in accordance with TM 9-1270-212-14&P.

j. Perform operators' PMCS on MBU-12/P oxygen mask in accordance with TM 55-1660-247-12/TO 15X5-3-6-1.

k. After use and prior to stowing the helmet in the helmet bag: Wipe the head band, crown pad and the ear cup cushion pads with hand cleaner towelettes, Appendix D, Item No. 15.

**2-2. PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

*Table 2-1. Operator's Preventive Maintenance Checks and Services*

**NOTE**

**Within designated intervals, these checks are to be performed in the order listed.**

**The item number column shall be used as a source of item numbers for the "TM Number" column on DA Form 2404, Equipment Inspection and Maintenance Worksheet. in recording results of PMCS.**

**LEGEND**

**B - Before** **A - After**
**D - During** **W - Weekly**

| Item No. | Interval B | Interval D | Interval A | Interval W | Item to be inspected | PROCEDURES Check for and have repaired or adjusted as necessary: | Equipment will be reported not ready/Available if: |
|---|---|---|---|---|---|---|---|
| | | | | | Upper Front | | |
| 1. | ● | | ● | | Visor Lock | Inspect visor lock to make sure it locks in the retracted position. Report defective visor lock to Organizational Maintenance. | Visor lock fails to lock visor in retracted position. |
| 2. | ● | | ● | | Visor and housing | Lower and raise visor to make sure it moves freely in its tracks. Report defective visor or visor tracks to Organizational Maintenance. Inspect visor for dust, grease, and other defects. Clean visor, using a clean, damp cloth, to remove dust and dirt. **NOTE** **Use a mild soap solution to remove grease, oil and perspiration from visor.** | Visor sticks or fails to move freely in tracks. |

**2-2. PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

*Table 2-1. Operators Preventive Maintenance Checks and Services (Continued)*

| Item No. | Interval B | D | A | W | Item to be inspected | PROCEDURES Check for and have repaired or adjusted as necessary: | Equipment will be reported not ready/Available if: |
|---|---|---|---|---|---|---|---|
| | | | | | Lower Front | | |
| 3. | ● | | ● | | Chin Strap | Inspect chin strap for frayed stitching, defective fastener, buckle, or fabric tab. Report defective chin tab to Organizational Maintenance. | Stitching frayed, fabric tab torn, fastener or buckle defective. |
| | | | | | Internal | | |
| 4. | ● | | ● | | Retention Assembly | Inspect for torn fabric, damaged fasteners or defective buckle. Report defective retention assembly to Organizational Maintenance. | Fabric is torn, buckle will not hold or fasteners are defective. |
| 5. | ● | | ● | | Suspension Assembly | Inspect for tears, rips, unraveled stitching, defective buckles, and damaged or missing hardware. Report damaged or defective suspension assembly to Organizational Maintenance. | Torn, ripped stitching unraveled buckles are defective or hardware missing. |
| 6. | ● | | ● | | Ear Cup tension, Cross Straps and Spacer Pads | Inspect cross straps for fraying, loss of elasticity, defective buckle or other obvious damage. Inspect spacer pads for looseness, deterioration or other damage. Report defective cross straps or spacer pads to Organizational Maintenance. | Cross Straps are frayed, defective buckle, loss of elasticity. Spacer pads are loose or deteriorated. |
| 7. | ● | | ● | | Liner | Inspect for looseness, cracks, stains, dents and gouges. Report defective liner to Organizational Maintenance | Cracked and/or compressed more than 2 cubic centimeters in any one location. |

**2-2. PREVENTIVE MAINTENANCE CHECKS AND SERVICES-Continued**

*Table 2-1. Operator's Preventive Maintenance Checks and Services (Continued)*

| Item No. | Interval B | D | A | W | Item to be inspected | PROCEDURES Check for and have repaired or adjusted as necessary: | Equipment will be reported not ready/Available if: |
|---|---|---|---|---|---|---|---|
| 8. | ● | | ● | | Ear Cup Cushion | Inspect for looseness or deterioration. Report damaged or defective ear cup cushion to Organizational Maintenance. | Deteriorated or loose. |
| | | | | | Outer Edge | | |
| 9. | ● | | ● | | Beading | Inspect for cracks, looseness or other defects. Report defective beading to Organizational Maintenance. | Cracked, deteriorated, loose or missing beading. |
| 10. | ● | | ● | | Microphone and Headset | Inspect for loose connection screws on rear attachment point on helmet; loose microphone or boom. | Screws are missing, microphone will not stay in position or rear retainer clip plate is missing. |
| 11. | ● | | ● | | Night Vision Goggle Attachment Device | Inspect for loose screws. | Screws are loose. |
| 12. | ● | | ● | | Hook & Pile | Inspect hook & pile to make sure it is not coming loose | Hook & Pile is coming loose. |
| | | | | | Thermo Plastic Liner | | |
| 13. | ● | | ● | | TPL Cover | Inspect stitching to make sure they are not broken. Inspect for holes or worn spots. | Broken or missing stitching<br>Holes or worn spots in cover |
| 14. | ● | | ● | | Liner | Inspect for loose or missing hook fasteners | Loose or missing hook fasteners |
| 15. | ● | | | | TPL Assembly | Insure Proper Fit of Assembly on Users Head | Proper Fit Cannot Be Made By Minor Adjustments |

## Section III. OPERATING UNDER USUAL CONDITIONS

### 2-3. OPERATING PROCEDURE

a. General.

This section contains information on the fitting, adjusting and operation of the flyer's protective helmet. The wearer's safety and comfort depends on the correct adjustment and fit. Proper fit and adjustment assures maximum comfort and stability of the helmet and prevents interference with combat efficiency. To provide the maximum protection, sound attenuation and comfort, the helmet should fit snugly at the cheeks, forehead, and nape of the neck. Helmets that are loose fitting can produce areas of pressure and discomfort. Fitting that results in abnormal pressure and discomfort after a short time must be corrected.

b. Size Determination.

Helmet size is determined by the hat size. Up to hat size 7-1/4 uses the SPH-4 Regular size helmet. A person whose hat size is 7-1/4 and larger, uses the SPH-4 Extra Large size helmet. Females should wear hair pinned up over scalp during try-on period. Due to bulk of long hair they may have to wear Extra Large size helmet.

c. Fitting Helmet.

Don the helmet by placing both thumbs on the inside of the ear cups and pulling the sides of the helmet between the thumbs and roll the helmet backwards until it is properly positioned on the head. Make the following crown strap adjustments to allow the head to be sealed as far into the helmet as possible without either obstructing vision or touching the inner foam liner, making sure the ears are comfortably enclosed by the ear cup and that all three crown straps have the same tension when the crown pad is pressed in the center.

d. Crown Straps (1) Adjustment.

**CAUTION**

**Straps should be adjusted equally to eliminate "Hot Spots." There should be 1/2 in. of space between the helmet liner and crown pad of the suspension assembly.**

**NOTE**

**This adjustment raises or lowers helmet to desired position. Adjust helmet height with relation to the ear cups. Make certain that the ears are comfortably enclosed by the cups.**

(1) To raise Helmet:
Tighten the strap in the adjustment buckle (2 or 3) of each strap as required.

(2) To Lower Helmet:
Loosen the strap in the adjustment buckle (2 or 3) of each strap as required.

**2-3. OPERATING PROCEDURE-Continued**

e. Headband Suspension Adjustment.

**NOTE**

This adjustment loosens or tightens the headband. To obtain maximum helmet retention and for stability, the headband should be tightened until snug around the head. Be certain the buckles (one on each side) are vertical or at right angles to the suspension when making this adjustment.

(1) To Tighten:

(a) Pull on free end of strap (1) in the adjustment buckle (2).

(b) Pull on free end of other strap (1) in adjustment buckle (2).

(c) Repeat steps (a) and (b) until headband fits snugly around the head.

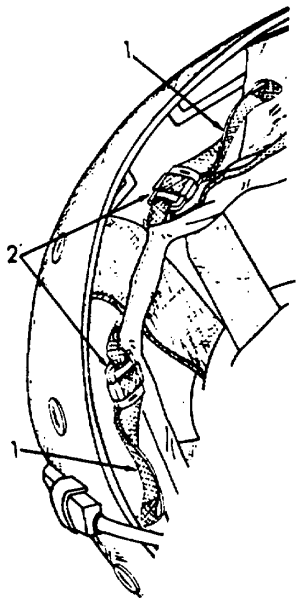
(2) To Loosen:

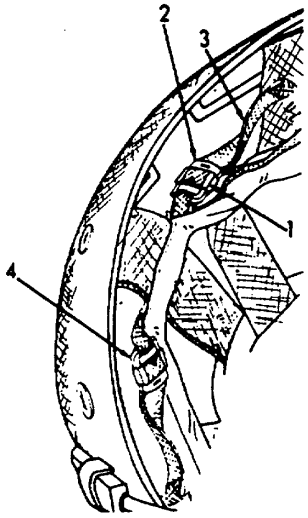
(a) Slide lockbar (1) towards back of adjustment buckle (2).

(b) Push free end of strap (3) towards rear of adjustment buckle (2).

(c) Repeat steps (a) and (b) to loosen other adjustment buckle (4).

(d) Repeat steps (a), (b) and (c) until headband fits properly.



**2-3. OPERATING PROCEDURE--Continued**

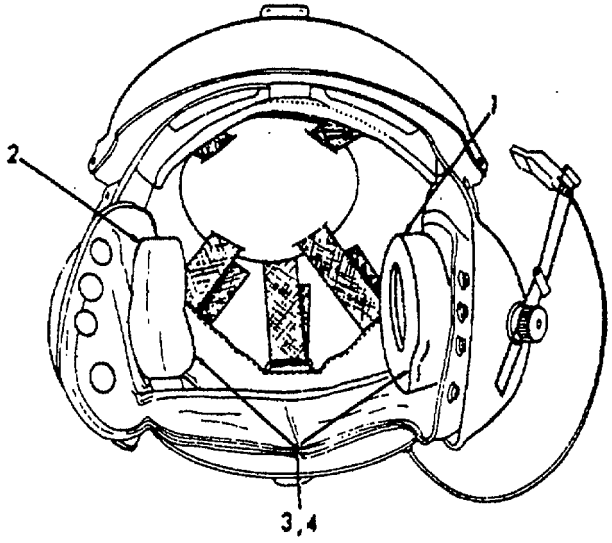
f. Ear Cup Pad Rotation.

**NOTE**

**Bump on the ear cup pad should be in the depression immediately below ear. This adjustment makes certain ears fit into and are completely covered by, the ear cup pads. This provides the most comfortable fit and seal.**

(1) Adjust tension of ear cups for maximum sound attenuation by adjusting the crossweb straps. If proper ear cup tension cannot be obtained by fully tightening the cross web straps, add spacers at the back of the ear cups using the ear cup spacer kit. Use pressure sensitive adhesive to hold spacers in position. For a proper and comfortable fit, make sure that the ear cup is correctly positioned with the button of the ear cushion indexed to the depression just below the ear. To move the button to a new position, rotate the ear cup assembly within the cloth retension system.

(2) Rotate ear cups pads (1 and 2) to position pad bump (3 and 4) for the most comfortable fit and seal.




g. Ear Cup Compression.

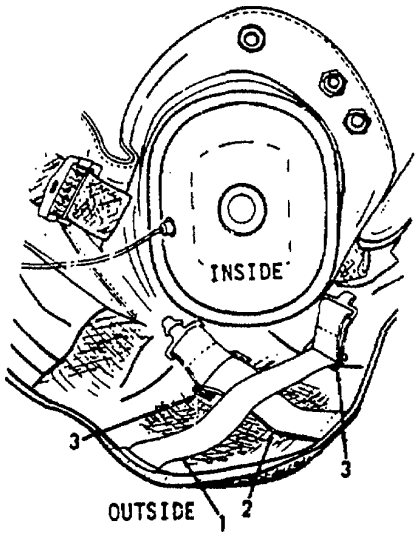
(1) Cross Straps (1 and 2).

(a) These straps control ear cup compression and are tightened or loosened as required.

**2-3. OPERATING PROCEDURES-Continued**

g. Ear Cup Compression (Continued.)
(1) Cross Straps (1 and 2) (Cont).

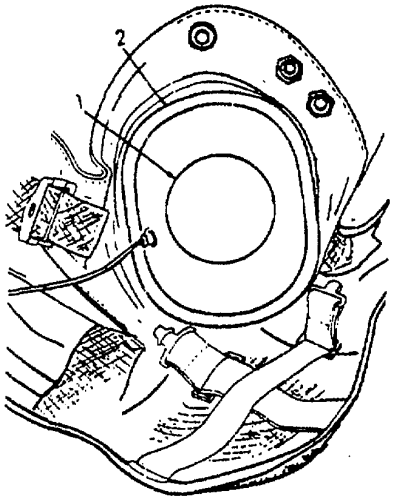
(b) Move adjustment buckle (3) towards outside of helmet to tighten.
(c) Move adjustment buckle (3) towards inside of helmet to loosen.




(2) SPACER PADS: Spacer pads are used only if greater pressure around the ear is required. The pads are held in position by pressure-sensitive adhesive. With cross straps completely tightened apply spacer pad. Apply only one per ear cup.

(a) Remove protective cover from adhesive side of pad (1).

(b) Position spacer pad in position on ear cup back (2).



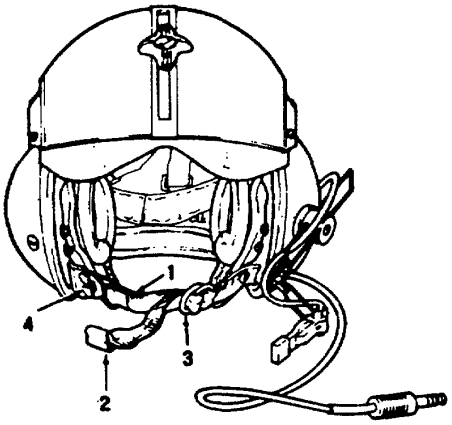
**12-3. OPERATING PROCEDURE-Continued**

h. Chin strap Adjustment.

**NOTE**

**The chin strap should be tightened sufficiently to provide stability, but not so tight as to cause discomfort to the wearer.**

Don helmet and attach chin strap by mating pull-the-dot fasteners. Adjust chin strap for snug fit. Once chin strap adjustments are made, simply detach the pull-the-dot fasteners to don and remove helmet.




(1) To TIGHTEN chin strap (1), pull on free end of strap (2).

(2) To LOOSEN

(a) Push up on double D-ring buckle (3) until rings are in a vertical position.

(b) Grasp. free end of strap and push strap towards rear of buckle.

(c) Pull on fabric tab (4) to lock in place.

(d) Repeat steps (a), (b) and (c) until proper adjustment is made.

**2-3. OPERATING PROCEDURES-Continued**

i. Nape Strap Adjustment.

**NOTE**

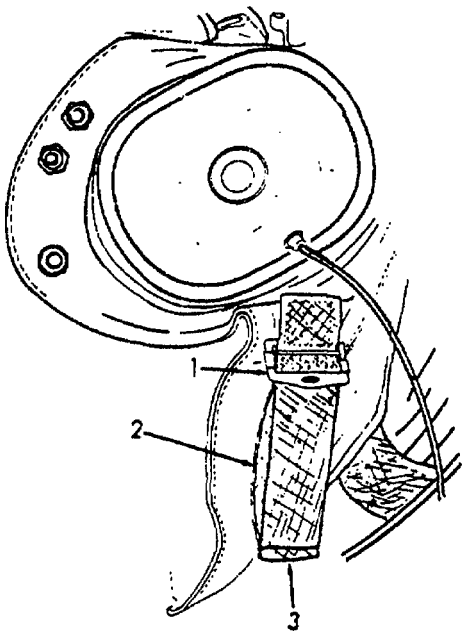
**With chin strap adjusted and attached, the nape strap should fit firmly against the nape of the neck.**

To provide a snug fit with the chin strap fastened, tighten the nape strap with the helmet on by pulling on the free end following these procedures:

(1) Hold nape strap buckle (1) in a vertical position to the nape strap (2).

(2) To TIGHTEN, pull on free end of nape strap (3).

(3) To LOOSEN, pull on nape strap (2).



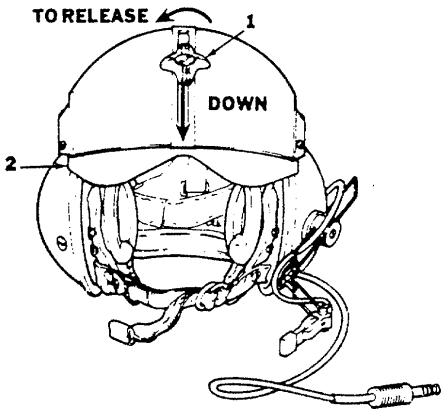

(4) To ensure proper helmet fit and stability after adjustment, don the helmet so that it fits snugly, tighten the nape and chin straps and shake head vigorously. If helmet moves independently of the head, it must be refitted.

**2-3. OPERATING PROCEDURE-Continued**

J. Visor Operation.

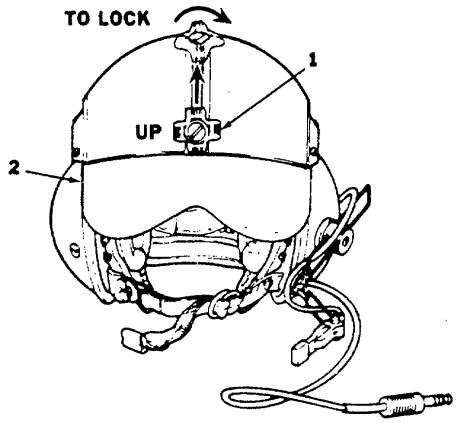
(1) Turn visor lock release button head (1) approximately /4 turn counter-clockwise to release visor (2).

(2) To LOWER visor (2), move visor lock release button head (1) DOWN toward face.




(3) To RAISE visor (2), move visor lock release button head (1) UP towards top of helmet.

(4) Turn visor lock release button head (1) approximately 1/4 turn clockwise to lock visor in desired position.



## Section IV. OPERATION OF AUXILIARY EQUIPMENT

### 2-4. OPERATION OF AUXILIARY EQUIPMENT

The instructions in this section are provided for the guidance of personnel responsible for the operation of the auxiliary equipment.

### 2-5. OPERATION OF HEADSET - MICROPHONE

Refer to TM 11-5965-279-13&P, Operator, Aviation Intermediate Maintenance Manual, Including Repair Parts and Special Tools List for Headset - Microphone MK-896A/AIC operating instructions.

### 2-6. OPERATION OF NIGHT VISION GOGGLES

Refer to TM 11-5855-238-10, Operators' Manual for Night Vision Goggles, AN/PVS-5 and AN/PVS-5A operating instructions and TM 11-5855-263-10, Operators' Manual Aviators' Night Vision Imaging System, AN/AVS-6(V)1 and AN/AVS-6(V)2,

### 2-7. OPERATION OF HELMET-DIRECTED FIRE CONTROL SUB/SYSTEM

Refer to TM 9-1270-212-14&P, Operator, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools List and Depot Maintenance Repair Parts and Special Tools) for Fire Control Sub/system, XM-128 and XM-136 operating instructions.

### 2-8. OPERATION OF MBU 12/P OXYGEN MASK

Refer to TM 55-1660-247-12/TO 15x5-3-6-1.

### 2-9. OPERATION OF THERMO PLASTIC LINER (TPL) SUSPENSION ASSEMBLY

The TPL suspension assembly replaces the current energy absorbing liner and the strap type suspension assembly and headbands.
The TPL assembly consists of an energy absorbing Liner, TPL layer assembly and a cloth TPL cover. When soiled the TPL cover can be removed and washed in warm soapy water and rinsed with clear warm water and air dried.

# CHAPTER 3

# OPERATORS' MAINTENANCE INSTRUCTIONS



## OVERVIEW

This chapter contains instructions for lubricating, troubleshooting and maintenance procedures that are the responsibility of the operator.

## Section I. LUBRICATION INSTRUCTIONS

### 3-1. LUBRICATION INSTRUCTIONS

Lubrication instructions are not applicable to the operator of the SPH-4 Flyer's Protective Helmet.

## Section II. TROUBLESHOOTING

### 3-2. OPERATORS' TROUBLESHOOTING PROCEDURES I

a. Table 3-1 lists the common malfunctions which you may find during the operation or maintenance of the flyer's protective helmet or its components. You should perform the tests/inspections and corrective actions in the order listed.

b. This manual cannot list all malfunctions that may occur, nor all tests and inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify organizational maintenance.

c. Refer to TM 55-1660-247-12/TO 15 x 5-3-6-1 for troubleshooting procedures applicable to your Pressure-Demand Oxygen Mask, Type MBU-12/P.

d. Refer to TM 11-5965-279-13&P for troubleshooting procedures applicable to your Headset-Microphone MK-896A/AIC.

## 3-2. OPERATORS' TROUBLESHOOTING PROCEDURES - Continued

e. Refer to TM 9-1270-212-14&P for troubleshooting procedures applicable to your Helmet Directed Fire Control Subsystem, XM-128 and XM-136.

f. Refer to TM 11-5855-238-10 for troubleshooting procedures applicable to your Night Vision Goggles, AN/PVS-5 and AN/PVS-5A. Refer to TM 11-5855-263-10 for troubleshooting procedures applicable to your Night Vision Imaging System, AN/AVS-6(V)1 and AN/AVS-6(V)2.

g. Be sure that your Preventive Maintenance Checks and Services have been applied before troubleshooting your equipment.

*Table 3-1. Operators' Troubleshooting*

| MALFUNCTION<br>TEST or INSPECTION<br>CORRECTIVE ACTION |
|---|

1. VISOR CANNOT BE RAISED OR LOWERED.

   Check to see if visor lockwasher is installed with center cavity down, facing visor housing.

   If not, correct it. If still unable to raise or lower, report to Organizational Maintenance.

2. UNABLE TO ADJUST EAR CUP COMPRESSION.

   Inspect for loose or tight tension cross straps.

   If unable to adjust ear cup compression, report condition to Organizational Maintenance.

3. UNABLE TO ADJUST CHIN STRAP.

   Report condition to Organizational Maintenance.

4. UNABLE TO ATTACH CHIN STRAP.

   Report condition to Organizational Maintenance.

5. UNABLE TO ADJUST NAPE STRAP.

   Report condition to Organizational Maintenance.

## 3-2. OPERATOR'S TROUBLESHOOTING PROCEDURES-Continued

*Table 3-1. Operators' Troubleshooting-Continued*

| MALFUNCTION<br>TEST OR INSPECTION<br>CORRECTIVE ACTION |
|---|

6. UNABLE TO KEEP MICROPHONE IN POSITION WHERE PLACED.

   Inspect boom assembly for loose screws at mid point and at microphone end of boom.

   If unable to tighten, report condition to organizational maintenance.

7. UNABLE TO HEAR.

   Insure cord is plugged into receptacle and ICS box is working. Check left rear side of helmet and insure helmet connector is secured.

   If still unable to hear, report to Organizational Maintenance.

## Section III. MAINTENANCE PROCEDURES

## 3-3. VISOR AND GUARD LOCK ASSEMBLY

This task covers:

a. Inspection

b. Adjustment

INITIAL SETUP

Tools

Screwdriver, flat tip, 4 inch, 1/4 in. wide blade

Personnel Required

Aviation Life Support Equipment
(ALSE) Specialist or
MOS with ASI of 02

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The visor assembly is retractable and provides protection from glare, dust, and wind blast. It is made of plastic. Two shades are available, neutral and clear. A spacer is cemented to each side of visor and slides into the visor track.**

**The guard lock assembly is attached to the visor and permits visor to move up or down, after the lock's button head is rotated approximately 114 turn in a counter-clockwise direction. The guard lock assembly consists of the following parts: Left hand thread Lockstem center screw, plastic button head, plastic washer and button stem.**

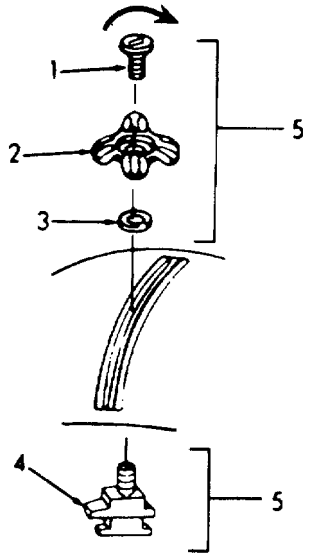
**REMOVAL**

| | | |
|---|---|---|
| 1. | Lockstem center screw (1) | Remove by rotating in a clockwise direction. |
| 2. | Button head (2) clockwise direction. | Remove by rotating in a counter- |
| 3. | Button head washer (3) | Remove from button head (2). |

**3-3. VISOR AND GUARD LOCK ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**




**INSPECTION**

| | | |
|---|---|---|
| 4. | Lockstem (4) | Inspect for stripped threads. |
| 5. | Button head (2)<br>washer (3) | Inspect for:<br>a. Nicks.<br>b. Burrs.<br>c. Cracks. |
| 6. | Button head (2) | Inspect for:<br>a. Burrs.<br>b. Cracks.<br>c. Nicks.<br>d. Stripped threads. |
| 7. | Lockstem center screw (1) | Inspect for:<br>a. Stripped threads.<br>b. Burrs. |

**NOTE**

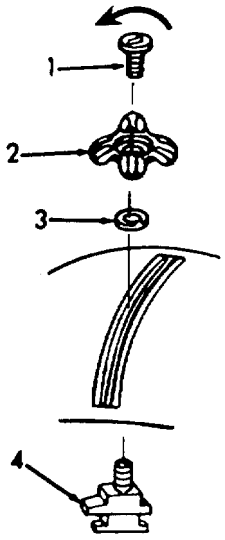
**If any of the above (4 thru 7), is defective, report to Organizational Maintenance.**

## 3-3. VISOR AND GUARD LOCK ASSEMBLY - Continued

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION**

| | | |
|---|---|---|
| 8. Button head washer (3) | Install cavity side down in button head (2). | |
| 9. Button head (2) | Install on lockstem (4). | |
| 10. Lockstem center screw (1) | Install in button head (2). | |



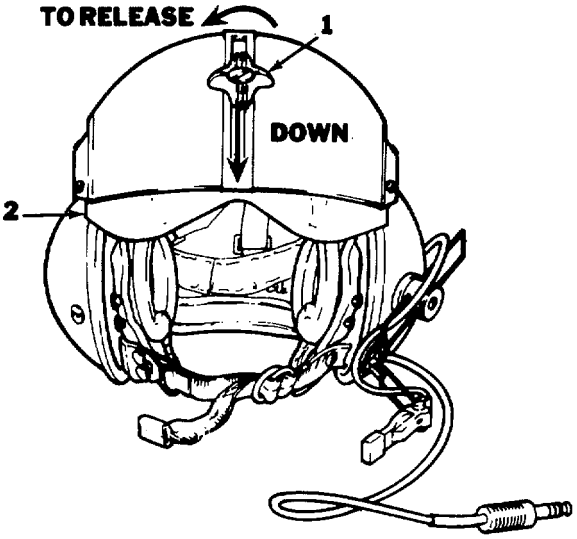

**ADJUSTMENT**

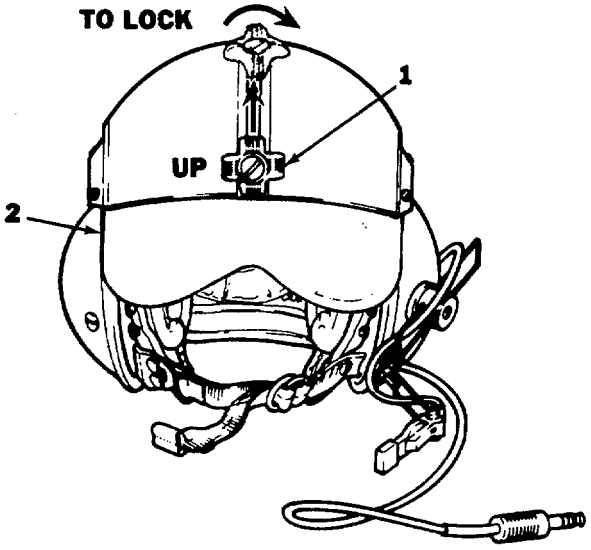
| | | |
|---|---|---|
| 11. Visor | a. Turn visor lock release button head (1) approximately 1/4 turn counter clockwise to release visor (2). | |
| | b. To LOWER visor (2), move visor lock release button head (1) DOWN towards face. | |
| | c. To RAISE visor (2) move visor lock release button head (1) UP towards top of helmet. | |
| | d. Turn visor lock release button head (1) approximately 1/4 turn clockwise to lock visor in desired position. | |

**3-3. VISOR AND GUARD LOCK ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**ADJUSTMENT - Continued**



## 3-4. VISOR HOUSING

This task covers:

a. Inspection

b. Service

INITIAL SETUP

Materials/Parts

Clean cloths
Detergent
Pail
Water

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

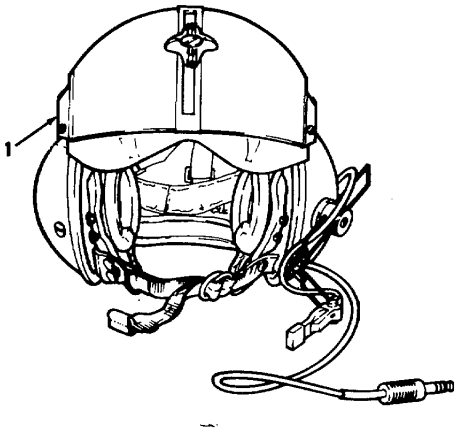
**The visor housing protects and provides storage for the visor when not in use.**

**INSPECTION**

1. Visor housing (1)

Inspect for:

a. Cracks.
b. Missing hardware.
c. Defective mounting.



**3-4. VISOR HOUSING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| 2. Visor Housing | a. Clean outer surface of visor housing using clean cloths, and a solution of detergent and water.<br>b. Rinse with clean water.<br>c. Dry thoroughly. | |

## 3-5. VISOR

This task covers:

a. Inspection

b. Service

INITIAL SETUP

Materials/Parts

Clean lint free cloths
Mild soap
Pail
Water

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Two shades are available, neutral and clear. A spacer is cemented to each side of visor and slides into visor track.**

**INSPECTION**

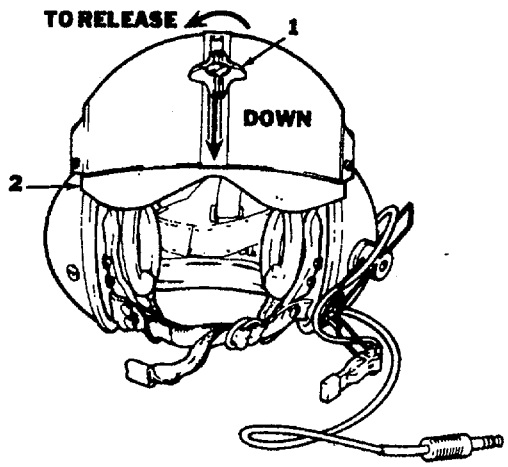
| | | |
|---|---|---|
| 1. Visor | a. Turn visor lock release button head (1) approximately 1/4 turn counter clockwise to release visor (2). | |
| | b. Move visor lock release button head (1) down to bottom of track. | |
| | c. Inspect for:<br>(1) Cracks.<br>(2) Scratches.<br>(3) Blemishes.<br>(4) Grease. | |

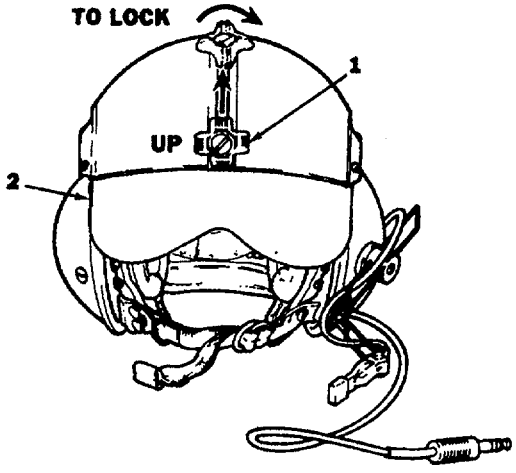
**3-5. VISOR-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSPECTION-Continued**

(5) Dust.
(6) Dirt.




**SERVICE**

**CAUTION**

**Do not use ammonia, alkaline cleaners, abrasive cleaning compounds, or solvents to clean LPVs.**

2. Visor

a. To remove dust and dirt, use a clean cloth dampened in water.
b. To remove grease, oil, or perspiration use a mild soap solution and clean, lint-free cloths.
c. Rinse with clean water.
d. Air dry or pat dry with a clean soft tissue or cloth.
e. Raise visor (2) to desired position.
f. Turn visor lock release button head (1) approximately 1/4 turn clockwise to lock visor in place.

## 3-6. RETENTION ASSEMBLY

This task covers:

a. Inspection

b. Adjustment

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The retention assembly has the nape strap and ear cups attached to it. Fasteners are provided on each side to fasten chin strap and the oxygen mask adapter harness.**

**INSPECTION**

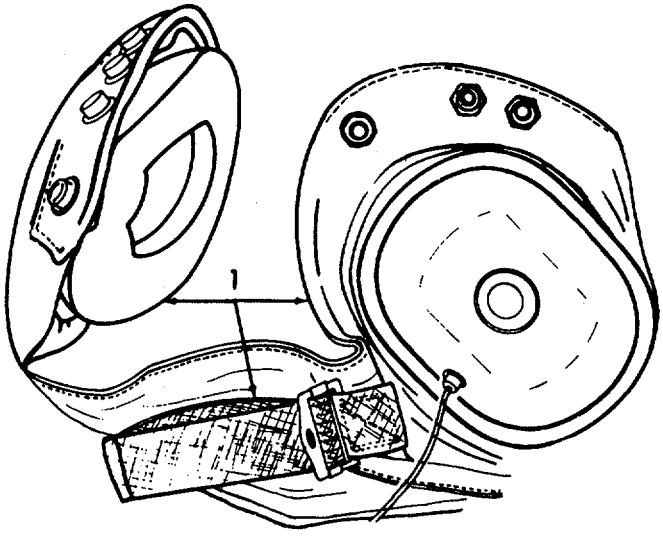
1. Retention assembly (1)

Inspect for:

a. Torn fabric.

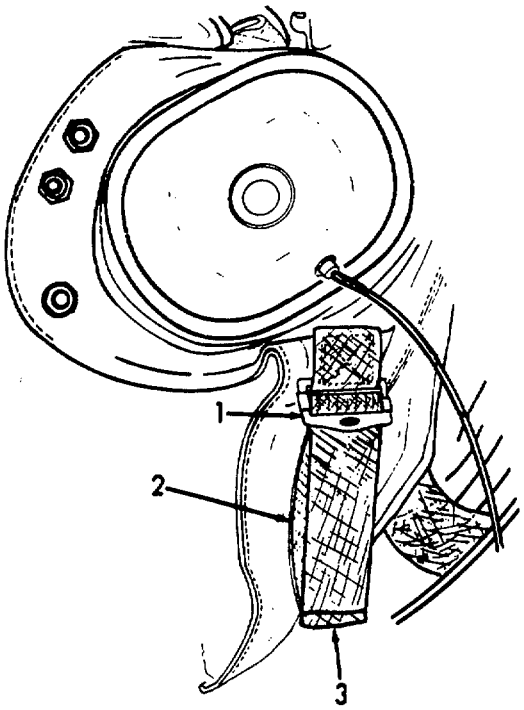
b. Damaged fasteners.

c. Defective buckle.



**3-6. RETENTION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **ADJUSTMENT** | | |
| 2. Retention | a. Hold nape strap buckle (1) in a vertical position to the strap (2).<br>b. Pull on strap free end (3) to tighten.<br>c. Pull on strap (2) to loosen. | |



## 3-7. SUSPENSION ASSEMBLY

This task covers:

a. Inspection

b. Adjustment

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The headband and suspension assembly is an assembly of straps and pads attached inside the helmet. Buckles provide for adjustments to raise, lower, and fit wearer's head.**

**INSPECTION**

1. Suspension assembly (1)

Inspect for:

a. Tears.

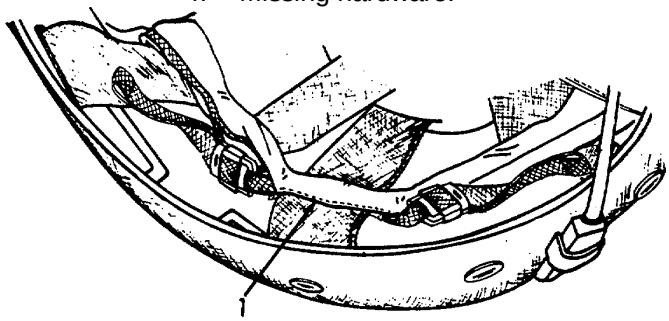
b. Unraveled stitching.

c. Rips.

d. Defective buckles.

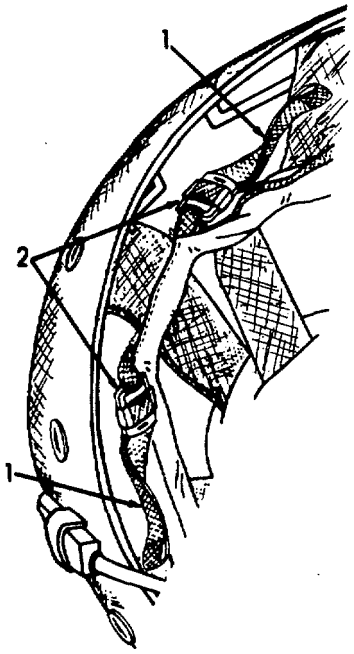
e. Damaged hardware

f. Missing hardware.



**3.7. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **ADJUSTMENT** | | |
| 2. Suspension assembly | a. <u>To tighten</u>:<br>(1) Pull on free end of strap (1) in the adjustment buckle (2).<br>(2) Pull on free end of other strap (1) on adjustment buckle (2).<br>(3) Repeat steps (1 and 2) until head-band fits snugly around the head. | |



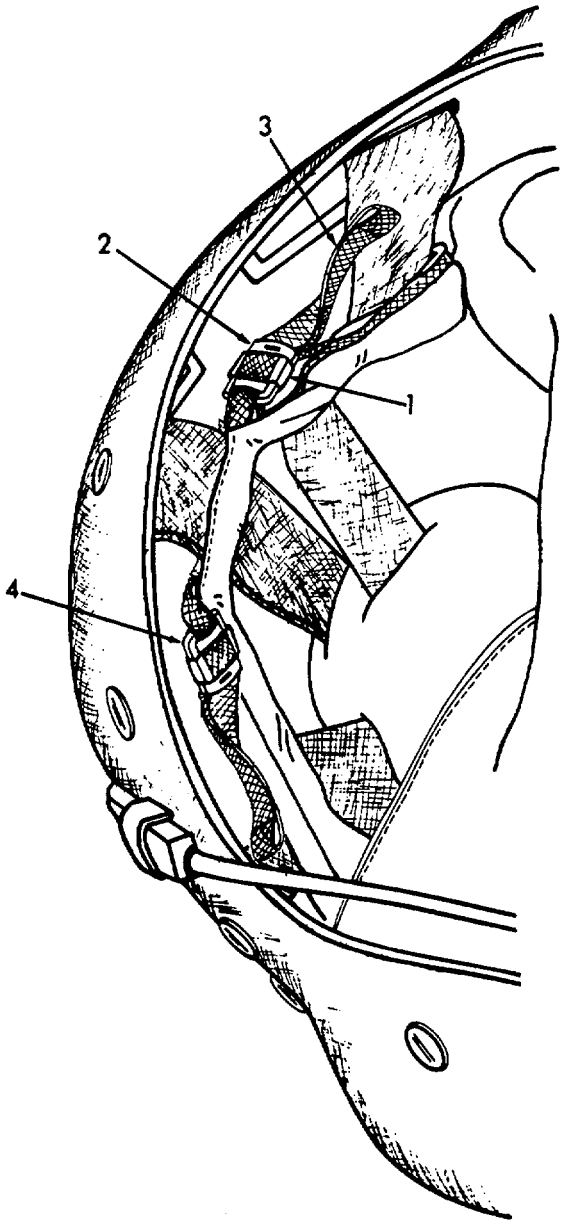
**3-7. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **ADJUSTMENT (Continued)** | | |
| | b. To loosen:<br>(1) Slide lockbar (1) towards back of adjustment buckle (2).<br>(2) Push free end of strap (3) towards rear of adjustment buckle (4).<br>(3) Repeat steps (1 and 2) to loosen other adjustment buckle (4).<br>(4) Repeat steps (1), (2), and (3) until suspension assembly fits properly. | |

**3-7. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**ADJUSTMENT (Continued)**



## 3-8. CHIN STRAP

This task covers:

a. Inspection

b. Adjustment

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The chin strap is attached to one side of retention assembly by lower two snap fasteners, and to the other side by a slotted head post and screw. A double D-ring is provided for adjustment.**

**INSPECTION**

| | | |
|---|---|---|
| 1. Chin Strap | Inspect for:<br>a. Tears.<br>b. Rips.<br>c. Frayed stitching.<br>d. Defective fasteners. | |

**ADJUSTMENT**

| | | |
|---|---|---|
| 2. Chin strap (2) | a. To tighten: Pull on free end of strap (1).<br>b. To loosen:<br>(1) Push up on double D-ring buckle (3) until rings are in a vertical position. | |

**3-8. CHIN STRAP - Continued**

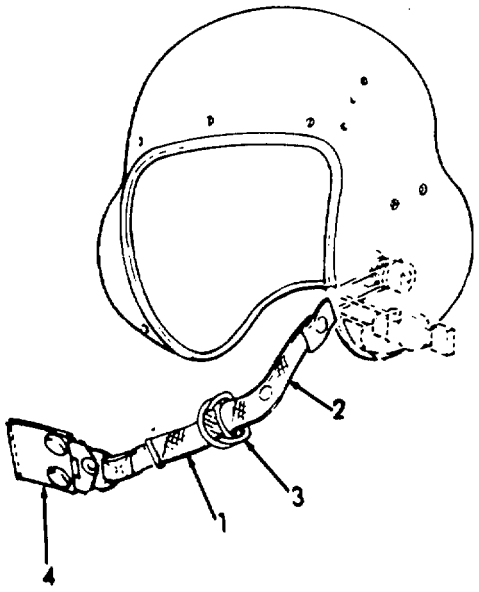
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**ADJUSTMENT (Continued)**

(2) Grasp free end of strap and push the strap towards the rear of the buckle.

(3) Pull on fabric tab (4) to lock in place.

(4) Repeat steps (1), (2) and (3) until proper adjustment is made.



## 3-9. EAR CUP CROSS STRAPS

This task covers:

a. Inspection

b. Adjustment

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

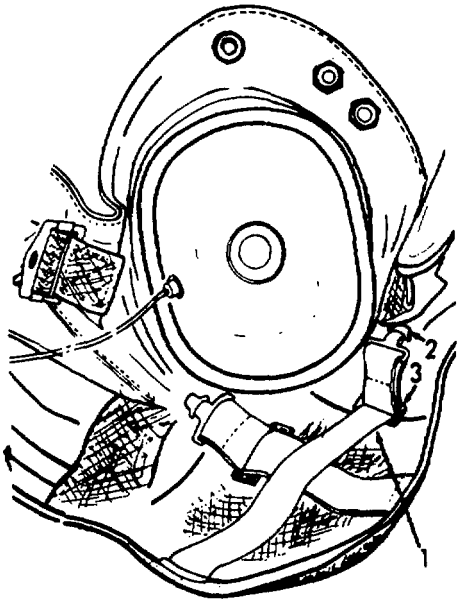
**The ear cup tension cross straps are elastic rubber straps that have a buckle attached to one end that provides adjustments. Two straps are crossed inside the helmet where the ear cups are located and the ear cups are held against these cross straps by the users' head.**

**INSPECTION**

| | | |
|---|---|---|
| 1. Cross straps | Inspect for:<br>a. Frayed stitching.<br>b. Tears.<br>c. Rips.<br>d. Defective buckles<br>e. Deterioration. | |

**3-9. EAR CUP CROSS STRAPS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **ADJUSTMENT** | | |
| 2. Cross straps | a. Unhook cross strap (1) from fastener (2)<br>b. Slide buckle (3) away from fastener to tighten.<br>c. Slide buckle (3) towards fastener to loosen.<br>d. Adjust other three cross straps in the same manner. | |



## 3-10. LINER

This task covers:

Inspection

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The liner consists of one piece that is bonded to the helmet shell.**

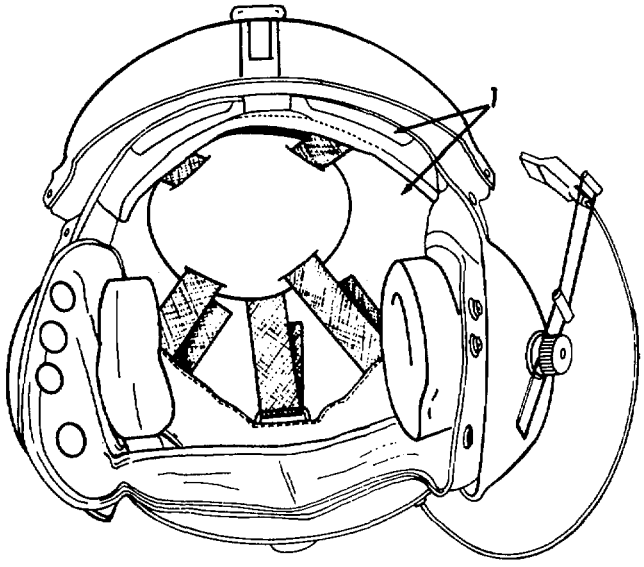
**INSPECTION**

Liner (1)

Inspect for:

a. Cracks and/or crushing (compression) of the foam in excess of two cubic centimeters in one area.

b. Looseness.



## 3-11. BEADING

This task covers:

Inspection

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

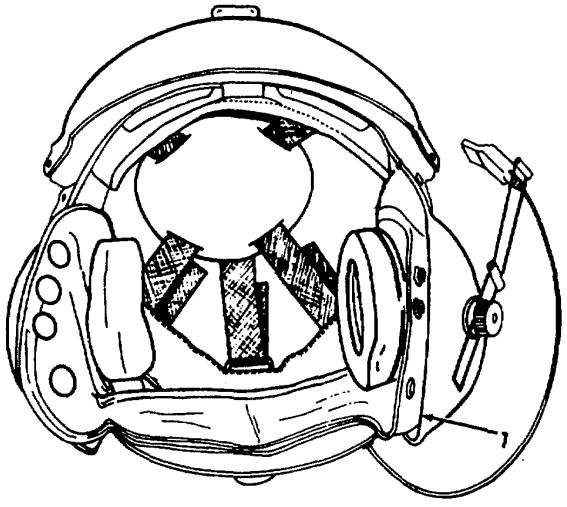
**NOTE**

**Rubber beading is bonded to the helmet's edge. This protects the user from possible injury resulting from sharp edges.**

**INSPECTION**

Beading (1)

Inspect for
a. Looseness:
b. Cracks
c. Chips.
d. Dry rot
e. Weather checking



## 3-12. SEAL AND EAR CUP ASSEMBLY

This task covers:

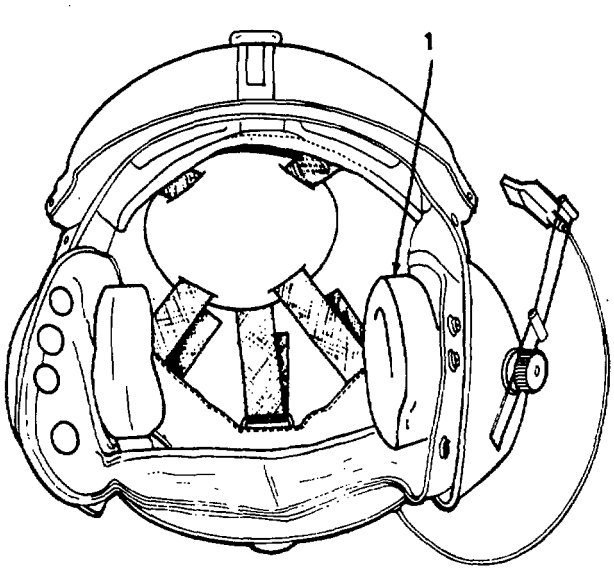
Inspection

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| Seal (1) | Inspect for:<br>a. Rips<br>b. Tears.<br>c. Deterioration. | |



## 3-13. CUSHION AND CUSHION BACKING, EAR CUP ASSEMBLY

This task covers:

a. Removal

b. Inspection

c. Installation

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

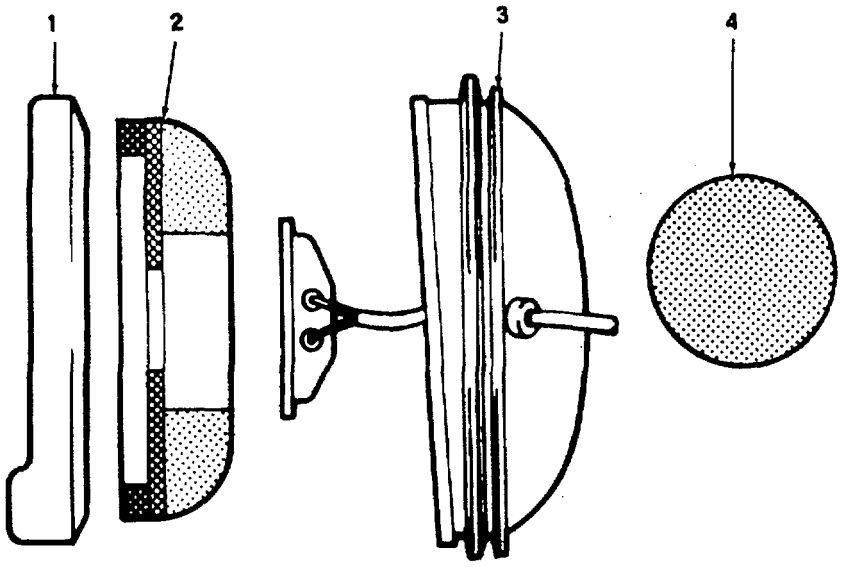
**REMOVAL**

1. Seal (1)

a. Remove from ear cup (3).

**NOTE**

**If damage is detected, report to Organizational Maintenance for replacement.**

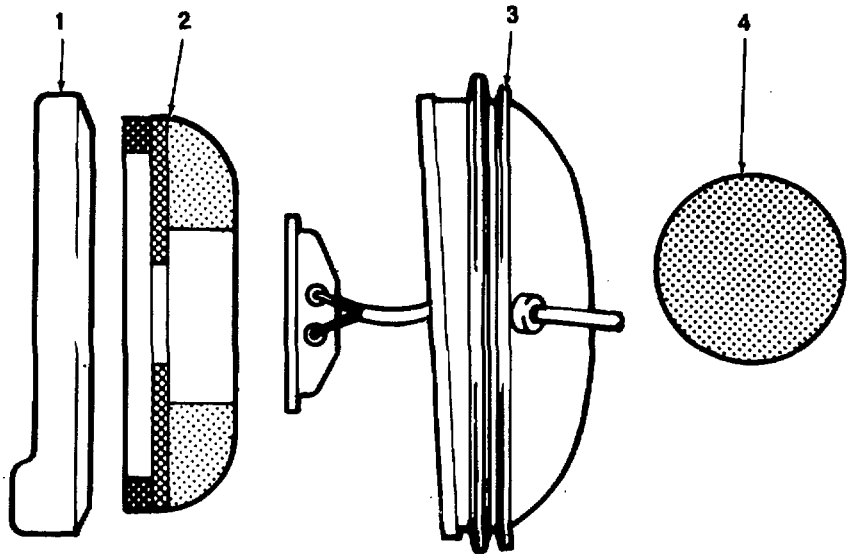


**3-13. CUSHION AND CUSHION BACKING, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| 2. Cushion (2) | b. Inspect for: | |
| | (1) Tears. | |
| | (2) Rips. | |
| | (3) Separation. | |
| | (4) Deterioration | |
| 3. Cushion backing (4) | Inspect for: | |
| | a. Looseness. | |
| | b. Deterioration | |

**NOTE**

**If damage is detected, report to Organizational Maintenance for replace-ment.**



## 3-13. CUSHION AND CUSHION BACKING, EAR CUP ASSEMBLY - Continued

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION**

| | | |
|---|---|---|
| 4. Cushion (2) | Install in ear cup (3). | |
| 5. Seal (1) | Install over ear cup. | |

## 3-14. EAR CUPS

This task covers:

a. Removal

b. Inspection

c. Installation

INITIAL SETUP

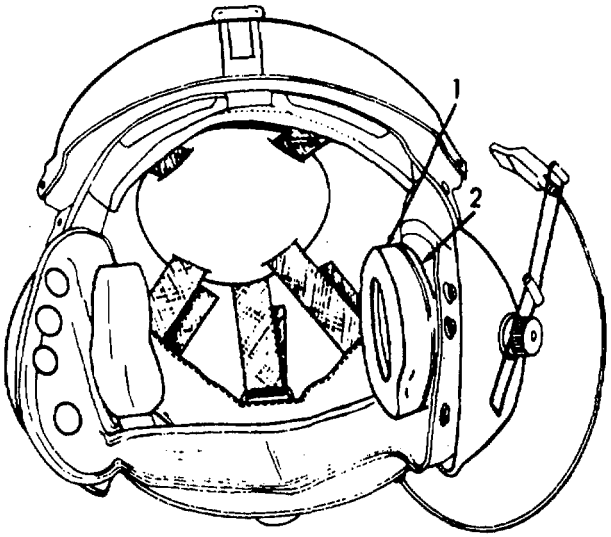
Personnel Required

ALSE Specialist or
MOS with ASt of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

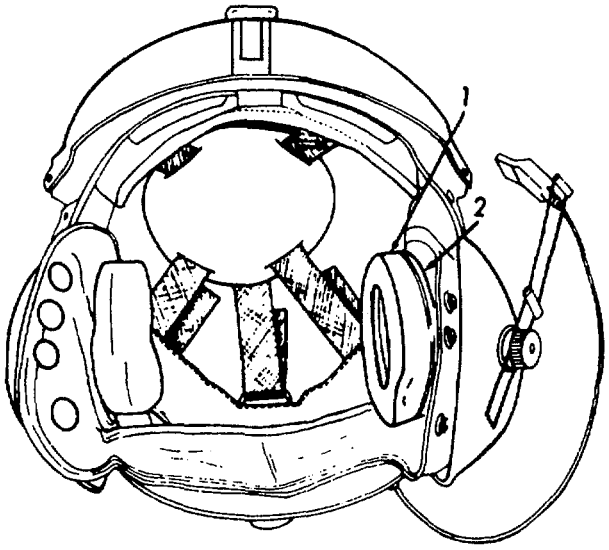
**REMOVAL**

1. Ear cup seal (1) — Remove from ear cup (2)



**3-14. EAR CUPS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| 2. Ear cups | Inspect for:<br>a. Cracks.<br>b. Burrs.<br>c. Damaged grommet.<br>d. Defective wiring harness. | |
| | **NOTE**<br>**If damaged, report to Organizational Maintenance for replacement.** | |
| **INSTALLATION** | | |
| 3. Ear Cup Sea' (1) | Install on ear cup (2). | |



## 3-15. PAD, SPACER, AND EAR CUP ASSEMBLY

This task covers:

Inspection

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Spacer pads are used only if greater pressure is required than can be provided with cross straps fully tightened. The pads are held in position by pressure-sensitive adhesive.**

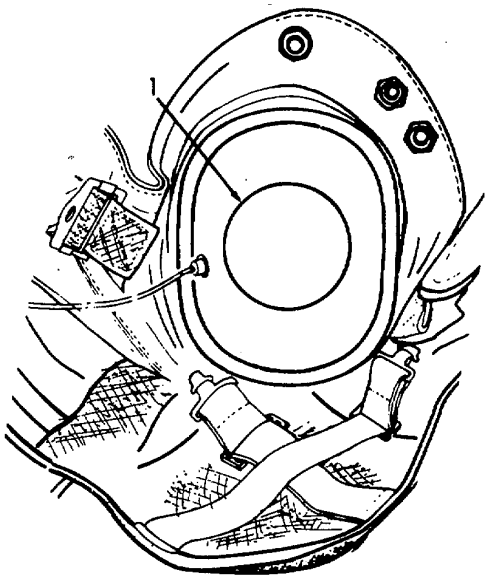
**INSPECTION**

Spacer pads (1)

Inspect for:

a. Looseness.

b. Deterioration.



## 3-16. OUTER SHELL

This task covers:

Inspection

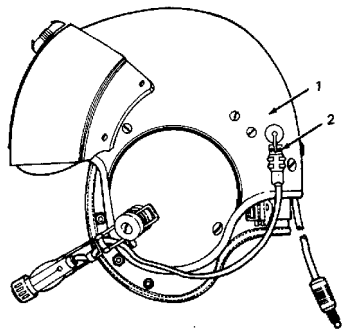
INITIAL SETUP

Tools

Screwdriver, 114 in. wide blade,
modified (figure B-1), flat blade;
Screwdriver, flat blade, 114 in. wide;
Screwdriver, flat balde, 118 in. wide.

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| 1. Outer shell (1) | Inspect for:<br>a. All screws visible on the outer shell. Insure all screws are secure | Use modified screw driver on inside parts - |
| 2. Screws (2) | b. Cracks, nicks, scratches<br>  <br> | If the scratches, cracks and nicks penetrate the resin of the helmet and it cannot be feathered smoothly, the helmet will be removed from service. |

## 3-17. THERMO PLASTIC LINER (TPL)

This task covers:

a. Removal

b. Inspection

c. Installation

INITIAL SETUP

Personnel Required

ALSE Specialist or
MOS with ASI of Q2

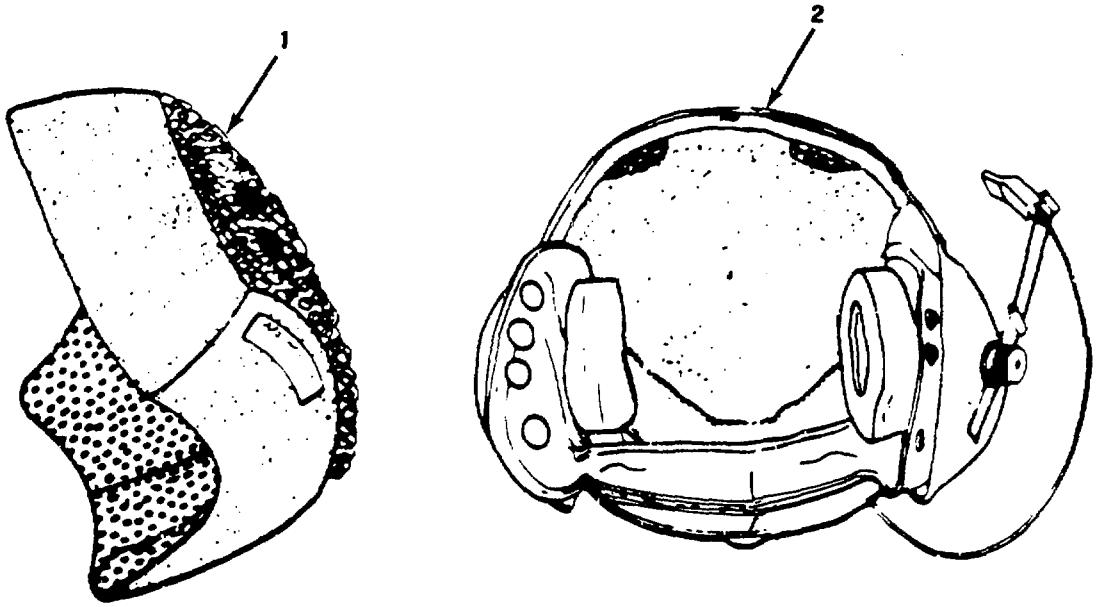
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL**

1. Remove TPL (1) from helmet assembly (2).

**NOTE**

**If damage is detected, report to Organizational Maintenance for replacement.**

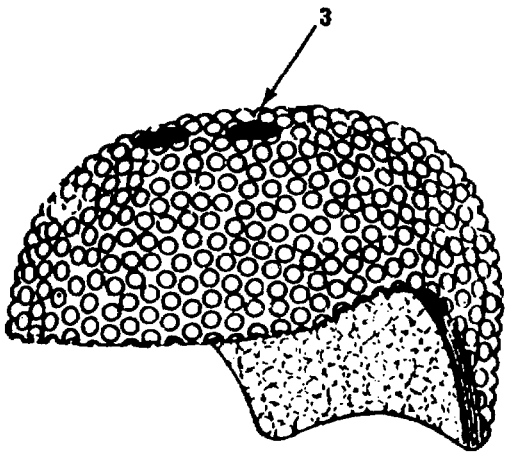


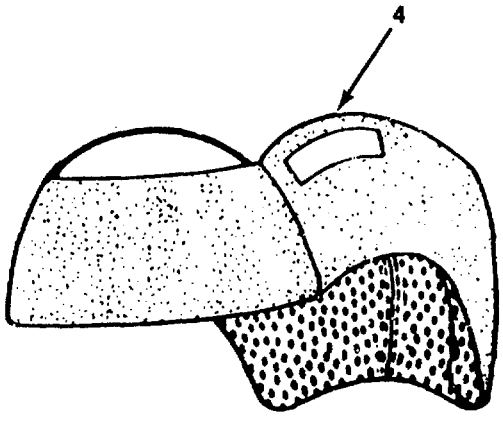
**3-17. THERMO PLASTIC LINER (TPL) Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| 2. Outer shell | Pile fasteners coming loose. | Replace loose pile fasteners. |
| 3. Energy absorbing liner | Cracks. Hook fasteners coming loose. | Replace if cracked. Replace hook fasteners. |
| 4. TPL Assembly Layers Assembly (3) | Separation of bonding. | Replace layers assembly. |
| Cover (4) | Soiled | Wash in warm soapy water. Rinse in clear clean warm water until no soap remains. Air dry. When dry replace two sided type on inside of cover. |
| | Torn stitching | Repair stitching |
| | Torn cover | Replace cover. |

**NOTE**

**If damage is detected, report to Organizational Maintenance for replacement.**



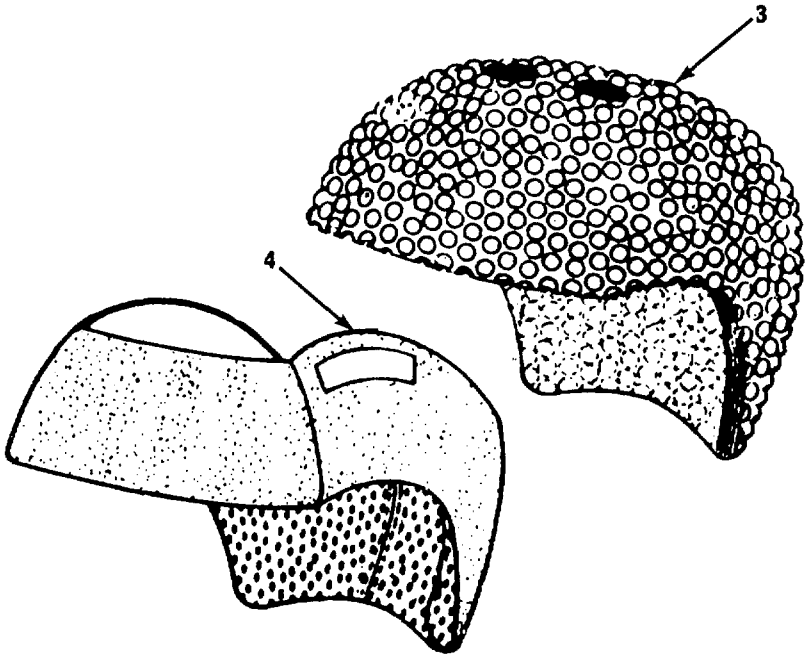



**3-17. THERMO PLASTIC LINER (TPL) Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION** | | |
| 5. TPL Assembly | Install cover (4) on TPL layers assembly (3) | |

**NOTE**

**Holes on top of layers assembly are toward the front. On the cover the top of the stitched "Y" seam is the front.**




**NOTE**

**Prior to inserting the TPL assembly into the helmet assembly cut two strips of paper wide enough to cover the hook fasteners and long enough to extend at least three inches outside the liner.**

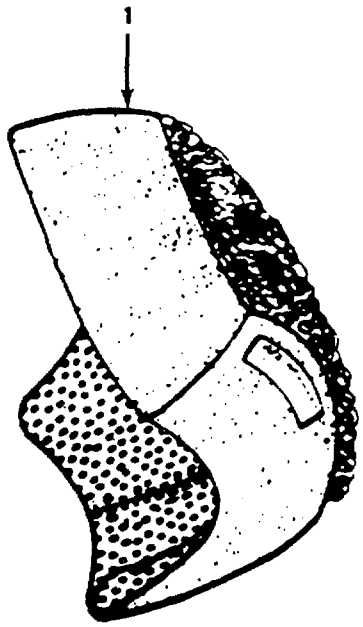
**3-17. THERMO PLASTIC LINER (TPL) Continued**

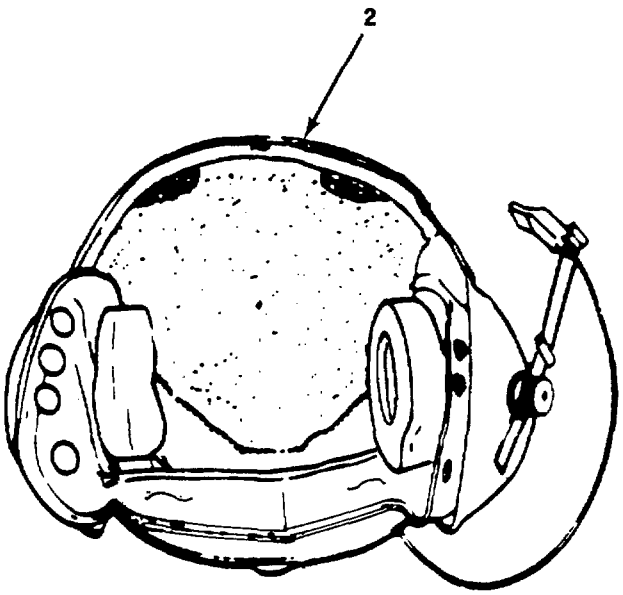
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

6. TPL Assembly (Continued)

Align the TPL (3) front edge with the inside of the liner (2). Ensure the TPL is symmetrically located from side to side in the liner.




Remove the front strip of paper from between the liner and TPL.

Position the TPL crown into the liner.

**NOTE**

**Do not be concerned if the TPL extends below the liner in the rear.**

When the TPL is in position remove the rear strips of paper covering the hook fasteners.

# CHAPTER 4

# ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

Page



## OVERVIEW

This chapter contains maintenance procedures that are the responsibility of Organizational Maintenance. Operator Maintenance tasks given in Chapter 3 are not repeated in this chapter.

## Section I. REPAIR PARTS, SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT

### 4-1. COMMON TOOLS AND EQUIPMENT

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment applicable to your unit.

### 4-2. SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

See Appendix B for special screw driver (Fig. B-1).

### 4-3. REPAIR PARTS

See Appendix E for a listing of repair parts required for maintaining the Flyer's Protective Helmet.

## Section II. SERVICE UPON RECEIPT

### 4-4. SERVICE UPON RECEIPT

The Flyer's Protective Helmet will be inspected, serviced, and operationally tested before it is placed in everyday use.

### 4-5. SERVICE UPON RECEIPT CHECK LIST

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| Contents in box | Check box for the following contents:<br>Clear visor<br>Neutral visor<br>Ear cup spacer kit<br>TM 10-8415-206-12&P | Notify Supply Officer of any missing or damaged parts. |
| | Remove all blocks and packing. Check parts received against packing list. | Report deficiency to Supply Officer. |
| | Check the helmet for damage. | Report any damage to Supply Officer. |

### 4-6. CHECKING UNPACKED EQUIPMENT

a. Inspect the helmet for any damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6, Packing Improvement Report.

b. Check the helmet against the packing slip to see if the shipment is complete. Report all discrepancies in accordance with the instructions contained in DA PAM 738-751.

c. Check to see whether the helmet has been modified.

## Section III. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

### 4-7. ORGANIZATIONAL PMCS

a. Preventive Maintenance Checks and Services (PMCS), Table 4-1, are to be done to be sure the helmet is ready for use at all times. These checks and services help you find and fix defects before the helmet is damaged or fails.

b. Item numbers in the first column on Table 4-1 are the order in which things are to be done. Column two "Interval" lists when to do them.

c. If minor defects are found when the helmet is in use, take notes on what they are. Fix them, or have them fixed after you have stopped using the helmet.

d. Record all defects and steps taken to fix them on DA Form 2404 (Equipment Inspection and Maintenance Work Sheet) as soon as possible.

**NOTE**

**Always keep in mind the WARNINGS located on the inside front cover. Perform BEFORE (B) PMCS.**

**NOTE**

**After 120 day inspection all AH-1 pilots and gunners will reconfirm bore sight accuracy with armament personnel.**

*Table 4-1. Organizational Preventive Maintenance Checks and Services*

LEGEND

DA-Days Q-Quarterly

| Item No. | Interval | | Item to be inspected | Procedures | Equipment will be reported not ready/ available if |
|---|---|---|---|---|---|
| | DA | Q | | | |
| 1. | 120 | | Visor lock | Inspect visor lock to insure it locks visor in retracted position. | Lock fails to hold visor in retracted position. |
| 2. | 120 | | Visor | Inspect for cracks, blemishes or scratches | Cracked, blenished or scratched. |

## 4-7. ORGANIZATIONAL PMCS - Continued

*Table 4-1. Organizational Preventive Maintenance Checks and Services - Continued*

LEGEND

DA - Days Q - Quarterly

| Item No. | Interval | | Item to be inspected | Procedures | Equipment will be reported not ready/ available if |
|---|---|---|---|---|---|
| | DA | Q | | | |
| 3. | 120 | | Visor tracks and spacers | Inspect for cracks, excessive wear (that would make them inoperative), breaks or missing mounting hardware | Any mounting hardware is missing or defective, tracks are worn enough to make them inoperative. |
| 4. | 120 | | Visor housing | Inspect paint for blemishes or chips. Spot paint as required. | |
| 5. | 120 | | Chin strap | Inspect for tears, rips, frayed stitching or defective fasteners. | Chin strap will not fasten in fasteners, is torn or stitching is badly frayed. |
| 6. | 120 | | Retention assembly | Inspect for defective or missing mounting hardware, torn fabric damaged fasteners, or defective adjustment buckle. | Adjustment buckle is defective, fasteners are defective or fabric is torn. |
| 7. | 120 | | Ear cup tension cross straps, and spacer pads | Inspect spacer pads for deterioration, cross straps for rips or tears | Cross straps are torn or ripped, spacer pads (if used) are loose or deteriorated. |
| 8. | 120 | | Headband and suspension assembly | Inspect for defective buckles, damaged or missing hardware rips or tears. | Mounting hardware missing, fabric is torn or ripped or adjustment buckles are defective. |
| 9. | 120 | | Beading | Inspect for chips, looseness, dry rot or weather checking. | Missing or loose. |

**4-7. ORGANIZATIONAL PMCS - Continued**

***Table 4-1**. Organizational Preventive Maintenance Checks and Services - Continued*

LEGEND

DA - Days Q - Quarterly

| Item No. | Interval DA | Interval Q | Item to be inspected | Procedures | Equipment will be reported not ready/ available if: |
|---|---|---|---|---|---|
| 10. | 120 | | Liner | Inspect for cracks or looseness. | |
| 11. | 120 | | Shell | Inspect for cracks, dirt damaged paint or marking | Shell is cracked. |
| 12. | 120 | | Retainer clip | Inspect for loose screws and missing retainer clip plate | If screws or retainer clip are missing |
| 13. | 120 | | Night Vision Goggles Mounting System | Inspect for loose screws and and excessively loose hook and pile | If screws or hook and pile are excessively loose |
| 14. | 120 | | Thermo Plastic Liner assembly TPL | Inspect for excessively loose hook and pile. | If hook and pile are |

## Section IV. TROUBLESHOOTING

**4-8. ORGANIZATIONAL MAINTENANCE TROUBLESHOOTING**

Table 4-2 contains troubleshooting information useful to you in diagnosing and correcting malfunctions or unsatisfactory operation of the flyer's protective helmet.

a. The troubleshooting table lists the common malfunctions and unsatisfactory conditions you are most likely to run into.

b. You should first find the malfunction in the table which most closely describes the problem; then perform the tests, inspections and corrective actions in the order in which they are listed.

c. This manual cannot list all possible symptoms which may occur. If a condition exists which cannot be resolved by you, notify your supervisor.

d. For troubleshooting information applicable to the operation of the Headset-Microphone Model MK-896A/AIC, refer to TM 11-5965-279-18&P.

**4-8. ORGANIZATIONAL MAINTENANCE TROUBLESHOOTING - Continued**

e. For troubleshooting information applicable to the operation of the Night Vision Goggles Model ANIPVS-5 and AN/PVS-5A, refer to TM 11-5855-238-10.

f. For troubleshooting information applicable to the operation of the Helmet Directed Fire Control Subsystem Model XM-128 and XM-136, refer to TM 9-1270-212-14&P.

g. For troubleshooting information applicable to the operation of the MBU-5/P Oxygen Mask Type MBU-5/P and MBU-12/P, refer to TM 55-1660-245-13 or TO 15X5-3-6-1.

h. You should verify the fault before performing troubleshooting.

*Symptom Index*

| | Troubleshooting Procedure |
|---|---|
| **VISOR** | |
| Cannot be lowered | 1 |
| Cannot be raised | 1 |
| **CHIN STRAP** | |
| Unable to adjust | 3 |
| Unable to attach | 4 |
| **NAPE STRAP** | |
| Unable to adjust | 5 |
| **EAR CUP COMPRESSION** | |
| Unable to adjust | 2 |
| **HEADBAND** | |
| Unable to adjust | 6 |
| **CROWN STRAP** | |
| Unable to adjust | 7 |
| **MICROPHONE** | |
| Unable to keep in position | 8 |

## 4-8. ORGANIZATIONAL MAINTENANCE TROUBLESHOOTING - Continued

*Table 4-2. Organizational Maintenance Troubleshooting Chart*

| MALFUNCTION<br>TEST or INSPECTION<br>CORRECTIVE ACTION |
|---|

**1. VISOR CANNOT BE RAISED OR LOWERED.**

Step 1. Inspect for defective visor lock.

Replace visor lock per paragraph 4-9.

Step 2. Check for improperly installed visor lock.

Make certain lockstem has been rotated 900.

Step 3. Inspect for defective visor.

Replace visor per paragraph 4-11.

Step 4. Inspect for missing or defective spacer(s).

Replace spacer(s) per paragraph 4-12.

Step 5. Inspect for defective visor tracks.

Replace visor tracks per paragraph 4-12.

Step 6. Inspect for defective visor housing.

Replace visor housing per paragraph 4-10.

**2. UNABLE TO ADJUST EAR CUP COMPRESSION.**

Step 1. Inspect for worn or defective tension cross straps.

Replace per paragraph 4-14.

Step 2. Ear cup spacers are required or are defective.

Replace per paragraph 4-22.

**3. UNABLE TO ADJUST CHIN STRAP.**

Inspect for defective chin strap.

Replace defective chin strap per paragraph 4-13.

*Table 4-2. Organizational Maintenance Troubleshooting Chart - Continued*

| MALFUNCTION<br>TEST or INSPECTION<br>CORRECTIVE ACTION |
|---|
| **4. UNABLE TO ATTACH CHIN STRAP.** |
| Step 1. Inspect for defective fastener. |
| Replace chin strap per paragraph 4-13. |
| Step 2. Inspect for defective retention assembly fastener. |
| Replace retention assembly per paragraph 4-19. |
| **5. UNABLE TO ADJUST NAPE STRAP.** |
| Inspect for defective buckle and worn strap. |
| Replace retention assembly per paragraph 4-19. |
| **6. UNABLE TO ADJUST HEADBAND.** |
| Inspect for defective buckle and adjustment strap. |
| Replace suspension assembly per paragraph 4-21. |
| **7. UNABLE TO ADJUST CROWN STRAPS.** |
| Inspect for defective buckle and adjustment strap. |
| Replace suspension assembly per paragraph 4-21. |
| **8. UNABLE TO KEEP MICROPHONE IN POSITION.** |
| Step 1. Inspect for loose connecting screw in center of boom. |
| Replace if unable to tighten. |
| Step 2. Inspect for loose connecting screws at end of mike boom. |
| Replace if unable to tighten. |

**4-8. ORGANIZATIONAL MAINTENANCE TROUBLESHOOTING - Continued**

*Table 4-2. Organizational Maintenance Troubleshooting Chart - Continued*

| MALFUNCTION<br>TEST or INSPECTION<br>CORRECTIVE ACTION |
|---|
| **9. UNABLE TO KEEP NIGHT VISION GOGGLES MOUNTED TO THE HELMET** |
| Inspect for loose pile on Night Vision Goggle System No. 1. For Night Vision Goggle No. 2 check for loose pile and loose surgical tube fittings. For Night Vision Goggle System No. 3 check for loose pile and loose screws on mounting fitting. |
| On all systems, reglue the pile, retighten surgical tubing attachment straps. (If equipped with tubing and straps) tighten screws on mounting system. |
| **10. THERMO PLASTIC LINER (TPL) ASSEMBLY** |
| Unable to keep TPL assembly in helmet. |
| Check hook and pile fasteners for secure attachment to helmet, liner or TPL layers. |
| Check hook and pile for dirt, lint or anything that will keep surfaces from mating properly. |
| Check alignment of hook and pile fasteners. |
| Replace defective hook and pile fasteners. |
| Clean lint or dirt out of hook fasteners. |
| Properly realign hook and pile fasteners. |

## Section V. MAINTENANCE PROCEDURES

## 4-9. GUARD LOCK ASSEMBLY

This task covers:

a. Removal

b. Inspection

c. Replacement

d. Installation

INITIAL SETUP

Tools

Screwdriver, Flat Blade, 1f4 inch wide, 4 inches long
(NSN 5120-00-222-8852)

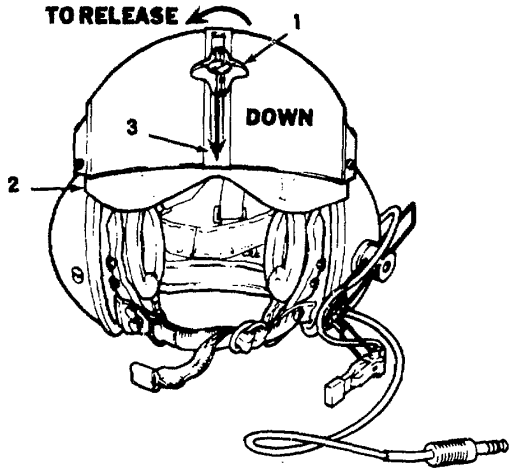
Materials/Parts

Guard lock assembly

Personnel Required

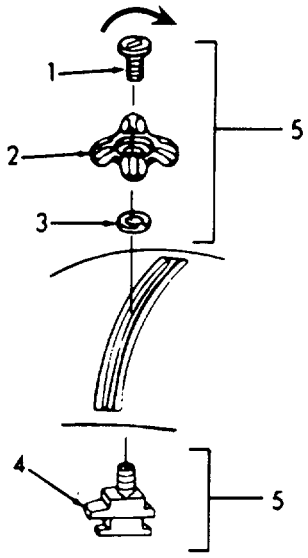
Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL | | |
| 1. Guard lock Assembly | a. Turn visor lock release button head (1)assembly approximately 1/4 turn counter-clock-wise to release visor 2). | |
| | b. Move visor lock release button head (1) down to bottom of visor tracks (3). | |



**4-9. GUARD LOCK ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued I | | |
| 2. Guard lock assembly (5) | a. Remove lockstem center screw (1) by rotating in a clockwise direction.<br>b. Remove button head (2) by rotating in a counterclockwise direction.<br>c. Remove button head washer (3) from button head (2).<br>d. Remove lockstem (4) from visor by rotating $90^0$. | |




| | | |
|---|---|---|
| INSPECTION | | |
| | Inspect for damaged threads. | |
| REPLACEMENT I | | |
| | Replace defective guard lock assembly with a serviceable - like item. | |

**4-9. GUARD LOCK ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION

**NOTE**

**Be sure you rotate lockstem 90$^0$ to lock it in place in visor.**

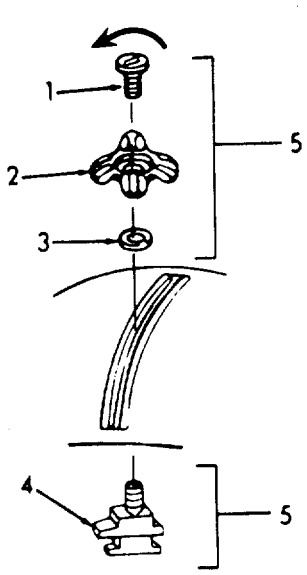
3. Guard lock assembly (5)

a. Install lockstem (4) in visor.

b. Install button head washer (3) cavity side down in button head (2).

c. Install button head (2).

d. Install lockstem center screw (1) in button head.



## 4-10. VISOR HOUSING

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)

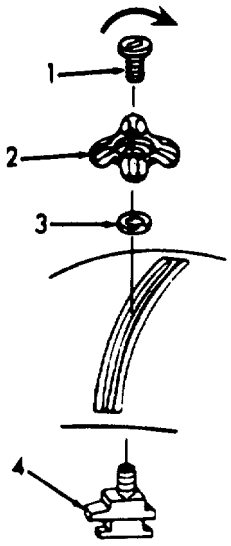
Materials/Parts

Visor housing

Personnel Required

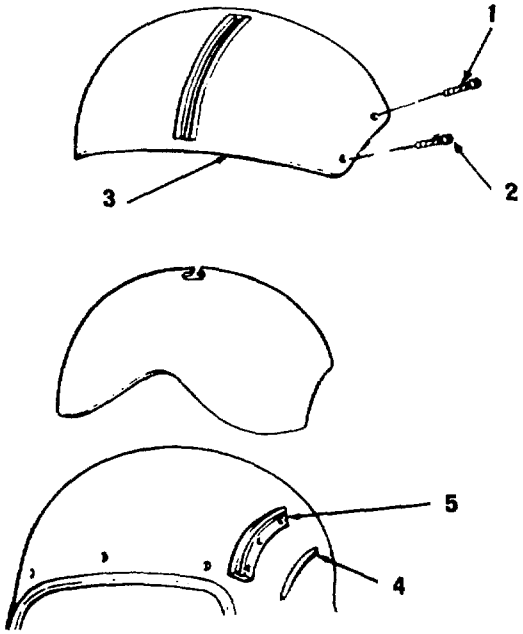
Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Inspect for cracks or breaks. | |
| REMOVAL | | |
| 1. Guard lock assembly | a. Remove lockstem center screw (1) by rotating in a clockwise direction.<br>b. Remove button head (2) and washer (3) from lockstem (4) by rotating in a counter-clockwise direction. | |



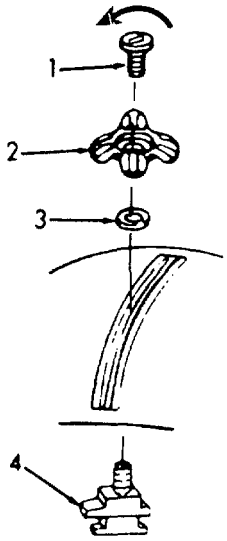
**4-10. VISOR HOUSING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| 2. Visor housing (3) | a. Remove four screw assemblies (1 and 2) from visor housing.<br>b. Remove visor housing (3).<br>c. Remove spacers (4) from visor tracks (5). | |
| REPLACEMENT | Replace defective visor housing with a serviceable-like item. | |
| INSTALLATION | | |
| 3. Visor housing (3) | a. Install spacers (4) on visor tracks (5).<br>b. Install visor housing (3) using four screw assemblies (1 and 2) and tighten. | |



**4-10. VISOR HOUSING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |
| 4. Guard lock assembly | a. Install washer (3) cavity side down in button head (2), if removed.<br>b. Install button head (2) on lock-stem (4).<br>c. Install lockstem center screw (1) in button head (2). | |



## 4-11. VISOR

This task covers:

a. Removal

b. Inspection

c. Replacement

d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)

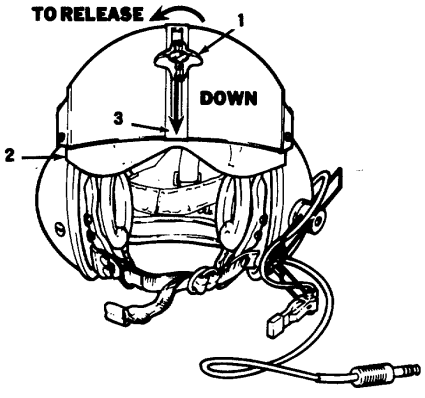
Materials/Parts

Visor

Personnel Required

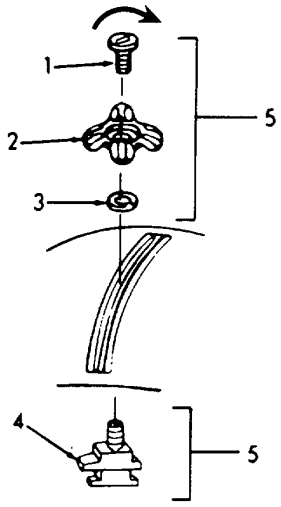
Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

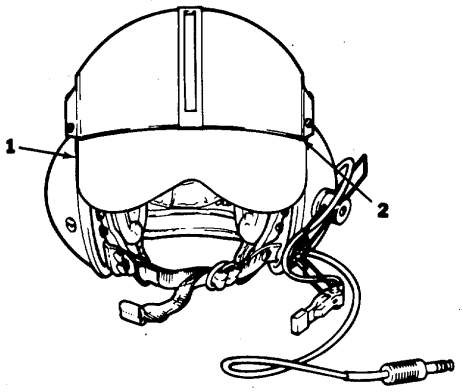
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL | | |
| 1. Guard lock assembly | a. Turn visor lock release button head (1) approximately 1/4 turn counter-clockwise to release visor (2).<br>b. Move visor lock release button head (1) down to bottom of visor tracks (3). | |



**4-11. VISOR - Continued**

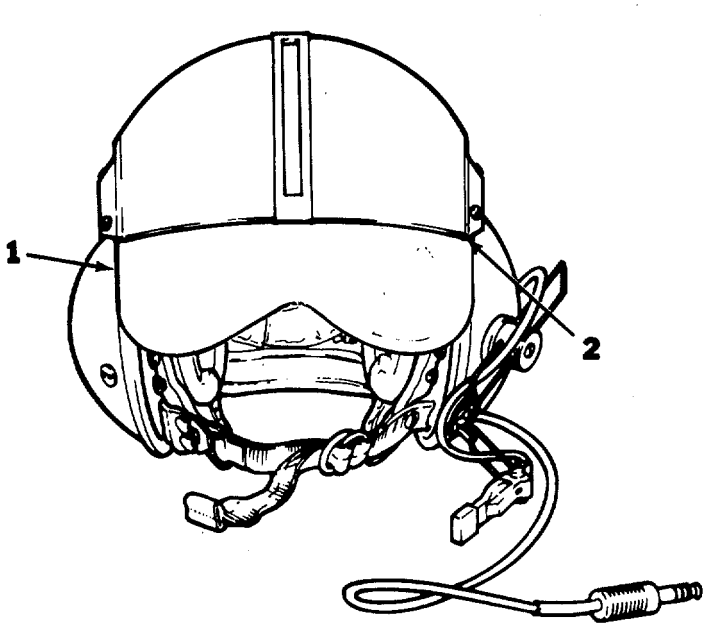
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| 2. Guard lock assembly (5) | a. Remove lockstem center screw (1) by rotating in a clockwise direction.<br>b. Remove button head (2) by rotating in a counterclockwise direction.<br>c. Remove button head washer (3) from button head (2).<br>d. Remove lockstem (4) from visor by rotating $90^0$. | |
| 3. Visor | Remove visor (1) from tracks (2). | |



**4-11. VISOR - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Inspect for cracks, breaks or blemishes. | |
| REPLACEMENT | | |
| | Replace a defective visor with a serviceable-like item. | |
| INSTALLATION | | |
| 4. Visor (1) | Install in tracks (2). | |




**NOTE**

**Be sure you rotate $90^0$ to lock it in place in the visor.**

**4-11. VISOR - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

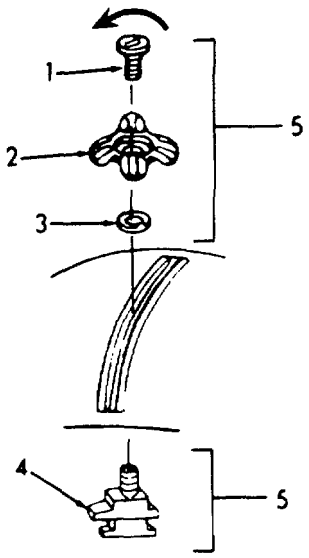
INSTALLATION - Continued

a. Install lockstem (4) in visor.

b. Install button head washer (3) cavity side down in button head.

c. Install button head (2).

d. Install lockstem center screw (1).



## 4-12. VISOR TRACKS AND SPACERS

This task covers:

a. Removal
b. Inspection
c. Replacement
d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)

Materials/Parts

Spacers
Visor tracks

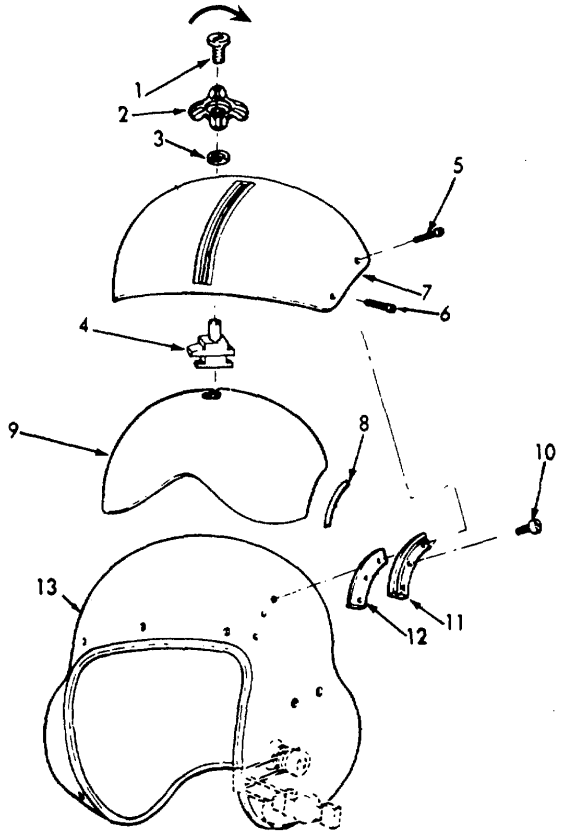
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **REMOVAL** | | |
| 1. Guard lock assembly | a. Remove lockstem center screw (1) by rotating in a clockwise direction. | |
| | b. Remove button head (2) and washer (3) from lockstem (4) by rotating in a clockwise direction. | |
| 2. Visor tracks and spacers | a. Remove shorter two screw assemblies (5) and two longer screw assemblies (6) from visor housing. | |
| | b. Remove visor housing (7). | |
| | c. Remove spacers (8) and visor (9) from visor tracks (11). | |

**4-12. VISOR TRACKS AND SPACERS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| | d. Remove two screw assemblies (10), two tracks (11), and tapered spacers (12) from helmet shell (13). | Note that largest thickness of tapered spacers are installed facing bottom of visor housing. Tapered spacers must be reinstalled in same position. |



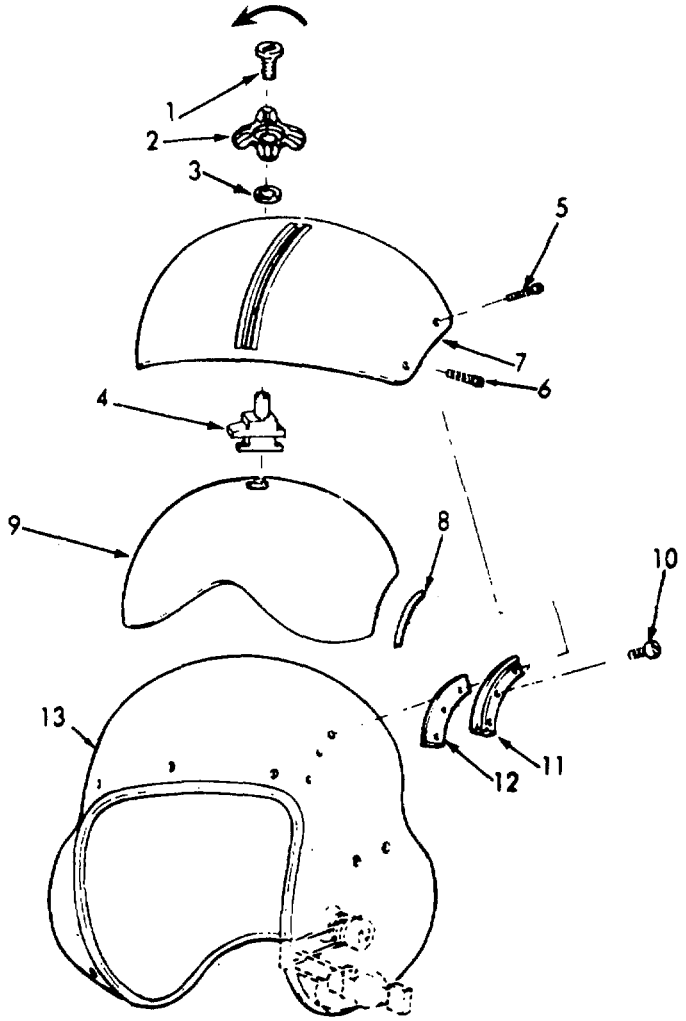

| | | |
|---|---|---|
| INSPECTION | Inspect tracks for cracks or breaks. | |
| REPLACEMENT | Replace defective visor tracks or spacers with a serviceable-like item. | |

**4-12. VISOR TRACKS AND SPACERS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION | | |
| | **NOTE**<br><br>**Visor housing assembly uses 3 size screws. Short screw goes into the center hole of the visor track. Medium goes thru the top hole of the visor housing and visor track and the long screw goes thru the bottom hole of the visor housing and visor track.** | |
| 3. Visor tracks and spacers | a. Install tapered spacers (12) and tracks (11) to helmet shell (13) with two screw assemblies, short (10) and tighten.<br>housing. | Insure that largest thickness of tapered spacers are installed facing bottom of visor |
| | b. Install visor (9) in visor tracks (11). | |
| | c. Install spacers (8). | |
| | d. Install visor housing (7) using two long screw assemblies (6) and two medium screw assemblies (5). If visor binds, add additional flat spacers until binding stops. | |
| | e. Install lockstem (4) in visor if removed. | |
| | f. Install washer (3) cavity side down in button head (2) and install button head (2). | |
| | g. Install lockstem center screw (1). | |

**4-12. VISOR TRACKS AND SPACERS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |



## 4-13. CHIN STRAP

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)

Materials/Parts

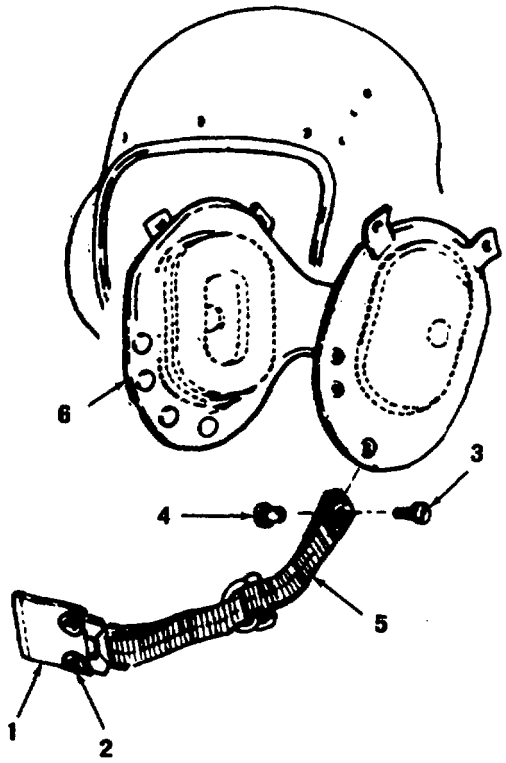
Chin strap
Sealing compound
(NSN 8030-00-891-8358

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

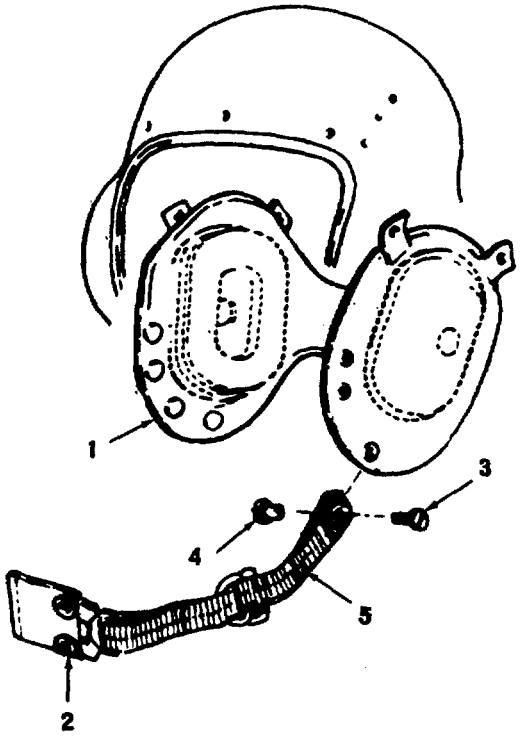
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Inspect for damaged fasteners, frayed stitching or defective buckle. | |
| REMOVAL | | |
| 1. Chin Strap (5) | a. Pull on end of strap (1) to release fasteners (2) from retention assembly (6).<br>b. Use one screwdriver to remove slotted head screw (3) and post (4). Use other screwdriver to hold post in place.<br>c. Remove chin strap (5) from retention assembly (6). | |

**4-13. CHIN STRAP - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| |  | |
| REPLACEMENT | | |
| | Replace defective chin strap with a serviceable-like item. | |

**4-13. CHIN STRAP - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION | | |
| 2. Chin strap (5) | a. Install to retention assembly (1) with post (4) and slotted head screw (3).<br>b. Snap fasteners (2) to retention assembly (1) to secure. | |



## 4-14. EAR CUPS CROSS STRAPS

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)
Screwdriver, (Special Tool, See fig B-1)

Materials/Parts

Ear cup cross straps
Sealing compound
(NSN 8030-00-891-8358)
Appendix D, Item No. 8

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

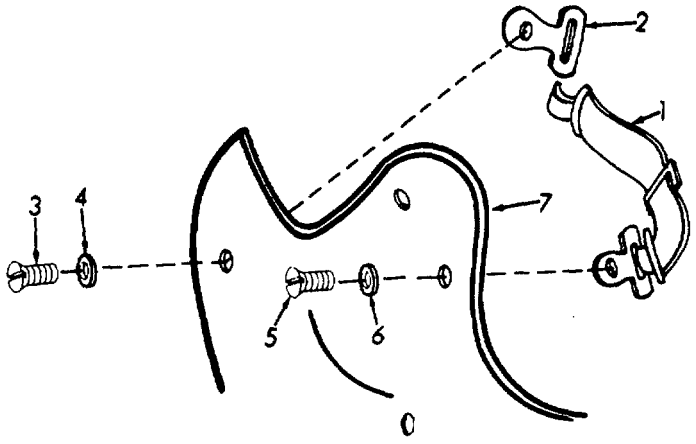
**The ear cup tension cross straps are elastic, rubber straps that have a buckle attached to one end that provides adjustments. Two straps are crossed inside the helmet where the ear cups are located and the ear cups are held against these cross straps by the user's head.**

INSPECTION

Inspect for defective buckles, frayed stitching or loose hardware.

**4-14. EAR CUPS CROSS STRAPS - Continued**

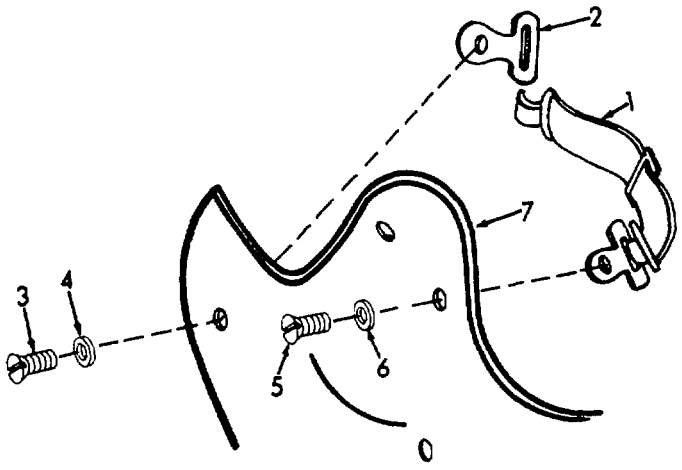
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL | | |
| 1. Cross strap (1) | a. Unhook cross-strap (1) from adapter (2).<br>b. Remove screw assembly (3), washer (4) and adapter (2).<br>c. Remove screw assembly (5), and washer (6) securing other end of cross strap to helmet (7) and remove cross strap (1).<br>d. Remove other three cross straps in the same manner. | |




| | | |
|---|---|---|
| REPLACEMENT | | |
| | Replace defective cross straps with a serviceable-like item. | |

**4-14. EAR CUPS CROSS STRAPS - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION | | |
| 2. Cross strap (1) | a. Position adapter (2) in place on helmet (7) and install with washer (4) and screw assembly (3) and tighten.<br>b. Secure other end of cross strap (1) to helmet (7) using washer (6) and screw assembly (5).<br>c. Hook cross strap into adapter (2).<br>d. Install other three cross straps in the same manner. | |



## 4-15. EAR CUP SPACER PAD

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Materials/Parts

Clean cloths
Spacer kit
(NSN 8415-00-410-4667)

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Spacer pads are used only if greater pressure around the ears is required. The pads are held in position by pressure-sensitive adhesive.**

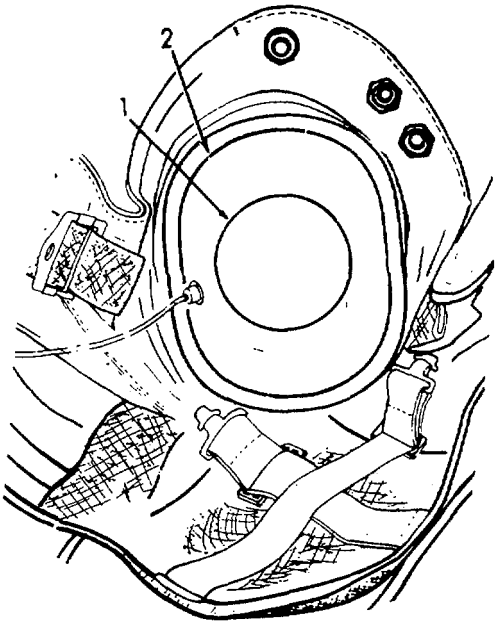
INSPECTION

Inspect for looseness or deterioration.

REMOVAL

| | | |
|---|---|---|
| 1. Spacer pad (1) | a. Remove from back of ear cup (2). | |
| | b. Remove adhesive by rubbing with a clean cloth. | |

**4-15. EAR CUP SPACER PAD - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| |  | |
| REPLACEMENT | | |
| | | Replace defective spacer pads with a serviceable-like item. |
| INSTALLATION | | |
| 2. Spacer pad (1) | a. Peel protective cover from adhesive side of pad.<br>b. Install pad (1) to ear cup (2).<br>c. Press firmly in place. | |

## 4-16. EAR CUP ASSEMBLY

This task covers:

a. Removal
b. Inspection
c. Replacement
d. Installation

INITIAL SETUP

Materials/Parts

Ear cup seal

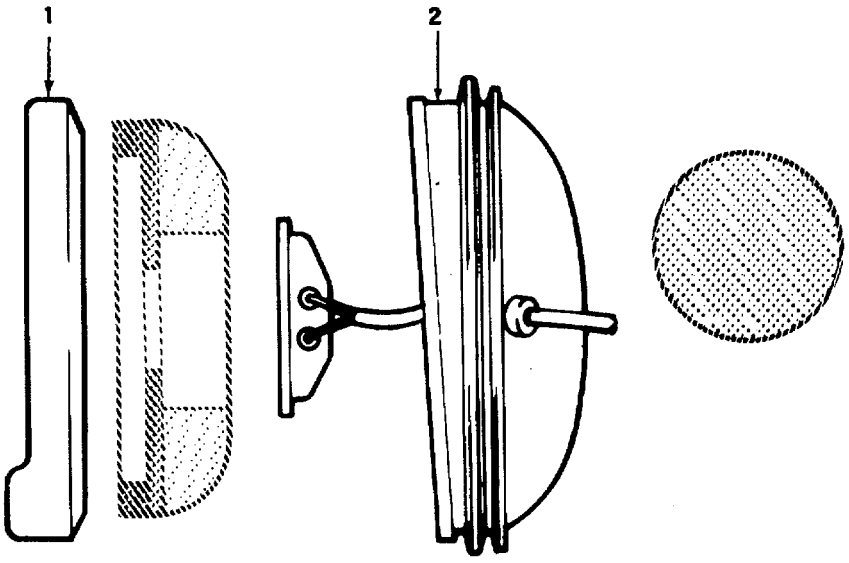
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

REMOVAL

1. Seal (1) — Remove from ear cup (2).



**4-16. SEAL, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Inspect seal for tears, rips or deterioration. | |
| REPLACEMENT | | |
| | Replace a defective seal with a serviceable-like item. | |
| INSTALLATION | | |
| 2. Seal | Install seal (1) over ear cup assembly (2). | |

## 4-17. CUSHION INSERT, EAR CUP ASSEMBLY

This task covers:

a. Removal
b. Inspection
c. Replacement
d. Installation

INITIAL SETUP

Materials/Parts

Cushion Insert

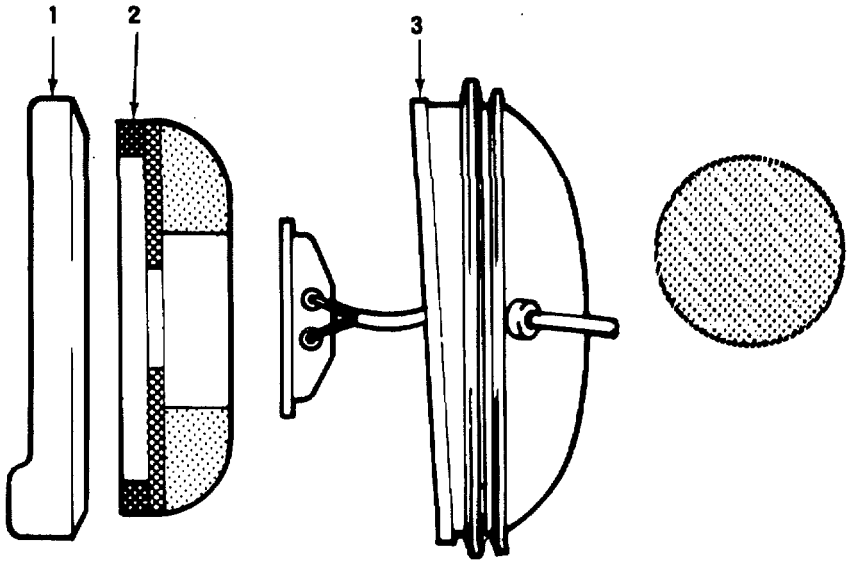
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

REMOVAL

1. Ear cup seal (1) — Remove from ear cup (3).
2. Cushion insert (2) — Remove from ear cup (3).



**4-17. CUSHION INSERT, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Inspect for:<br>a. Tears.<br>b. Rips.<br>c. Deterioration.<br>d. Separation from bonding. | |
| REPLACEMENT | | |
| | Replace defective cushion insert with a serviceable-like item. | |
| INSTALLATION | | |
| 3. Cushion insert (2) | Install in ear cup assembly (3). | |
| 4. Seal (1) | Install over ear cup assembly (3). | |

## 4-18. CUSHION BACKING, AND EAR CUP ASSEMBLY

This task covers:

a. Removal
b. Inspection
c. Replacement
d. Installation

INITIAL SETUP

Materials/Parts

Clean cloth
Cushion backing
Synthetic rubber base adhesive
(NSN 8040-00-832-6173)
Appendix D, Item No. 11

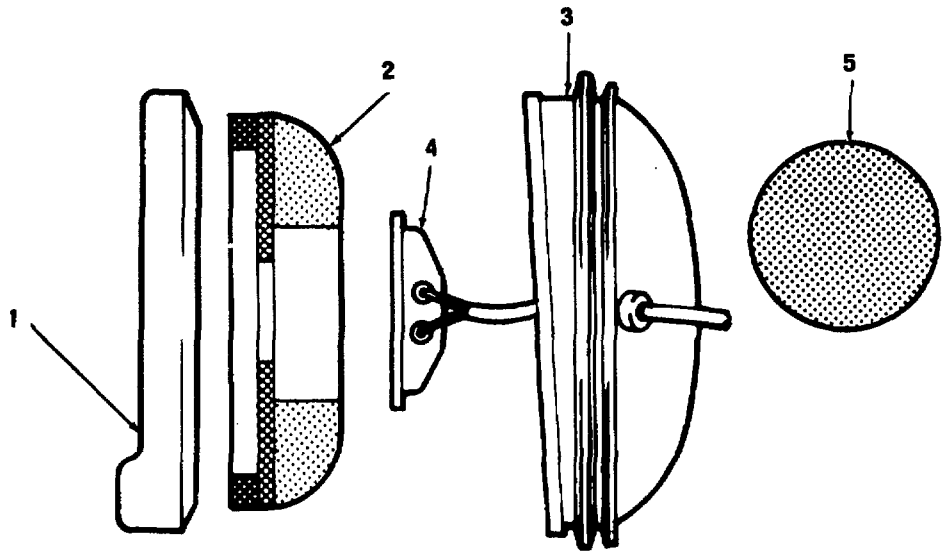
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **REMOVAL AND INSPECTION** | | |
| 1. Seal (1) | Remove from ear cup (3). | |
| 2, Cushion insert (2) | Remove from ear cup (3). | |
| 3. Ear phone (4) | Remove from ear cup if necessary. | Leave earphone harness connected, unless leaving it connected hampers step 4. |
| 4. Cushion backing (5) | a. Remove if required. | Do not remove unless visual inspection reveals tears, rips or looseness. |
| | b. Remove old adhesive by rubbing with a clean cloth. | |

## 4-18. CUSHION BACKING, AND EAR CUP ASSEMBLY

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|




REPLACEMENT

Replace a defective cushion backing with a serviceable-like item.

INSTALLATION

**WARNING**

**Synthetic rubber base adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.**

| | | |
|---|---|---|
| 5. Cushion backing (5) | a. Apply synthetic rubber base *adhesive* to ear cup.<br>b. Install cushion backing (5). | |
| 6. Earphone (4) | Refer to TM 11-5965-279-13&P and install and reconnect ear phone. | Remove tags. |
| 7. Cushion insert (2) | Install in ear cup (3). | |
| 8. Seal (1) | Install over ear cup (3). | |

## 4-19. EAR CUP, EAR CUP ASSEMBLY

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools
Screw Driver (Special Tool), See fig. B-1
Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)
Hex Key .035 (NSN 5120-00-188-5400)
Multimeter AN/USM-223 (NSN 6625-00-999-7465)

References
TM 11-5965-279-13&P

Materials/Parts

Ear cup assembly
Sealing compound
(NSN 8030-00-891-8358)
Appendix D, Item No. 8
Synthetic rubber base adhesive
(NSN 8040-00-832-6173)
Appendix D, Item No. 11

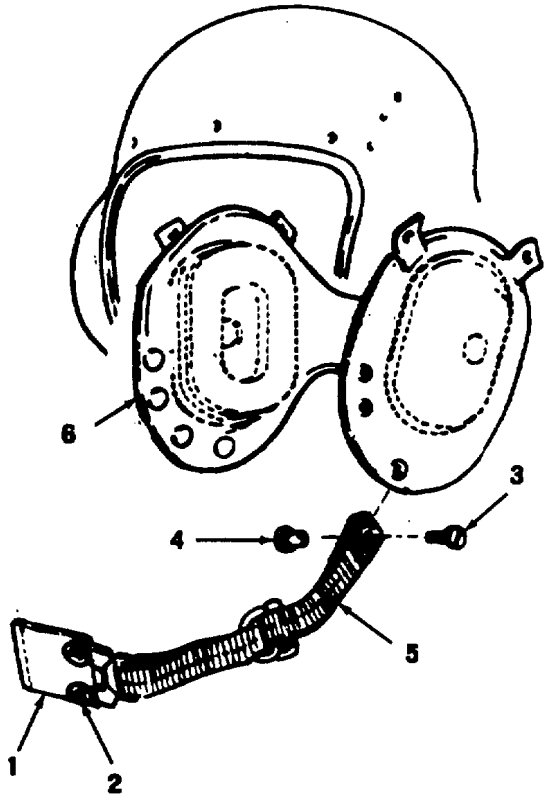
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| 1. Ear cup | Inspect for:<br>a. Nicks.<br>b. Rough edges.<br>c. Cracks.<br>d. Breaks. | |

**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL | | |
| 2. Chin strap (5) | a. Pull on end of strap (1) to release fasteners (2) from retention assembly (6).<br>b. Remove slotted head screw (3) and post (4).<br>c. Remove chin strap (5) from retention assembly (6). | |



**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

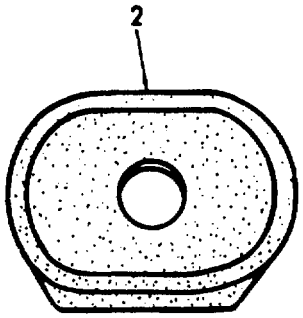
REMOVAL - Continued

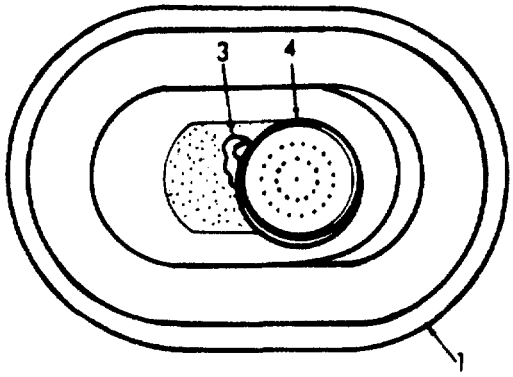
3. Ear cup seal and cushion

a. Remove ear cup seal (1) and cushion (2).

b. Refer to TM 11-5965-279-13&P and tag and disconnect wiring harness (3) from ear phone (4).

c. Remove ear phone (4).

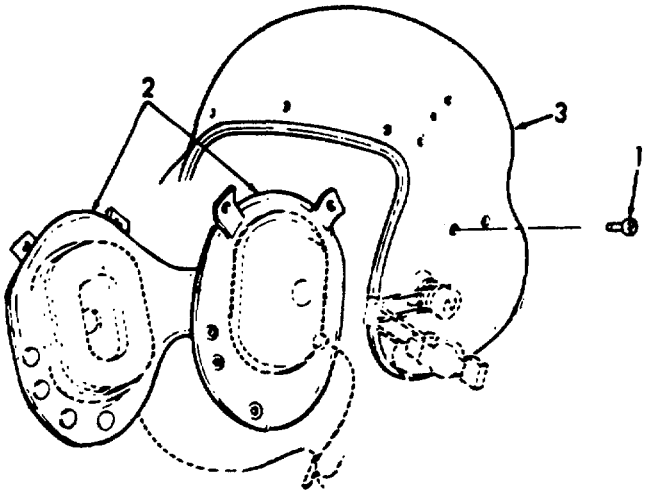



4. Retention assembly (2)

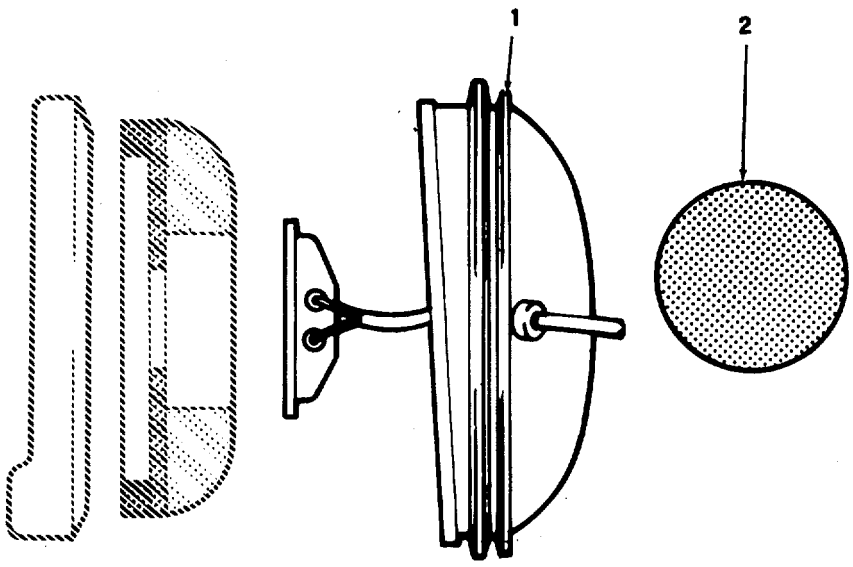
a. Remove four slotted head screw assemblies (1) securing retention assembly (2) to helmet (3).

b. Remove retention assembly (2).



**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| REMOVAL - Continued | | |
| | **NOTE**<br><br>**Do not attempt to pry ear cup apart** | |
| 5. Ear cup (1) | a. Remove canvas from around ear (1) cup.<br><br>b. Remove ear cup (1).<br><br>c. Remove cushion backing (2) from ear cup (1).<br><br>d. Remove other ear cup in the same manner. | |



**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION | | |
| | **WARNING**<br>**Synthetic rubber base adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.** | |
| 6. Cushion backing (2) | a. Apply synthetic rubber base adhesive to ear cup (1).<br>b. Install cushion backing (2) to ear cup (1). | |
| 7. Ear cup (1) | a. Install in canvas.<br>b. Install other ear cup (1) in the same manner. | |

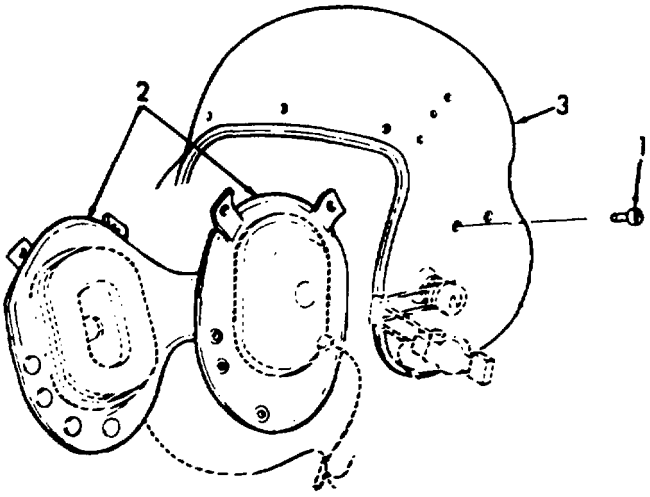
**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued

8. Retention assembly (2)

Install in helmet (3) with four slotted head screw assemblies (1).




**SEE PAGE 4-42**

9. Ear cup seal and cushion

a. Install ear phones (3). Use multimeter and check for continuity.

b. Refer to TM 11-5965-279-13&P and reconnect ear phone to wiring harness (4).

c. Install ear cup cushion (5) in ear cup.

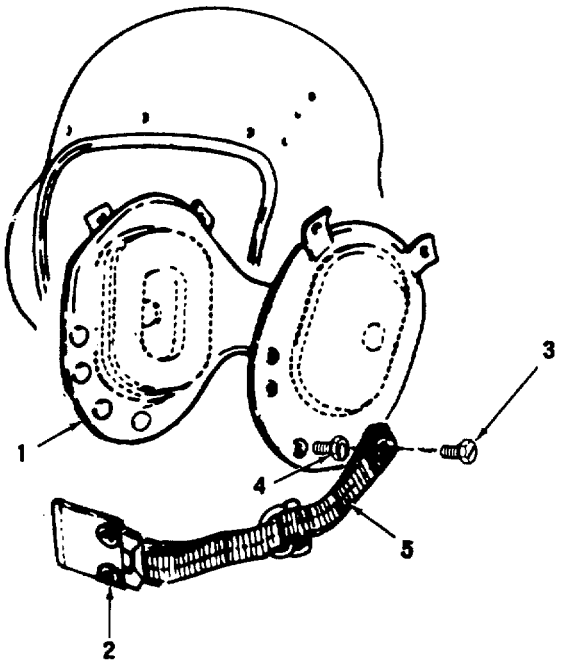
d. Install ear cup seal (6) over ear cup.

**4-19. EAR CUP, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

| | | |
|---|---|---|
| 10. Chin strap (5) | a. Install to retention assembly (1) with post (4) and slotted head screw (3).<br>b. Snap fasteners (2) to retention assembly (1) to secure. | |



## 4-20. RETENTION ASSEMBLY

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Multimeter ANIUSM-223
Hex key .035
Screw driver, 1/4 in.
Screw driver, Special (fig. B-1)

Materials/Parts

Retention assembly
Sealing compound (NSN 8030-00-891-8358) Appendix D, Item No. 8

Personnel Required

Aviation Life Support Equipment (A.L.S.E.) Specialist/Technician or Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSPECTION | | |
| | Defective buckle and fasteners; torn fabric. | |
| REMOVAL | | |

**NOTE**

**The retention assembly has the nape strap, ear cups, and wiring harness attached to it. Fasteners are provided on each side to fasten chin strap and the oxygen mask adapter harness.**

**4-20. RETENTION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

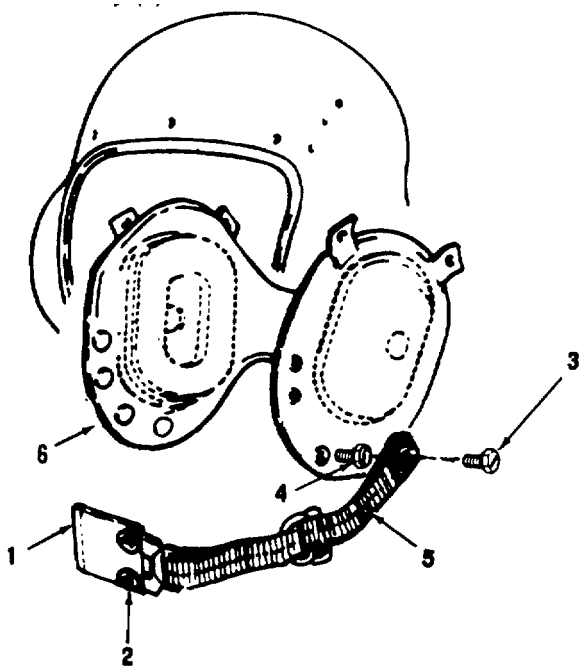
**REMOVAL - Continued.**

1. Chin strap (5)

a. Pull on end of strap (1) to release fasteners (2) from retention assembly (6).

b. Remove slotted head screw (3) and post (4).

c. Remove chin strap (5) from retention assembly (6).




2. Ear cup seal and cushion

a. Remove ear cup seals (1) and cushions (2).

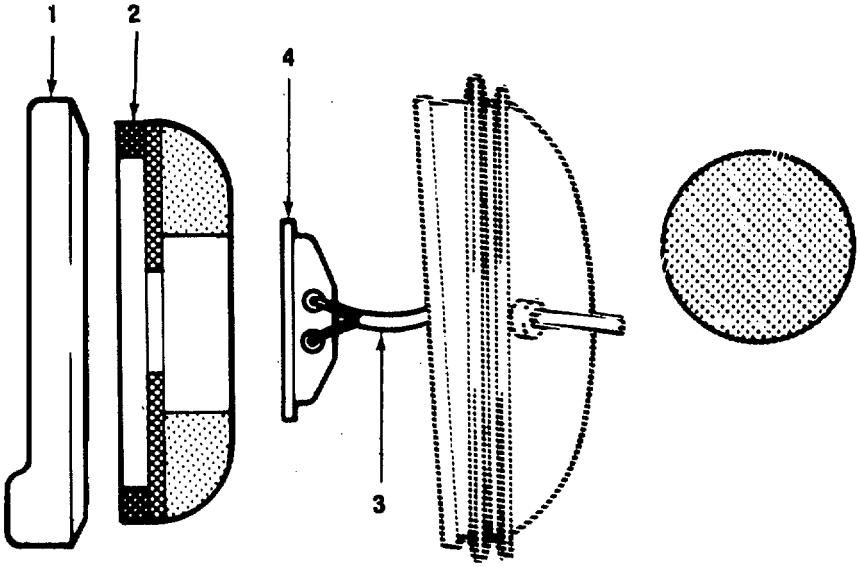
b. Refer to TM 11-5965-279-13&P and disconnect wiring harness (3) with .035 Hex Key from ear phones (4).

c. Remove ear phones (4).

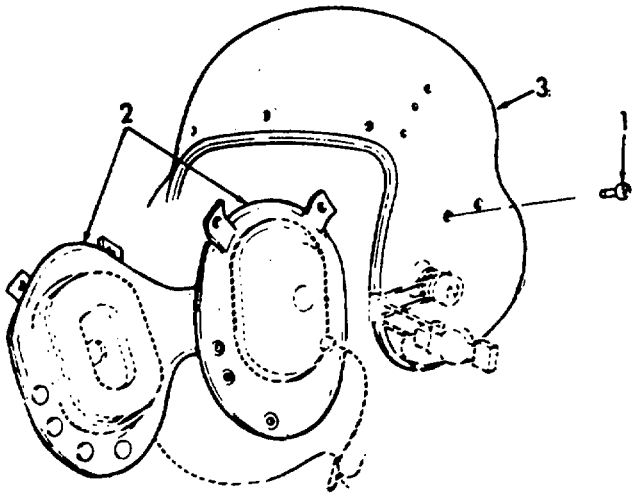
**4-20. RETENTION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

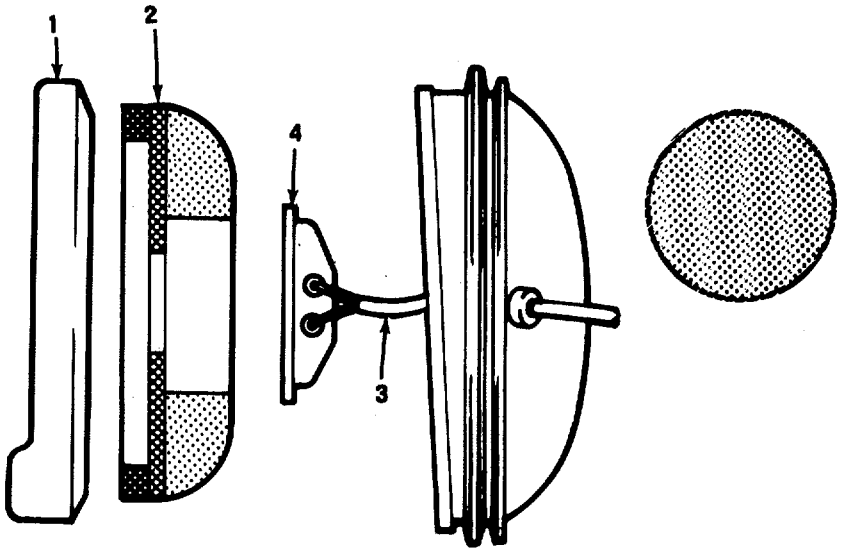



| | | |
|---|---|---|
| 3. Retention assembly | a. Remove four slotted head screw assemblies (1) securing retention assembly (2) to helmet (3).<br>b. Remove retention assembly (2). | |



**4-20. RETENTION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **REPLACEMENT** | | |
| | Replace defective retention assembly with a serviceable-like item. | |
| **INSTALLATION** | | |
| 4. Retention assembly (2) | Install in helmet (3) with four slotted head screw assemblies (1). | Use sealing compound NSN 8030-00-891-8358 on screw threads. |
| 5. Ear cup seals and cushions | a. Install ear phones (4).<br>b. Refer to TM 11-5965-279-13&P and reconnect wiring harness (3) to ear phones (4).<br>c. Install ear cup cushions (2) and seals (1).<br>d. Check continuity of ear phones with multimeter. | |

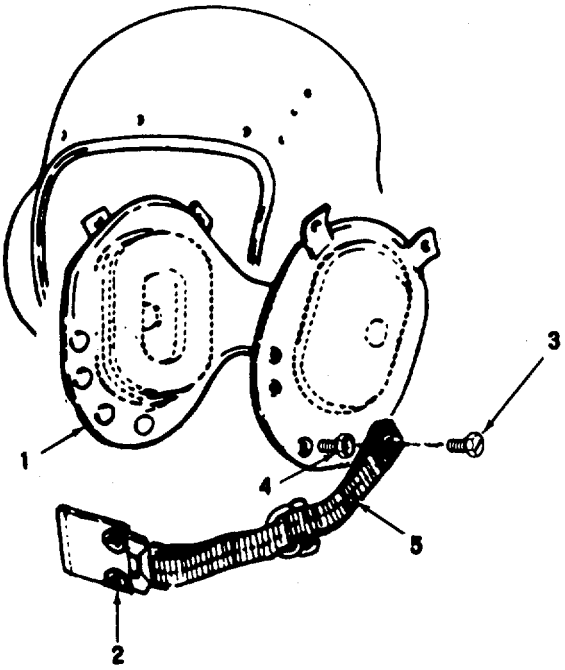


**4-20. RETENTION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

6. Chin strap (5)
   a. Install to retention assembly (1) with post (4) and slotted head screw (3).
   b. Snap fasteners (2) to retention assembly (1) to secure.



## 4-21. SUSPENSION ASSEMBLY

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Multimeter AN/USM-223
(NSN 6625-00-999-7465)
Hex key .035 inch (.343 cm)
(NSN 5120-00-198-5400)
Screw Driver, Flat Blade, 1/4 inch wide, 4 inches long
(NSN 5120-00-222-8852)
Screw Driver (Special Tool, see fig. B-1)

References

TM 11 -5965-279-13&P

Materials/Parts

Sealing compound
(NSN 8030-00-891-8358)
Appendix D, Item No. 8
Suspension assembly

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The suspension assembly is an assembly of straps and pads attached inside the helmet. Also included in the assembly are the front and rear headbands. Buckles provide for adjustments to raise, lower, and fit the wearer's head.**

**INSPECTION**

Inspect for tears, rips, defective buckles, unraveled stitching or missing hardware.

**4-21. SUSPENSION ASSEMBLY - Continued**

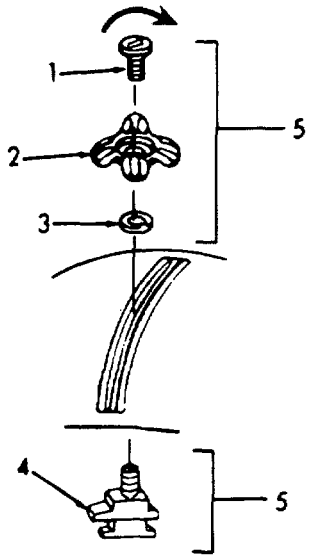
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL**

1. Guard lock assembly (5)

a. Remove lockstem center screw (1) by rotating in a clockwise direction.

b. Remove button head (2) and washer (3) by rotating in a counterclockwise direction.



**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

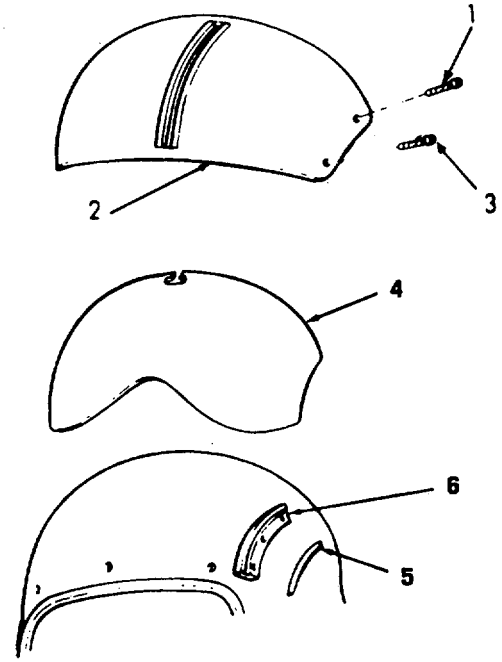
2. Visor housing (2)

a. Remove four screw assemblies (1 and 3) from visor housing.

b. Remove visor housing (2).

c. Remove spacers (5) from visor tracks (6).

d. Remove visor (4).

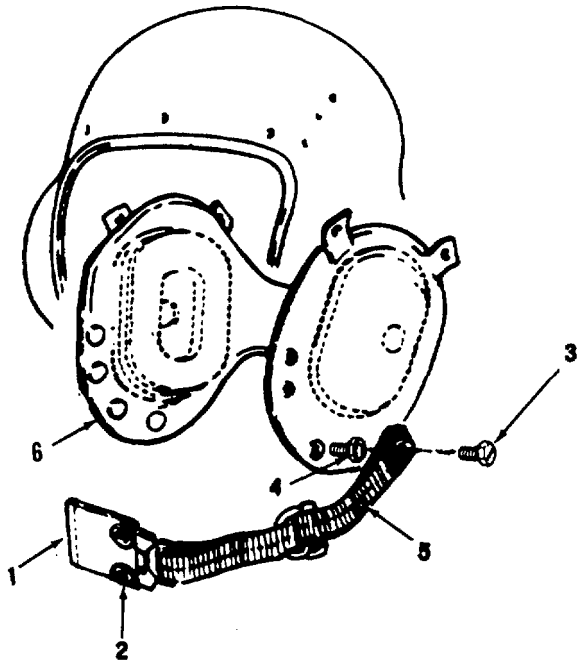


**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**Removal - Continued**

3. Chin strap (5)
   a. Pull on end of strap (1) to release fasteners (2) from retention assembly (6).
   b. Remove slotted head screw (3) and post (4).
   c. Remove chin strap (5) from retention assembly (6).

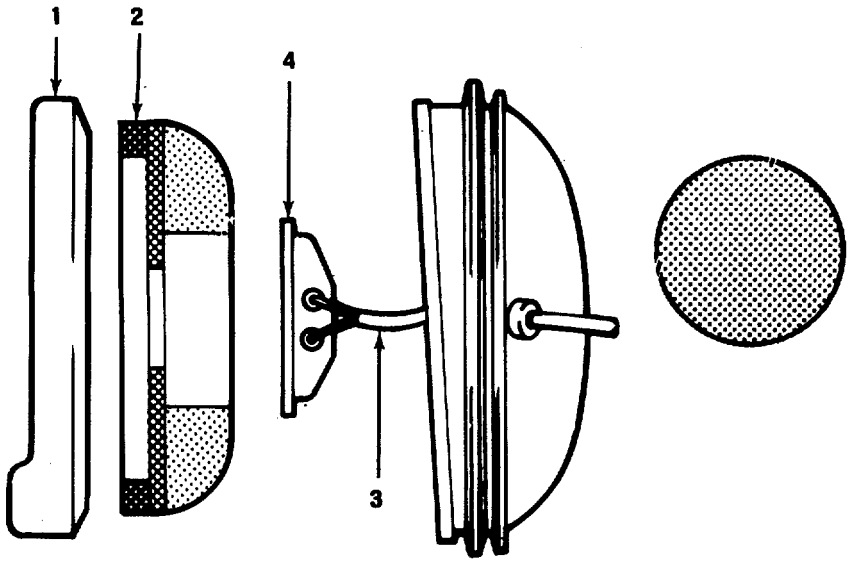


**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

| | | |
|---|---|---|
| 4. Ear cup seals, cushions and ear phones | a. Remove ear cup seals (1) and cushions (2).<br>b. Refer to TM 11-5965-279-13&P, and disconnect wiring harness (3) from ear phones (4).<br>c. Remove ear phones (4). | |

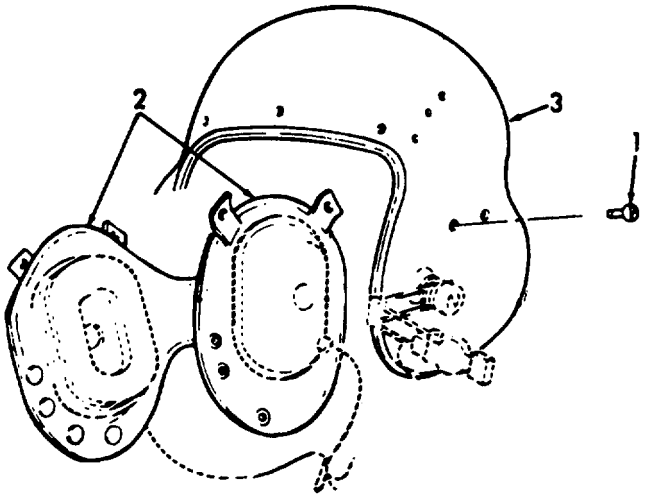


**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

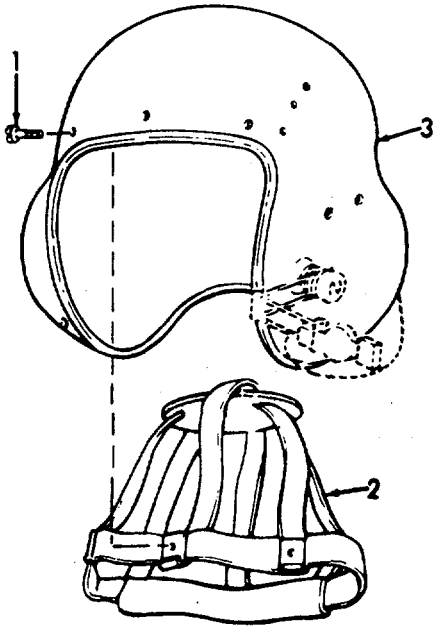
**REMOVAL - Continued**

| | | |
|---|---|---|
| 5. Retention assembly (2) | a. Remove four slotted head screw assemblies (1) securing retention assembly (2) to helmet (3).<br>b. Remove retention assembly (2). | |



**4-21. SUSPENSION ASSEMBLY - Continued**

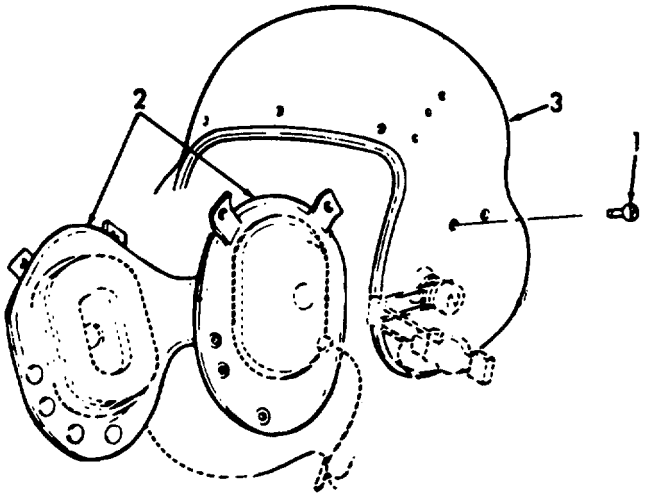
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION - Continued** | | |
| 6. Suspension assembly (2) | a. Remove six screws (1) securing suspension assembly (2) in helmet (3)<br>b. Remove suspension assembly (2). | |




| | | |
|---|---|---|
| **REPLACEMENT** | Replace defective suspension assembly with a serviceable-like item. | |
| **INSTALLATION** | | |
| 7. Suspension assembly (2) | Install in helmet (3) with six screws (1). | Use sealing compound NSN 8030-00-891-8358 on screw threads. |

**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION - Continued** | | |
| 8. Retention assembly (2) | a. Install in helmet (3) with four slotted head screw assemblies (1).<br><br>b. Refer to TM 11-5965-279-13&P and install wiring harness. | Use sealing compound NSN 8030-00-891-8358 on screw threads. |

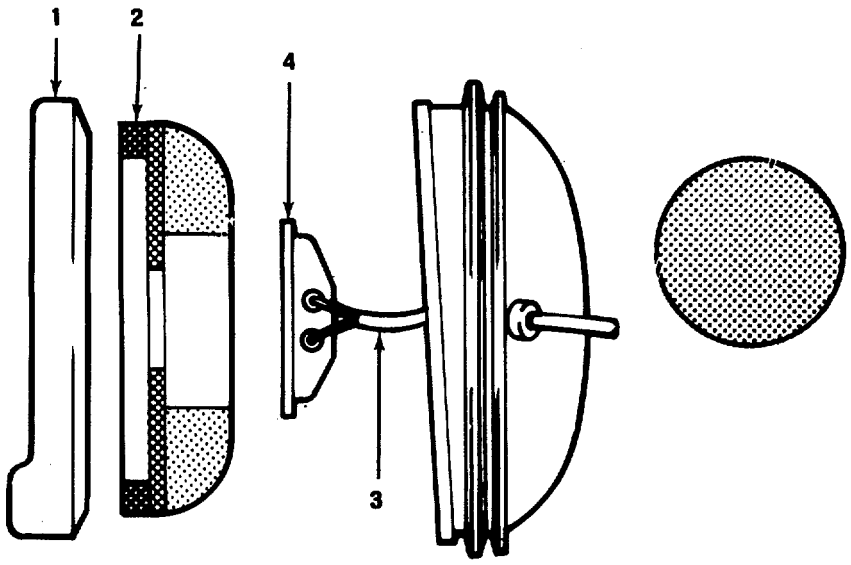


**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

| | | |
|---|---|---|
| 9. Ear cup seal (1), cushion (2) and ear phones | a. Install ear phones (4).<br>b. Refer to TM 11-5965-279-13&P and reconnect wiring harness (3) to ear phones (4).<br>c. Use multimeter to check continuity.<br>d. Install ear cup cushion (2) in ear cup.<br>e. Install ear cup seal (1) over ear cup. | |

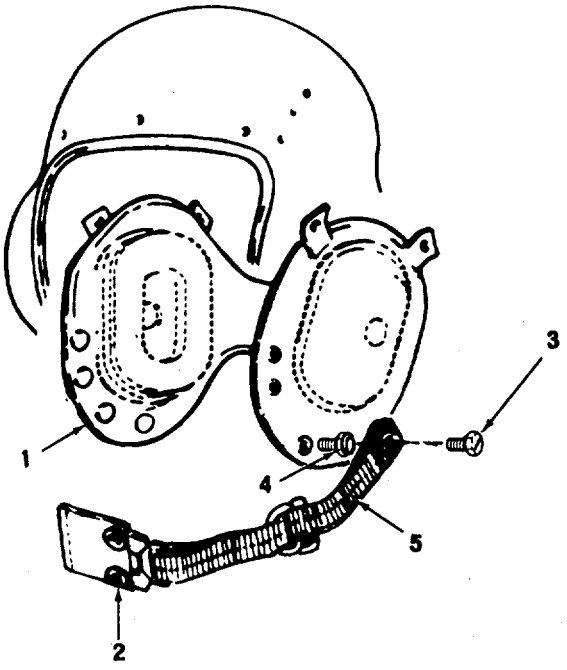


**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

| | | |
|---|---|---|
| 10. Chin strap (5) | a. Install to retention assembly (1) with post (4) and slotted head screw (3).<br>b. Snap fasteners (2) to retention assembly (1) to secure. | |



**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

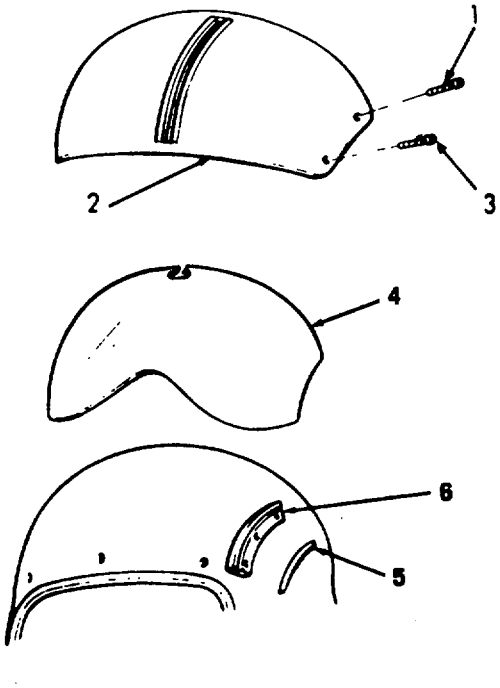
**INSTALLATION - Continued**

11. Visor housing (2)

a. Install visor (4) in visor tracks.

b. Install spacers (5) on visor tracks (6).

c. Install visor housing (2) to helmet with four screw assemblies (1 and 3) and tighten.



**4-21. SUSPENSION ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

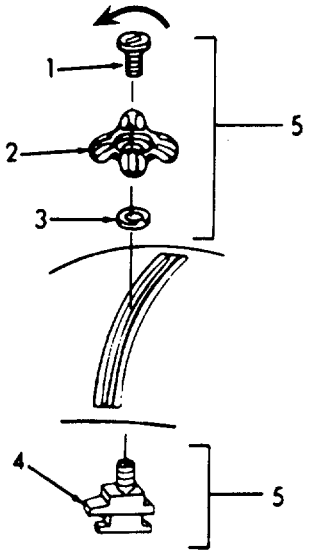
12. Guard lock assembly (5)

a. Install lockstem (4) in visor if removed.

b. Install button head washer (3) cavity side down in button head (2).

c. Install button head (2).

d. Install lockstem center screw (1) in button head.



## 4-22. PAD, EAR CUP CHAFING, EAR CUP ASSEMBLY

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Materials/Parts

Clean cloths
Pad
Synthetic rubber base adhesive
(NSN 8040-00-832-6173)
Appendix D, Item No. 11

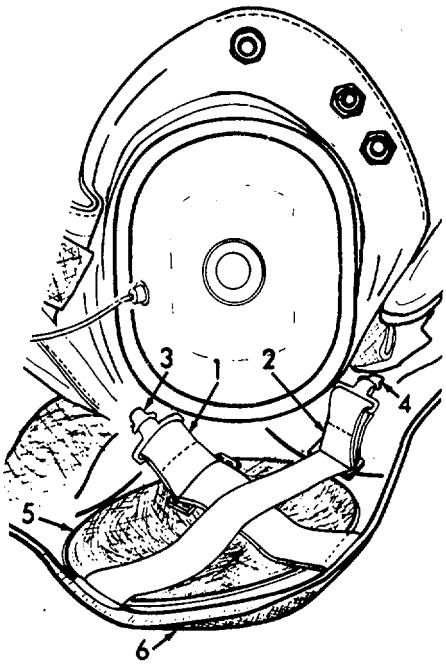
Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| | Inspect for tears, rips or looseness. | |

**4-22. PAD, EAR CUP CHAFING, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **REMOVAL** | | |
| 1. Ear cup cross straps (1 and 2) | Unhook from adapters (3 and 4). | |
| 2. Pad (5) | a. Remove. | Do not remove pad unless inspection reveals tears, rips, looseness or deteriora tion. |
| | b. Remove old adhesive from helmet (6) by rubbing with a clean cloth. | |



**4-22. PAD, EAR CUP CHAFING, EAR CUP ASSEMBLY - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REPLACEMENT**

Replace defective ear cup pad with a serviceable like-item.

**INSTALLATION**

**WARNING**

**Synthetic rubber base adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.**

| | |
|---|---|
| 3. Pad (5) | a. Apply synthetic rubber base adhesive to helmet (6).<br>b. Install pad (5). |
| 4. Ear cup cross straps (1 and 2) | Hook to adapters (3 and 4). |

## 4-23. LINER

This task covers:

a. Removal
b. Inspection
c. Replacement
d. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade, 1/4 inches wide, 4 inches long
(NSN 5120-00-222-8852)
Screw Driver (Special Tool), See Fig. B-1
Spatula, 8 in. blade (Special Tool)
(NSN-7330-00-254-4791)
Multimeter AN/USM-223
(NSN 6625-00-999-7465)
Hex key .035
(NSN 5120-00-188-5400)

References

TM 11-5965-279-13&P

Materials/Parts

Clean cloths
Liner
Rubber base silicone liner adhesive
(NSN 8040-00-833-9563)
Appendix D, Item No. 10
Sandpaper, Grit 00 (NSN 5350-00-221-0883)
Appendix D, Item No. 7
Sealing Compound
(NSN 8030-00-891-8358)
Appendix D, Item No. 8

Personnel Required

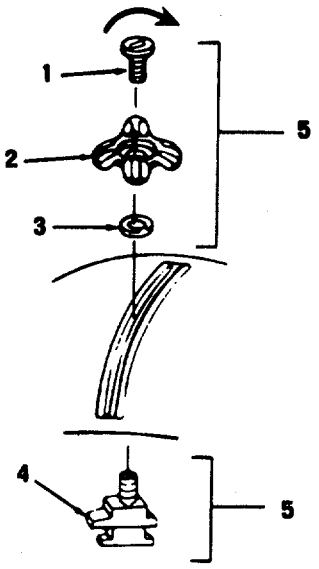
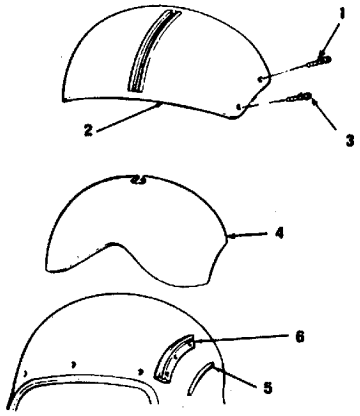
Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**The liner is made of polyurethane and is of the energy-absorbing type and consists of one piece that is bonded to the helmet shell.**

**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| | Inspect for cracks or looseness. | |
| **REMOVAL** | | |
| 1. Guard lock assembly (5) | a. Remove lockstem center screw (1) by rotating in a clockwise direction.<br>b. Remove button head (2) and washer (3) from lockstem (4) by rotating in a counter-clockwise direction. |  |
| 2. Visor housing (2) | a. Remove four screw assemblies (1 and 3) from visor housing.<br>b. Remove visor housing (2).<br>c. Remove spacers (5) from visor tracks (6).<br>d. Remove visor (4). |  |

**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

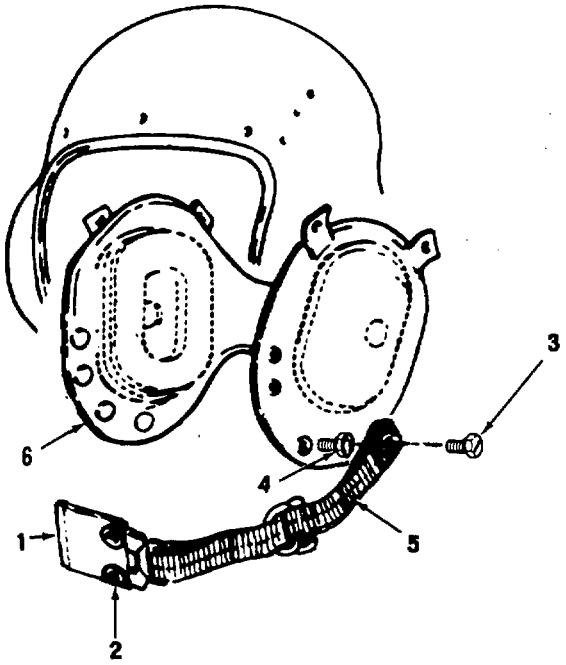
**REMOVAL - Continued**

3. Chin strap

a. Pull on end of strap (1) to release fasteners (2) from retention assembly (6).

b. Remove slotted head screw (3) and post (4).

c. Remove chin strap (5) from retention assembly (6).




4. Ear cup seal and cushion (2)

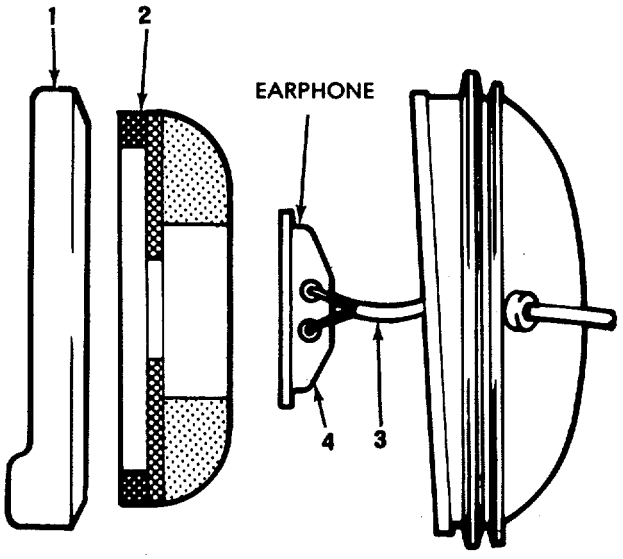
a. Remove ear cup seal (1) and cushion (2).

b. Refer to TM 11-5965-279-13&P, and disconnect wiring harness (3) from ear phones (4).

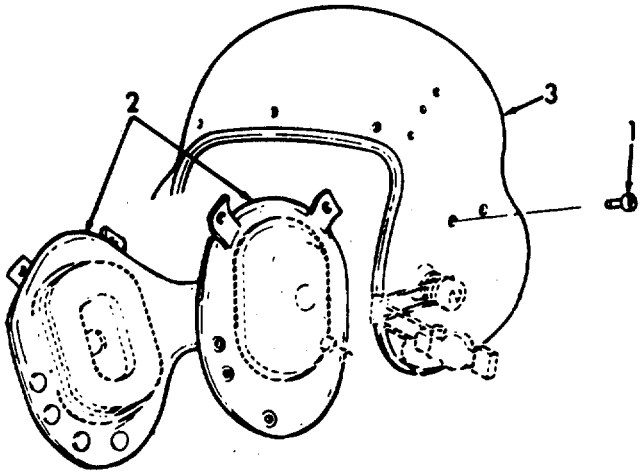
**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**




| | | |
|---|---|---|
| 5. Retention assembly (2) | a. Remove four slotted head screw assemblies (1) securing retention assembly (2) to helmet (3).<br>b. Remove retention assembly (2).<br>c. Refer to TM 11-5965-279-13&P and remove wiring harness. | |



**4-23. LINER - Continued**

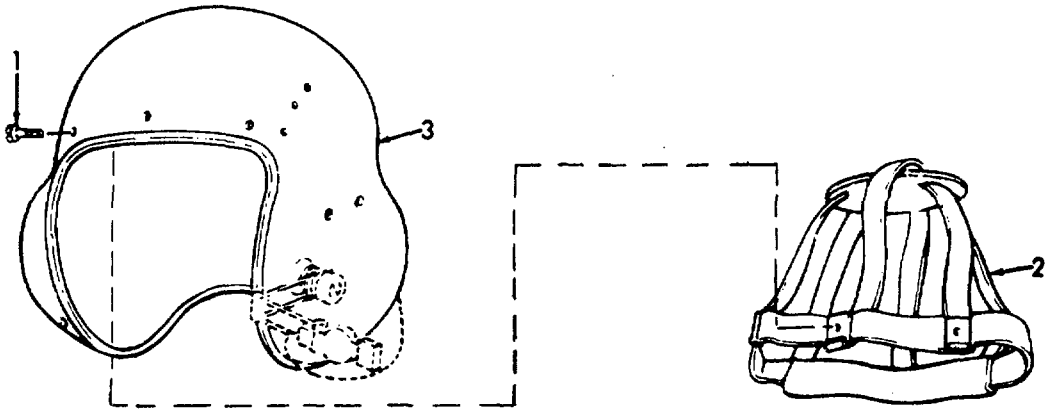
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

6. Suspension assembly

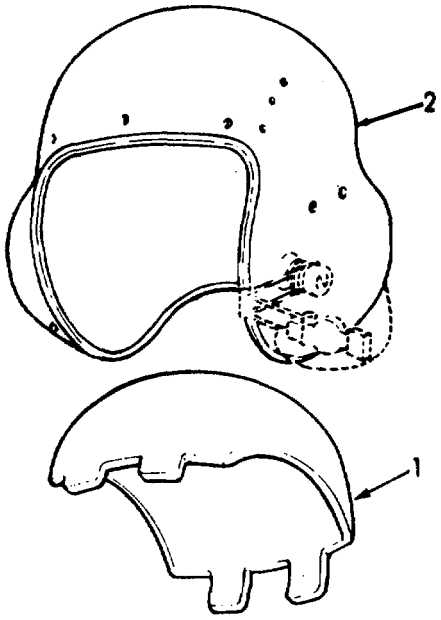
a. Remove six screw assemblies (1) securing suspension assembly (2) in helmet (3).

b. Remove suspension assembly (2).




7. Liner (1)

Using spatula, remove from helmet (2).



**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REPLACEMENT**

a. Replace defective liner with a serviceable-like item.

b. Re-bond a loose liner.

**NOTE**

**The old adhesive need not be completely removed if it is the same type that was used to replace the liner.**

8. Liner

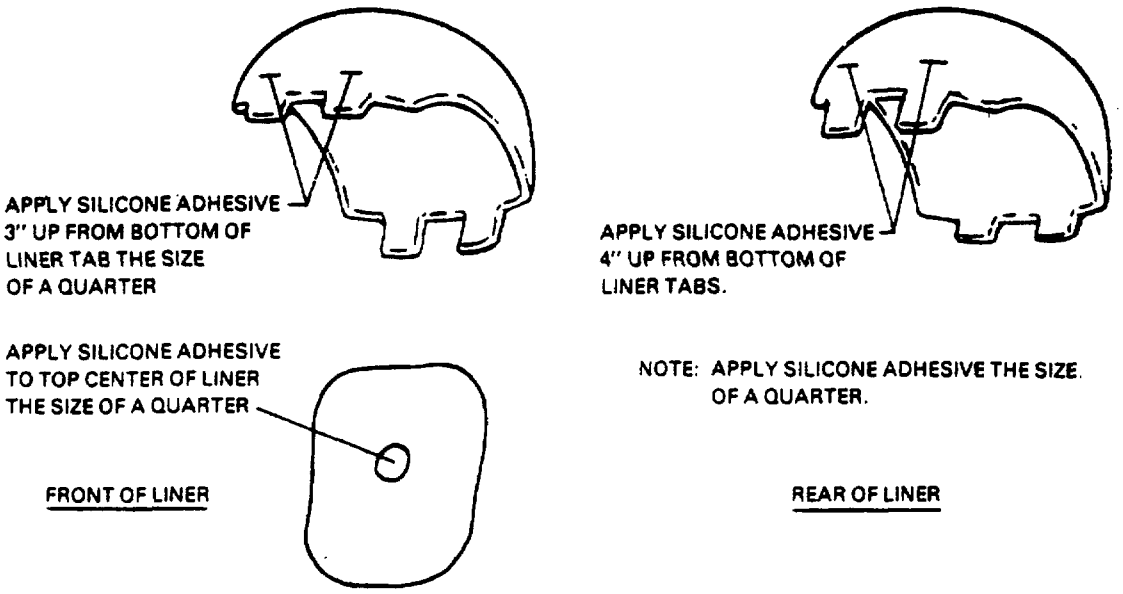
a. Remove old adhesive from helmet shell by rubbing with a clean cloth.

b. if adhesives are different, sand areas where old adhesives do not remove easily, and then wipe out helmet shell with a clean, dry cloth.

**WARNING**

**Rubber base silicone liner adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.**

c. Apply rubber base silicone liner adhesive to helmet shell liner using the 5 point method (B). The amount of adhesive used should be approximately the size of a quarter.

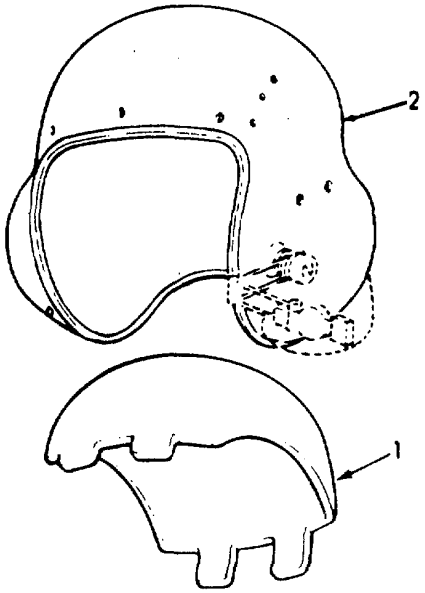


**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

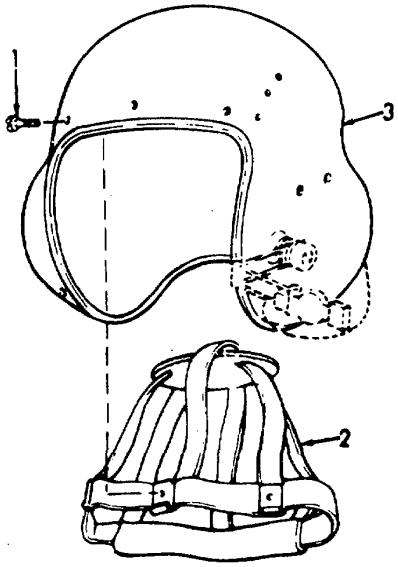
d. Install liner (1) in helmet shell (2).




**NOTE**

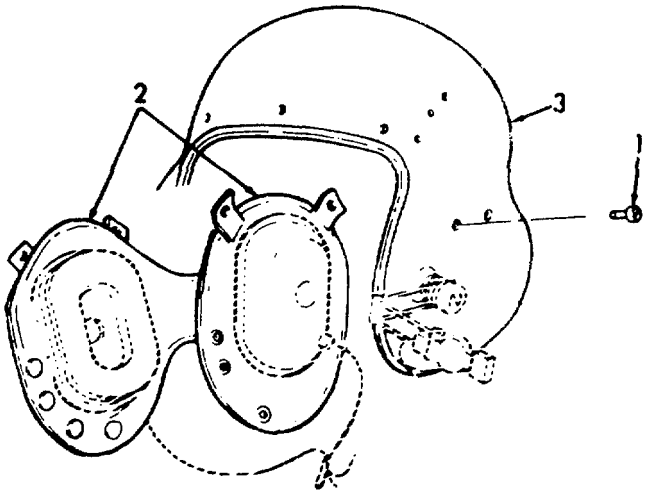
**Allow adhesive to dry 24 hours prior to reassembly of helmet.**

| | | |
|---|---|---|
| 9. Suspension assembly (2) | Install in helmet (3) with six screw assemblies (1). | Use sealing compound NSN 8030-00-891-8358 on screw threads. |

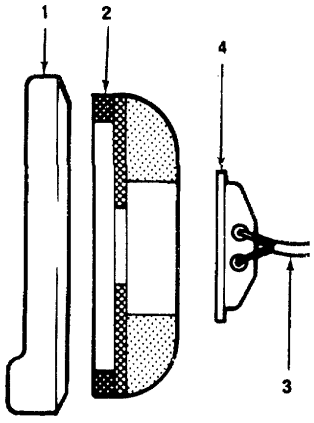


**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION - Continued** | | |
| 10. Retention assembly (2) | a. Install in helmet (3) with four slotted head screw assemblies (1). on screw threads.<br>b. Refer to TM 11-5965-279-13&P and install wiring harness. | Use sealing compound NSN 8030-00-891-8358 |




| | | |
|---|---|---|
| 11. Ear cup seal (1) and cushion (2) | a. Install ear phone (4).<br>b. Refer to TM 11 -5965-279-13&P and reconnect wiring harness (3) to ear phones (4).<br>c. Check ear phones with multimeter for continuity.<br>d. Install ear cup cushion (2) in ear cup.<br>e. Install ear cup seal (1) over ear cup. | |



**4-23. LINER - Continued**

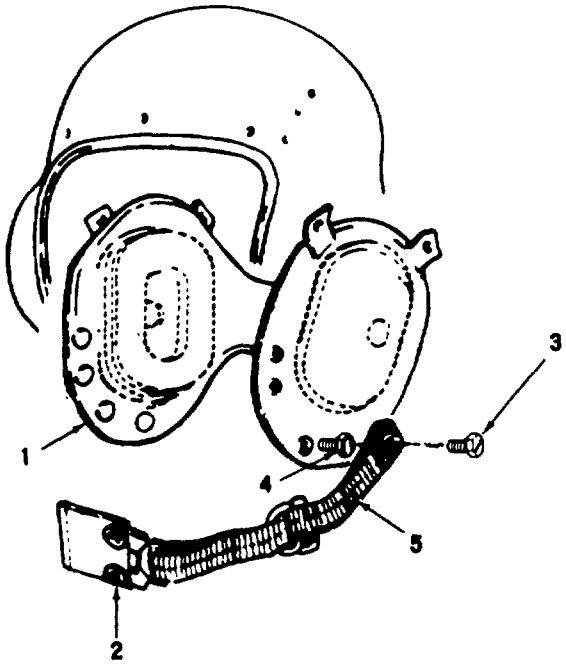
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

12. Chin strap(5)

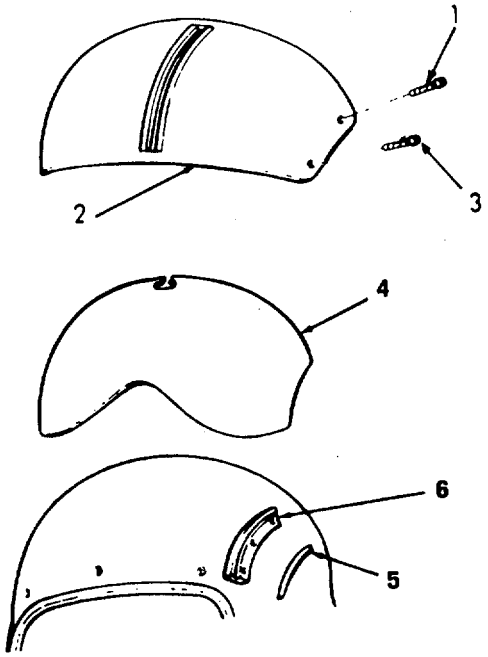
a. Install onto retention assembly (1) with post (4) and slotted head screw (3).

b. Snap fasteners (2) to retention assembly (1) to secure.



**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION - Continued** | | |
| 13. Visor housing (2) | a. Install visor (4) in visor tracks.<br>b. Install spacers (5) on visor tracks (6).<br>c. Install visor housing (2) to helmet with four screw assemblies (1 and 3) and tighten. | |



**4-23. LINER - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

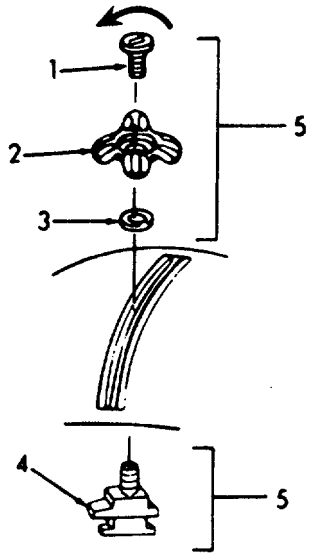
14. Guard lock assembly (5)

a. Install lockstem (4) in visor if removed.

b. Install button head washer (3) cavity side down in button head (2).

c. Install button head (2).

d. Install lockstem center screw (1) in button head.



## 4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY

This task covers:

a. Removal
b. Inspection
c. Installation

INITIAL SETUP

Tools

Screw Driver, Flat Blade,1/4 inches wide, 4 inches long
(NSN 5120-00-222-8852)
Screw Driver (Special Tool), See Fig. B-1
Spatula, 8 in. blade (Special Tool)
(NSN-7330-00-254-4791)
Hex key .035
(NSN 5120-00-188-5400)

References

TM 11-5965-279-13&P

Materials/Parts

Clean cloths
Liner & TPL assembly
Regular P/N A7256-2 X-Large P/N A7256-2
Small Regular P/N A7256-3
Alcohol, Denatured (NSN 6505-00-299-8095)
Appendix D Item No. 13
Sandpaper, Grit 00 (NSN 5350-00-221-0883)
Appendix D, Item No. 7

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

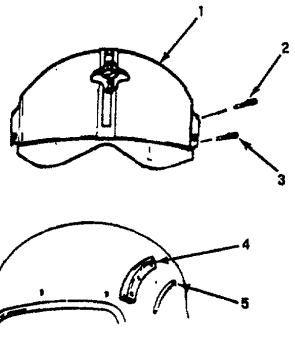
**Following procedures are for helmets NOT converted to the TPL assembly.**

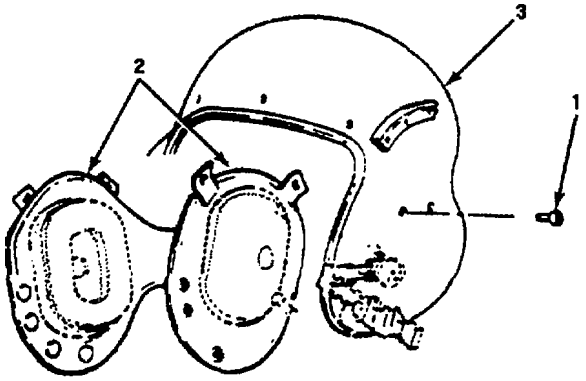
**NOTE**

**The Small Regular TPL Assembly is to be used ONLY WITH the SPH-4 Regular shell and retension assembly.**

## 4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| | Inspect for cracks or looseness | |
| **REMOVAL** | | |
| 1. Visor housing (1) | a. Remove four screw assemblies(2 and 3) from visor housing.<br>b. Remove visor housing (1).<br>c. Remove spacers (5) from visor tracks (4). | |
| 2. Retention assembly (2) assembly | a. Remove four slotted head screw assemblies (1) securing retension (2) to helmet (3).<br>b. Remove retention assembly (2). | |



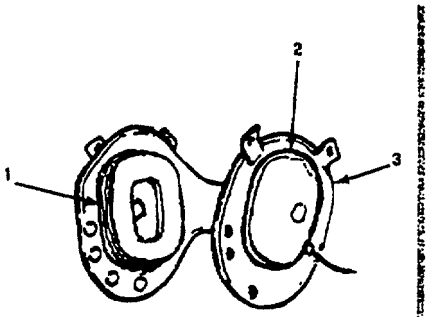
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

3. Ear cup seal (1) and ear cup (2)

   a. Remove ear cup seal (1) and ear cup (2) from retention assembly (3).



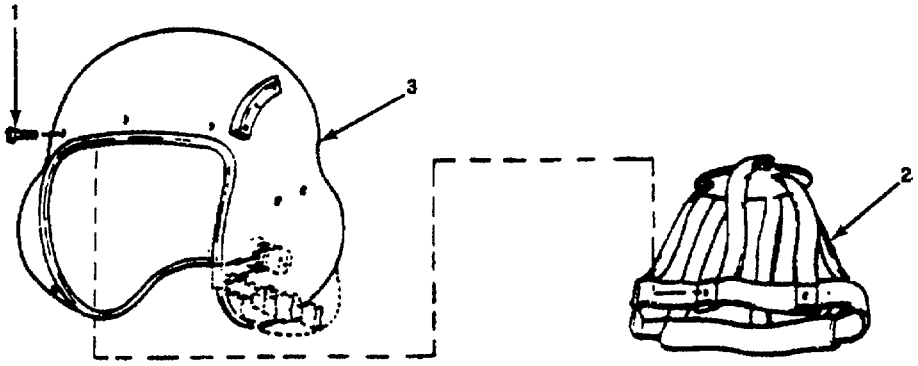

**NOTE**

**Ear cup assemblies must be removed in order to complete the installation of the liner.**

4. Suspension assembly

   a. Remove six screw assemblies (1) Securing suspension assembly (2) in helmet (3).

   b. Remove suspension assembly (2).



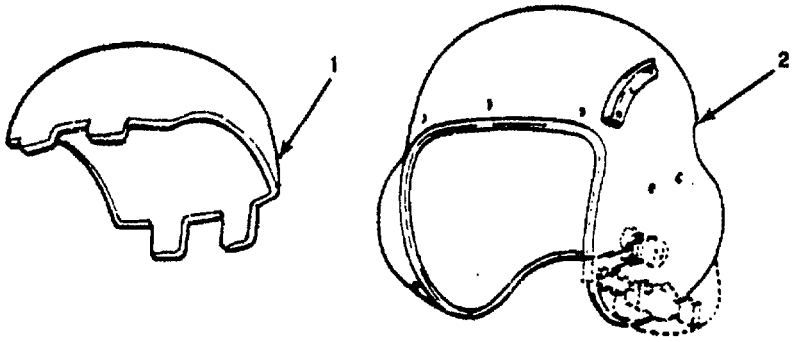
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**REMOVAL - Continued**

5. Liner (1)

Using spatula, remove from helmet (2):




a. Remove old adhesive from helmet shell by rubbing with a clean cloth.

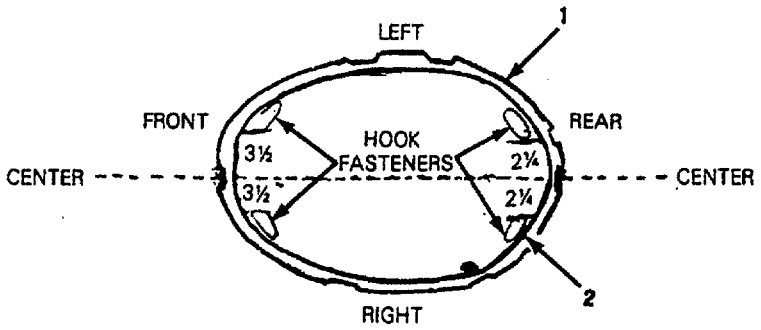
b. Sand areas where old adhesives do not remove easily, and then wipe out helmet shell with a clean cloth moistened with denatured alcohol.

**NOTE**

**Before continuing the installation process. Observe the indentations on the new energy absorbing liner which allow for the retention assembly tabs on either side, communication assembly and receiver leads in the rear, and hook fasteners on the front and rear.**

**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSTALLATION** | | |
| 6. Liner (1) | On the inside front edge of the energy absorbing liner (1 ) mark a center line. Peel off the protective paper from the hook fastener (2) and place it 3-1/2 inches from the center line. Repeat the procedure on the opposite side of the center line. | Insure that the pressure sensitive tape has made a good bond to the liner. |




| | | |
|---|---|---|
| 7. Liner (1) | On the inside rear edge of the liner (1) mark a center line. From the center line make a mark approximately 2-112 inches to the right and another mark 2-1/2 inches to the left. Install the hook fasteners (2) in the same manner as the front. | |

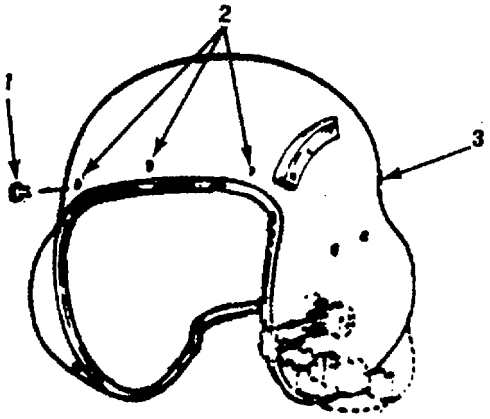
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION-Continued**

8. Rubber Plugs

Insert 3 rubber plugs (1) into the three forward holes where the suspension assembly screws were located (2) in helmet shell (3).

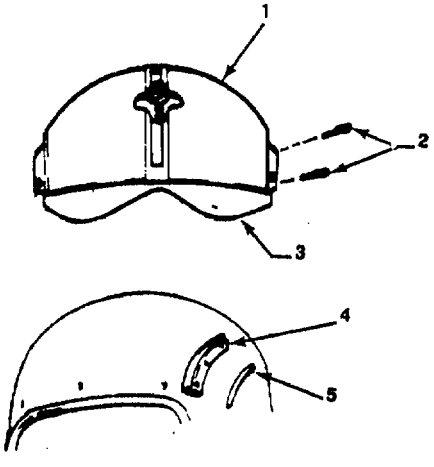



9. Visor housing (1)

a. Install visor (3) in visor tracks.

b. Install spacers (5) on visor tracks (4).

c. Install visor housing (1) to helmet with four screw assemblies (2) and tighten.



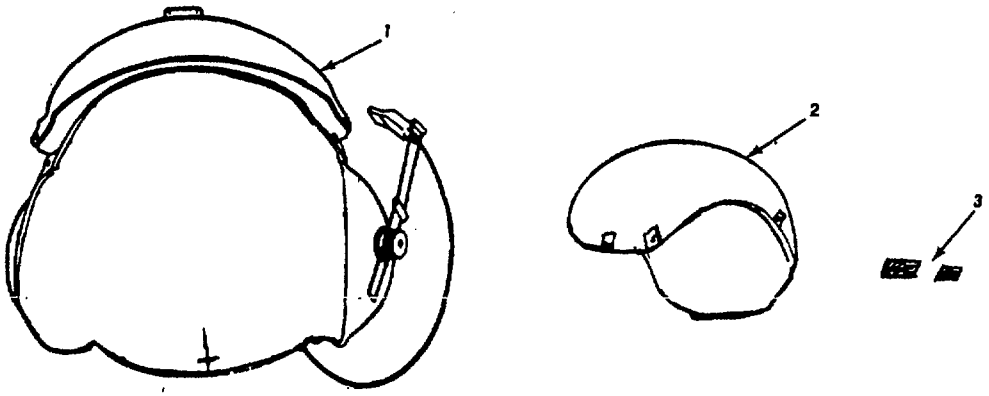
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION - Continued**

10. Visor housing (1)

Mark a center line in the shell (1) in the front and rear from the edge to the center screw hole. Place the new energy absorbing liner (2) in shell (1). Centering the liner. Locate the position of the hook fasteners on the liner and mark it on the shell center line. Remove the liner and install the pile fasteners (3) on the position lines just marked in the shell.

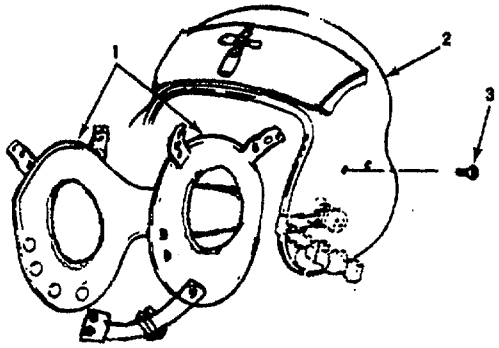



11. Retention assembly (1)

a. Reinstall retention assembly using mounting screws (3) into helmet (2).

**NOTE**

**Earcup assemblies must be removed in order to complete the installation of the liner**



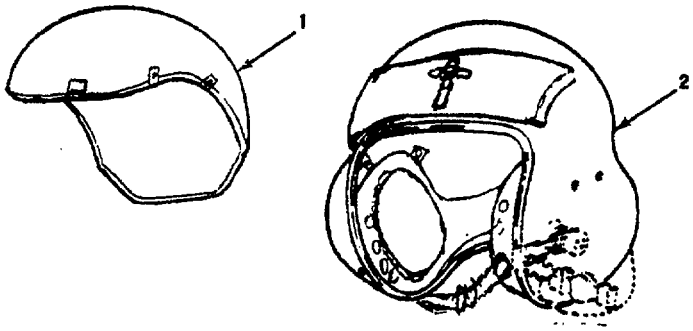
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION-CONTINUED**

12. Visor housing

Fold a 3" X 3" piece of paper over the helmet shell (2) covering the installed pile fasteners. Place the liner (1) into the shell (2),and remove ONLY THE FRONT piece of paper.




**NOTE**

**Ear cup assemblies must be removed in order to complete the installation of the liner.**

**NOTE**

**Work with care to avoid damage to liner and assure that liner is properly aligned with helmet shell.**

13. Communication wire

Route the communication wire between the Liner and Shell, to the appropriate ear cup hole in the retention assembly. Remove the rear piece of 3" X 3" piece of paper.

**NOTE**

**Hold liner away from shell slightly to enable routing ear cups.**

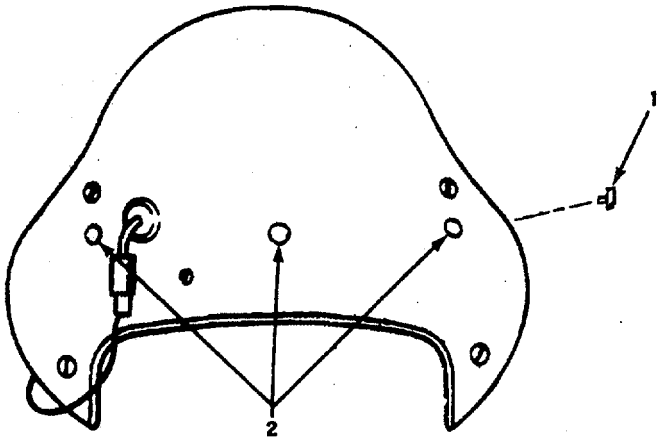
**4-23.1 THERMO PLASTIC LINER (TPL) ASSEMBLY**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION-CONTINUED**

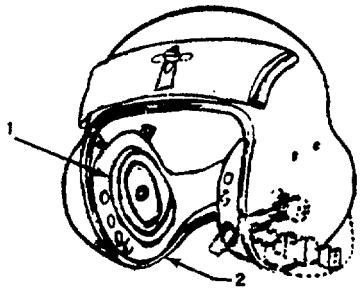
14. Helmet

Insert the three remaining rubber plugs (1) into the rear of helmet (2) where the suspension assembly screw holes are.




15. Ear cup seal and ear cup (1 )

a. Install ear cup seal and ear cup (1 ) in retention assembly(2).



**4-23.1. THERMO PLASTIC LINER (TPL) ASSEMBLY**

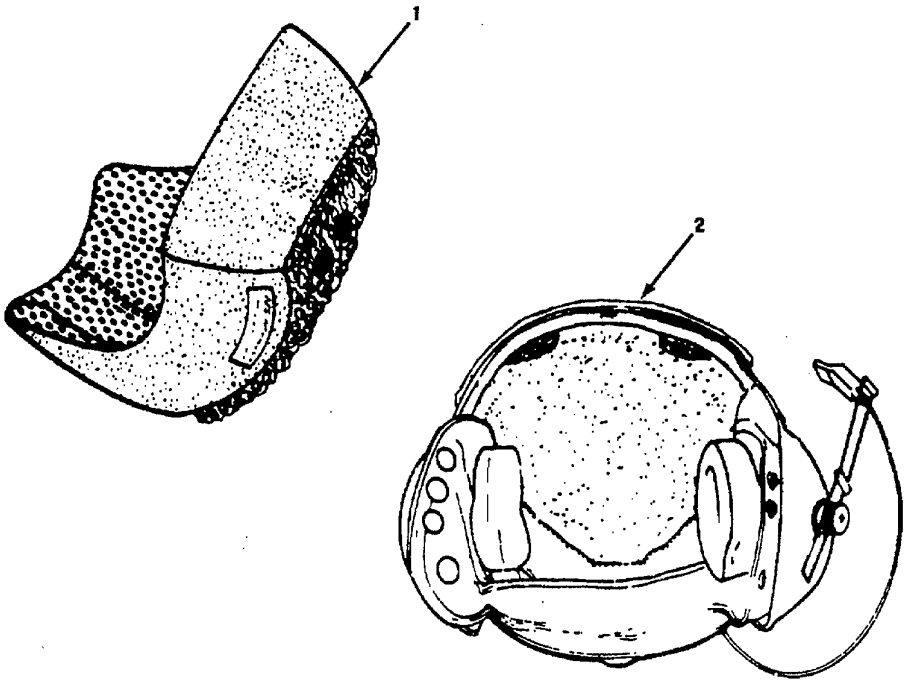
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**INSTALLATION-CONTINUED**

16. TPL assembly — Align the TPL (1 ) front edge with the energy absorbing liner (2), and position the TPL (1 ) crown into the liner (2).

**NOTE**

**Ensure hook fasteners are connected front and rear. Move excess fabric liner to rear of TPL, if any.**




**NOTE**

**Label and holes toward front of helmet**

**Ensure that TPL is symmetrically located from side to side in helmet.**

**Do not be concerned if rear of TPL extends below liner at rear of helmet.**

## 4-24. BEADING

This task covers:

a. Inspection
b. Removal
c. Replacement
d. Installation

INITIAL SETUP

Tools

Razor Blade (NSN 8530-00-162-5626)
Scissors (NSN 5100-00-293-91 99)

Materials/Parts

Beading
Clean cloths
Synthetic rubber adhesive (NSN 8040-00-832-61 73)
Appendix D, Item No. 11

Personnel Required
Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(ALSE Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**
**Rubber beading is bonded to helmet edge. This protects the user from possible injury from sharp edges.**

**INSPECTION**

a Inspect for cracks or looseness.

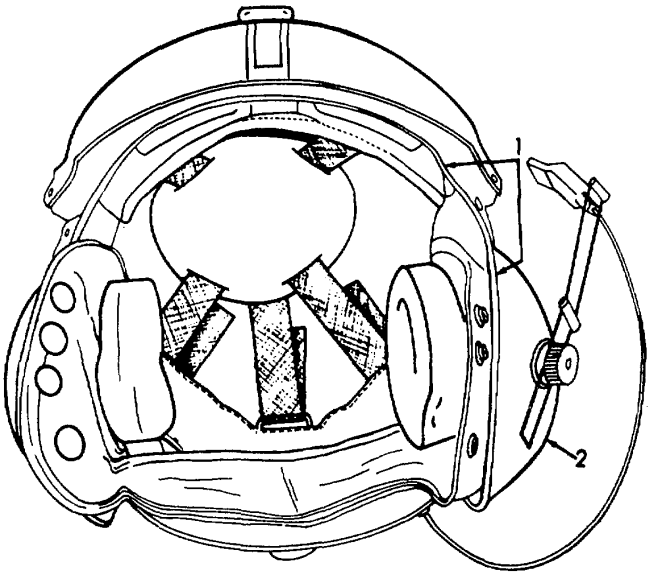
b. Rebond loose beading using synthetic rubber adhesive.

**4-24. BEADING-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

REMOVAL

1. Beading (1)
   a. Remove from helmet shell (2).
   b. Remove old adhesive from helmet by rubbing with a clean cloth.




REPLACEMENT

Replace damaged or defective beading with a serviceable like item.

INSTALLATION

**WARNING**

**Synthetic rubber base adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.**

2. Beading (1)
   a. Coat helmet edge with synthetic rubber adhesive
   b. Install beading (1).
   c. Remove any excess adhesive from helmet shell (2).

## Section VI. PAINTING AND MARKING

### 4-25. PAINTING PROCEDURE

This task covers:

a. Preparation

b. Painting

INITIAL SETUP

Tools

| Screw Driver, Flat tip, 1/4 inch wide, (NSN 5120-00-222-8852) | Condition Para | Equipment Condition Description |
|---|---|---|
| | 4-11 | Visor removed |

Materials/Parts

Clean cloths
Coating, Polyurethane
Olive Drab, No. 34088
(NSN 8010-01 -146-2650)
Appendix D, Item No. 2

Coating, Polyurethane
Olive Drab, No. 34088
(NSN 801041 -055-2319)
Appendix D, Item No. 3

Silicon carbide paper
(NSN 5350-00-2247209)
Appendix D, Item No. 9

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) specialist/Technician or
Personnel with ASI of-Q2-(A.L.S.E. Qualified)

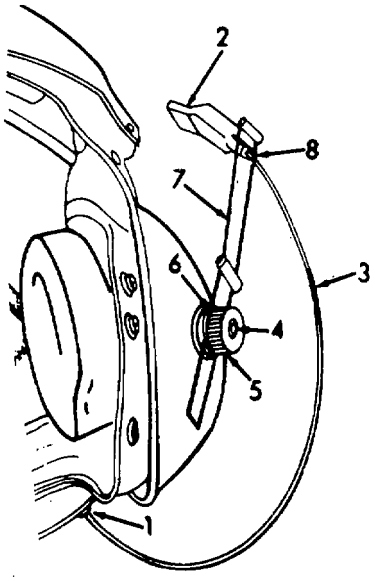
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

Painting instructions are the same for repainting or touch-up.

**4-25. PAINTING PROCEDURE-CONTINUED**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| PREPARATION | | |
| | 1. Disconnect connectors (I and 8) from each end of microphone cord. | |
| | 2. Remove microphone cord (3). | |
| | 3. Remove adjusting nut screw (4), adjusting nut (5) and washer (6). | |
| | 4. Remove boom (7) and microphone (2). | |
| | **NOTE**<br>**Mask rubber grommet and connector, beading and sides of visor tracks.** | |
| | 5. Secure ear cups inside upper area of helmet and cover interior of helmet. | Use heavy wrapping paper or several layers of newspaper to line helmet. |
| | **NOTE**<br>**Do not use solvents or thinner**. | |



**4-25. PAINTING PROCEDURE-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

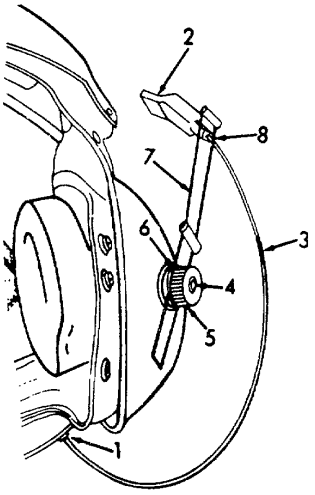
PREPARATION-Continued

6. Sand area to be painted using silicon carbide paper.

7. Wipe sanded area with a clean cloth.

**NOTE**

**Any surface scratch, nick or gouge which cannot be feathered smooth will be cause for rejection of the helmet shell.**




PAINTING

**WARNING**

**Paint could be flammable or toxic in sufficient concentrations, and it could cause dermatitis with skin contact. Care should be taken to avoid breathing the vapors and skin contact. Avoid use while smoking or in the vicinity of open flames.**

1. Place helmet on a stand.

2. Paint helmet with heat resistant lusterless enamel.

3. Allow 72 hours drying time.

**NOTE**

**Be sure first coat is fairly well set before applying second coat.**

4. Apply second coat if required.

## 4-26. MARKING PROCEDURES

This task covers:

Marking

INITIAL SETUP

Tools

Razor blade (NSN 8530-00-762-5629)
Scissors (NSN 5110-00-293-9199)

Materials/Parts

Clean cloths
Reflective tape, orange (NSN 9390-00-656-1186)
Appendix D, Item No.1
Pail
Reflective tape, red (NSN 9390-00-949-7552)
Appendix D, Item No.6
Soap
Water
Reflective tape, red (NSN 9390-00-106-2467)
Appendix D, Item No.4

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of Q2 (A.L.S.E.-Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Major commanders ore authorized to permit marking helmets within their command.**

**Shelf life of tape 1. one year. Store In o cool place. Do not over procure.**

**In time of armed conflict, tape will he removed or painted over until removal of tape is completed.**

**4-26. MARKING PROCEDURE-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| MARKING | | |
| Helmet | a. Clean helmet surface with soap and water.<br>b. Rinse thoroughly and dry with clean lint free cloths.<br>c. Apply tape in major/coin. selected pattern. | |

## Section VII. SHELL, HELMET

### 4-27. HELMET SHELL REPAIR

This task covers:

a. Inspection
b. Removal
c. Repair
d. Installation

INITIAL SETUP

Tools

Screwdriver, Flat Tip,1/4 inch Blade
(NSN 5120-00-222-8852)

Materials/Parts

Clean rags Adhesive (NSN 8040-00-273-8717) Appendix D, Item No.12
Denatured alcohol (NSN 6505-00-299-8095) Appendix D, Item No.13
Sandpaper #80 grit (NSN 5350-00-598- 5537) Appendix D, Item No.14

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of Q2 (A.L.S.E.-Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**WARNING**

**Rubber base adhesive is highly flammable. Do not use while smoking or in the vicinity of an open flame.**

**NOTE**

**The only repair authorized to the helmet shell is to the boom microphone attachment hole, which will be addressed in this section.**

**4-27. HELMET SHELL REPAIR-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| **INSPECTION** | | |
| Helmet Shell | Inspect helmet shell for excess rotation of boom microphone assembly, which may indicate elongation of the attachment hole for the assembly. | |
| **REMOVAL** | | |
| | Remove boom microphone swivel assembly in accordance with TM 11 5965-79-13&P. | |
| **REPAIR** | | |
| Helmet shell Boom microphone swivel hole | a. Abrade one surface of the slotted washer and corresponding inside surface of the helmet shell with #80grit sandpaper. | |
| | b. Clean both abraded surfaces using cloth and denatured alcohol. Allow to dry. | |
| | c Apply thin coating of adhesive to both abraded surfaces and allow to dry 3 to 5 minutes before applying adhesive coated side of slotted washer to corresponding inside surface of helmet shell. | |

**4-27. HELMET SHELL REPAIR-Continued**

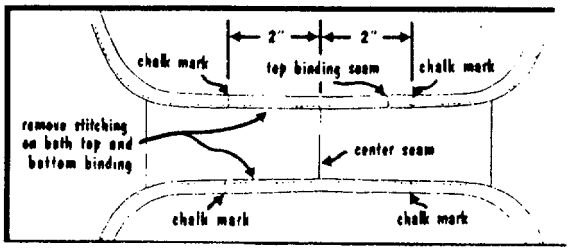
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION | a. Reassemble microphone boom and swivel assembly snugly, as per TM 11-5965-279-13&P.<br>b. Within 2 hours the adhesive should have set and the helmet will be ready for issue. | |

## Section VIII. HELMET RETENTION ASSEMBLY-SIZING

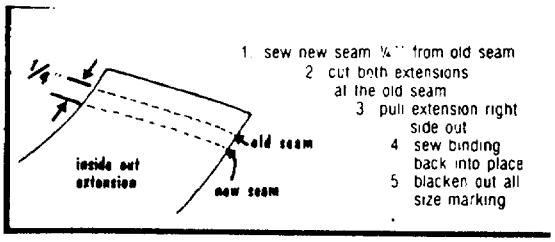
### 4-28. RETENTION ASSEMBLY ALTERATION

With the retention assembly removed from the SPH-4 flyer's helmet, use the following procedures to accomplish the alterations:

- Unfasten buckle from the nape strap.
- Apply a chalk mark 2 inches on both sides of the center seam on the top and bottom binding.
- Carefully remove stitching from the top and bottom binding, taking care not to cut or damage either the binding or the fabric.

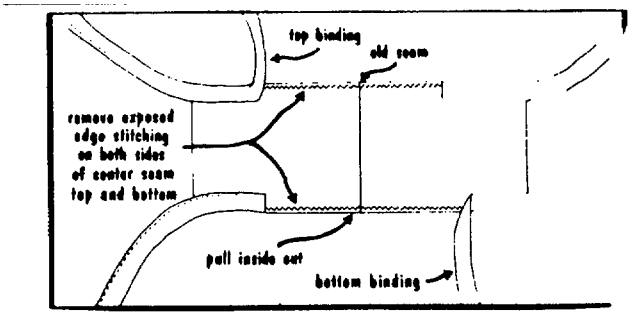



- With the binding loose from the retention assembly, cut the lower binding Opposite end from top binding seam). On the upper binding remove stitching up to the point of overlap. Peel back the binding, exposing the outer edges of material.
- Remove the edge stitching from the top and bottom of fabric 2 inches on each side of center seam, turn each edge of material inside out after edge stitching has been removed.




- Using FED-VT-295, type 1, class 1, subclass A, size E, olive drab nylon thread, seven to nine stitches per inch; sew new seam on each layer of material 1/4 inch in from existing seam, cut fabric at old seam and turn each layer right side out.

**4-28. RETENTION ASSEMBLY ALTERATION-Continued**




- Using original stitch pattern, resew upper and lower edge of fabric.
- Resew binding to material overlapping as required.
- Reinstall nape strap through buckle.

Alteration procedure is used to eliminate excessive bunching of material under nape strap.

## Section IX. NIGHT VISION GOGGLES (NVG) MOUNTING SYSTEMS INSTALLATION

### 4-29. NVG MOUNTING SYSTEM NO.1

This task covers:

a. Preparation

b. Installation

INITIAL SETUP

Tools

Screw Driver, Flat tip, 1/4inch wide,
(NSN 5110-00-222-8852)

Screw Driver, Cross Tip
(NSN 5120-00-240-8716)

Scissors
(NSN 5110-00-293-9199)

Materials/Parts

Clean cloths

Stud, Snap Fastener
NSN 5325-00-276-4930)
Appendix D, Item No.28

Fastener, Tape, Pile
(NSN 8315-00-498-6631)
Appendix D, Item No. 24

Synthetic Rubber Adhesive
(NSN 8040-00-832-6173)
Appendix D, Item No.11

Silicone carbide paper
(NSN 5350-00-224-7209)

Appendix D, Item No. 9

Alcohol, Denatured
(NSN 6505-00-299-8095)
Appendix D, Item No. 13

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(A.L.S.E. Qualified)

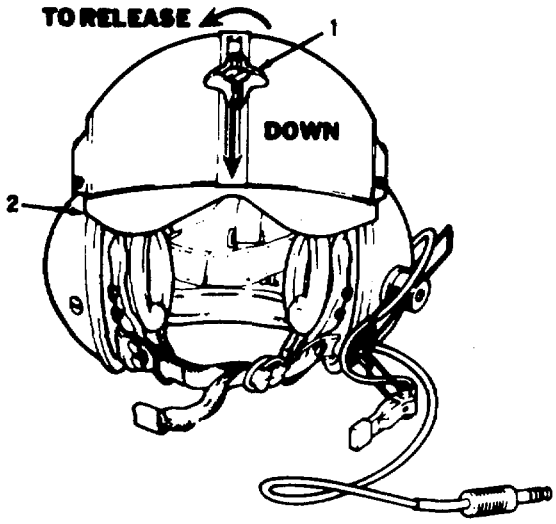
**4-29. NVG MOUNTING SYSTEM NO. 1-Continued**

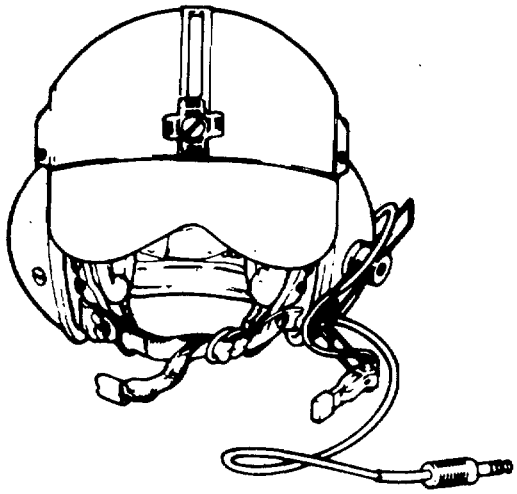
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**
**Deviation from the following procedures requires written approval from AVSCOM.**

**PREPARATION**

1. Visor
   a. Turn visor lock release button head (1) approximately 1/4 turn counter-clockwise to release visor (2).
   b. Move visor lock release button head (1) down to bottom of track.



**4-29. NVG MOUNTING System No. 1-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION

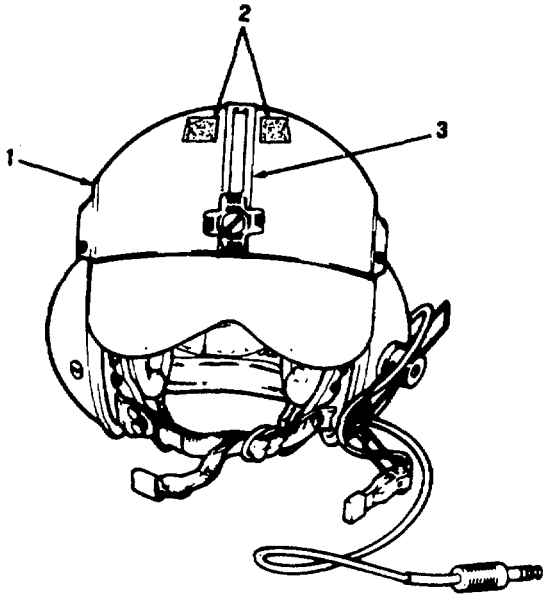
2. Pile Fastener Tape (2)

**NOTE**

**Perform the following steps on both sides of the visor lock (3) to establish on outline to install the pile fastener tape (2).**

a Measure 1/4-inch from top of visor housing (1) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw o line.

b. Measure 3 1/4-inch from top of visor housing (1) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.




c. Measure 1/4-inch from edge of visor lock track (3) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.

**4-29. NVG MOUNTING System No. 1-Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION Continued | | |
| | d. Measure 2 l/4-inch from edge of visor lock track and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line. | |
| | e. Clean area using silicon carbide paper. Sand lightly and remove dust with a clean cloth moistened with denatured alcohol. | |
| | f. Coat the area with synthetic rubber adhesive. Let dry and apply a second coat. | |
| | g. Cut two 3-inch lengths of pile fastener tape. Coat the tape with synthetic rubber adhesive. Let dry and apply a second coat. When the coat becomes tacky, install the tape to the visor housing. | |

**4-29. NVG MOUNTING System No. 1-Continued**

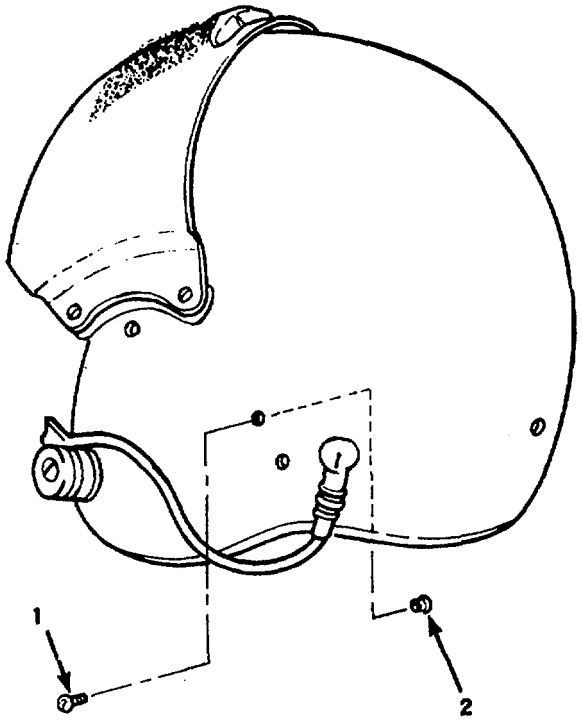
| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION

3. Snap Fastener Stud

a. Remove and discard the rear retention assembly slotted head screw (1) from the slotted screw post (2) on both sides of the helmet.

b. Install a snap fastener stud into the post on both sides of the helmet.



## 4-30. NVG MOUNTING System No. 2

This task covers:

a. Preparation

b. Installation

INITIAL SETUP

Tools

Knife, Craftsman
(NSN 5110-00-596-8098)

Screw Driver, Flat Tip, 1/4 inch wide,
(NSN 5120-00-222-8852)

Screw Driver, Phillips
(NSN 5120-00-240-8716)

Scissors
(NSN 5110-00-293-9199)

Brush, Acid Swabbing
(NSN 7920-00-514-2417)

Sewing Machine
(NSN 3530-00-852-4779)

Tool Kit, Chuck and Die Set
(NSN 5180-00-341-4137)

Drill, Electric 1/4 inch portable
(NSN 5130-00-889-8994)

Drill Set, Twist
(NSN 5133-00-293-0983)

Face Shield
(NSN 4240-00-965-1268)

Scale, Dial Indicator
(NSN 6670-00-939-2540)

Materials/Parts

Alcohol, Denatured
(NSN 6505-00-289-8095)
Appendix D, Item No.13

Clean Cloths

Fastener Tape Pile 2 inches wide O.D.
(NSN 8315-00-498-6631)
Appendix D, Item No.24

Fastener Tape Hook 2 inches wide O.D.
(NSN 8315-00-450-9837)
Appendix D, Item No.25

Synthetic Rubber Adhesive

(NSN 8040-00-832-6173)
Appendix D, Item No.11

Tubing Nonmetal 3/16 in
(NSN 4720-00-141-9080)
Appendix D, Item No.16

Silicon carbide paper
(NSN 5350-00-224-7209)
Appendix D, Item No.9

Power Pack Assembly
(NSN 5855-01-149-41041
Appendix D, Item No.30

Clamp, Loop
(NSN 5340-00-434-9596) (!2 each)
Appendix D, Item No.17

Strap, Tie Down, Electrical
(NSN 5975-00-074-2072) (4 each)
Appendix D, Item No.18

**4-30. NVG MOUNTING System No. 2 - Continued**

Materials/Parts (continued)

Dee Ring
(NSN 5365-00-260-1412) (2 each)
Appendix D, Item No.52

Socket, Snap Fastener
(NSN 5325-00-276-4946) (2 each)
Appendix D, Item No.29

Cap, Snap Fastener
{NSN 5325-00-276-9724) (2 each)
Appendix D, Item No.51

Strap, Assembly
(NSN S8.S.S-00-125-0762) (2 each)
Appendix D, Item No.53

Lead Shot 1 lb
(NSN 9650-00-204-0221)
Appendix D. Item No. 19

Cloth, Duck, Nylon O.D.
(NSN 8305-00-926-6869)
Appendix D, Item No.20

Thread, Nylon, Size E
(NSN 8310-00-262-2772)
Appendix D, Item No.21

Fastener, Tape Hook 1 inch wide O.D.
(NSN 8315-00-106-5973
Appendix D, Item No. 22

Fastener, Tape Pile I inch wide O.D.
(NSN 8315-00-106-5974)
Appendix D, Item No. 23

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(A.L.S.E. Qualified)

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Deviation from the following procedures require written approval from AVSCOM.**

PREPARATION |

1. Visor

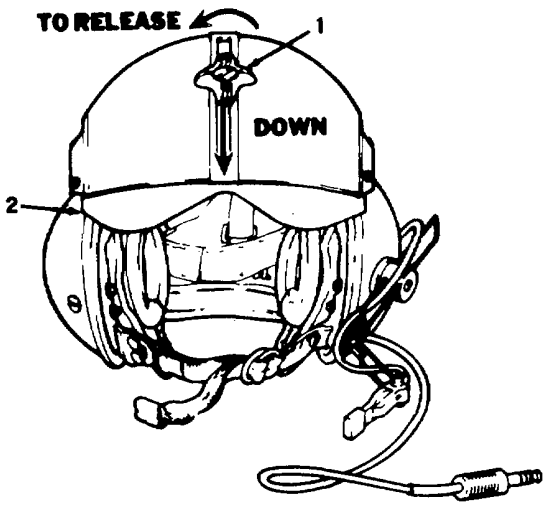
   a. Turn visor lock release button head (1) approximately 1/4 turn counterclockwise to release visor (2).

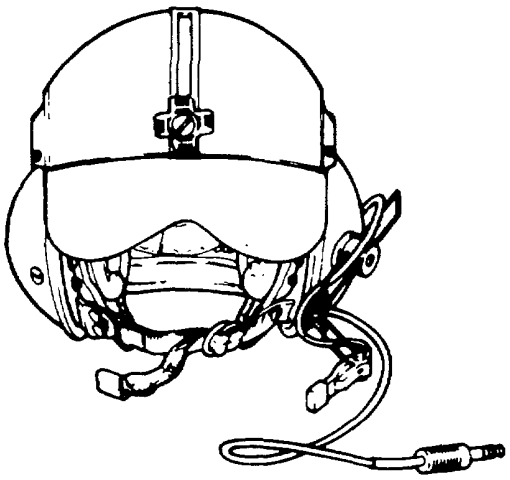
**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

PREPARATION - Continued

b. Move visor lock release button head (1) down to bottom of track.



INSTALLATION

2. Pile Fastener Tape (2)

**NOTE**

**Perform the following step' on both sides of the pallor lock 13) to establish on outline to Install the pile fastener tape (2).**

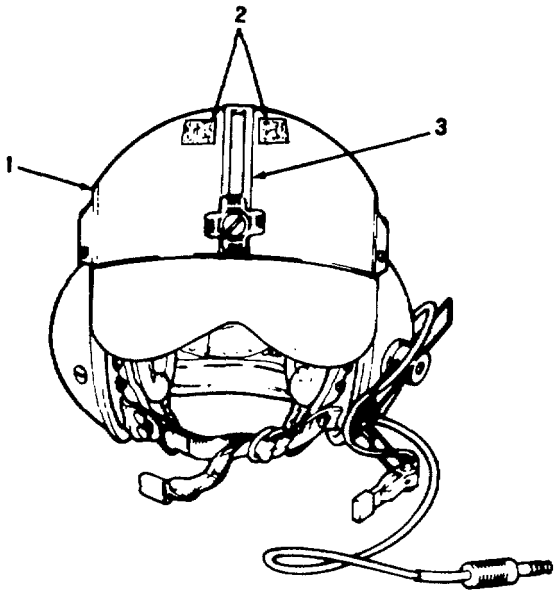
a. Measure 1/4-inch from top. of visor housing (1) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.

**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued

b. Measure 3 1/4-inch from top of visor housing (1) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.




c. Measure 1/4-inch from edge of visor lock track (3) and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.

d. Measure 2 1/4-inch from edge of visor lock track and mark. Repeat the measurement and marking 2-inches from the first mark. Draw a line.

e. Clean area using silicon carbide paper. Sand lightly and remove dust with a clean cloth moistened with denatured alcohol.

**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued

f. Coat the area with synthetic rubber adhesive. Let dry and apply a second coat.

g. Cut two 3-inch lengths of pile fastener tape. Coat the tape with synthetic rubber adhesive. Let dry and apply a second coat. When the coat becomes tacky, install the tape to the visor housing.

**NOTE**

**Use screw (6) as the center line for the following measurements.**

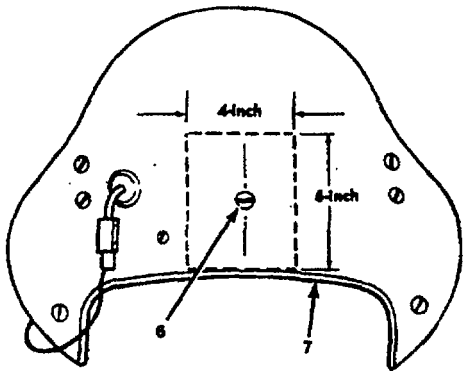
b. Measure 2-inches on each side of the screw (6) and mark. Repeat the measurements just above the edge beading (7) and mark.

i. Draw a 5-inch line from the edge beading on each side of the screw.

j. Draw a 4-inch line connecting the two lines.

**NOTE**

**If additional pile fastener tape is required, it may be added to the back of the helmet. A piece 4 x 5 is the minimum amount required Additional tape may be added, for a larger size, to be attached horizontally, but not overlapping to accommodate the power pack and counterweight.**



**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued

k. Remove and retain screw (6).

l. Clean Area using silicon car bide paper. Sand lightly and remove dust with a clean clot moistened with denatured alcohol.

m. Coat the area with synthetic rubber adhesive. Let dry and apply a second coat.

n. Cut two 5-inch lengths of pile fastener tape. Cut enough from each tape to Allow for the screw (6). Coat the tape with synthetic rubber adhesive. Let dry and apply a second coat. When the coot becomes cocky, install the tape to the helmet.

o. In stall screw (6).

3. Tubing Assembly

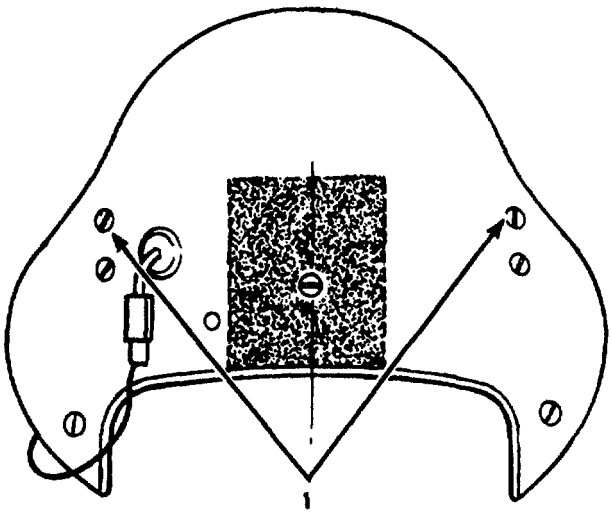
**NOTE**

**Per form steps a thorough f twice to Install two clamps end develop two snap release assemblies.**

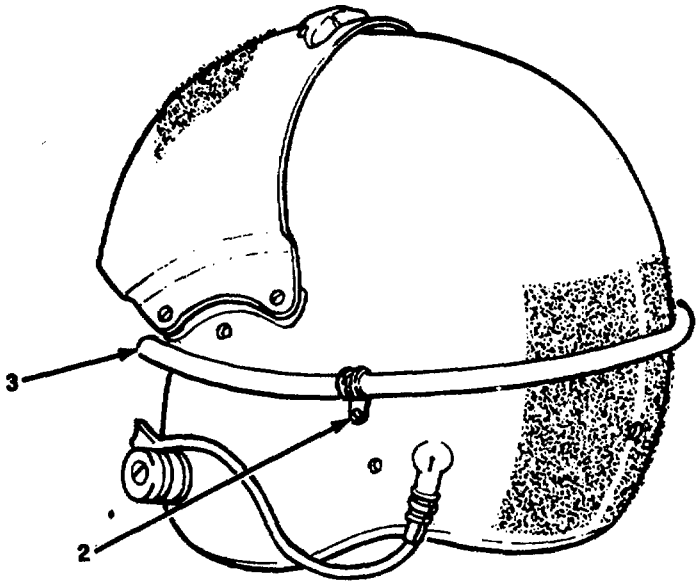
**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |

a. Remove screw (1). In stall clamp (2), with loop end up, and secure with screw.



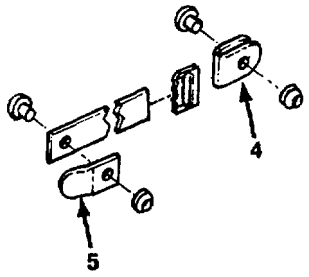

b. Cut o 24-inch length of 3/16-inch nonmetal tubing (3). Install tubing through clomp.



**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |

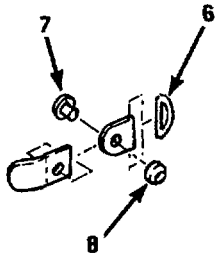
c. Remove totes (4) and (5) from strop assembly. Discard remainder of strap assembly.




d. Loop tab (4) through dee-ring (6). Insert tab (5) into tab (4) aligning the holes.

e. Insert snap fastener cap (7) through the tabs and mate with the snap fastener socket (8). Assure the bent end of tab (5) faces cap A).

f. Secure snap release assembly using chuck and die set tool kit.

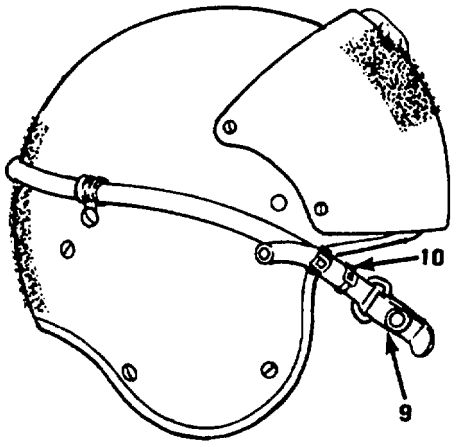


**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |

g. Insert tubing (3) through one snap release assembly (9) and fold back.

h. Mount two tie down strops (10) over the folded tubing. Stretch tubing and pull the tie straps tight. Remove excess over 1-inch in length.




i. Mount the NVG to the helmet.

j. Insert the snap release assembly (9) into the NVG.

k. Repeat steps g and h. Do not tighten the two tie down straps.

**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued

**NOTE**

**The helmet must be properly fitted to the user prior to attaching the NVG for final adjustment.**

l. Insert second snap release assembly into the NVG.

m. Pull end of tubing to obtain a snug fit for the NVG. Pull the two tie down straps tight. Remove excess tubing over 1-inch in length.

4. Counter Balance Pocket.

a. Cut a 4 1/2 x 9 3/4-inch length of O.D. nylon duck cloth.

b. Cut one each 4 1/2-inch length of 1inch pile fastener tape (1), 1-inch hook fastener tape (2), and 2-inch hook fastener tape (3).

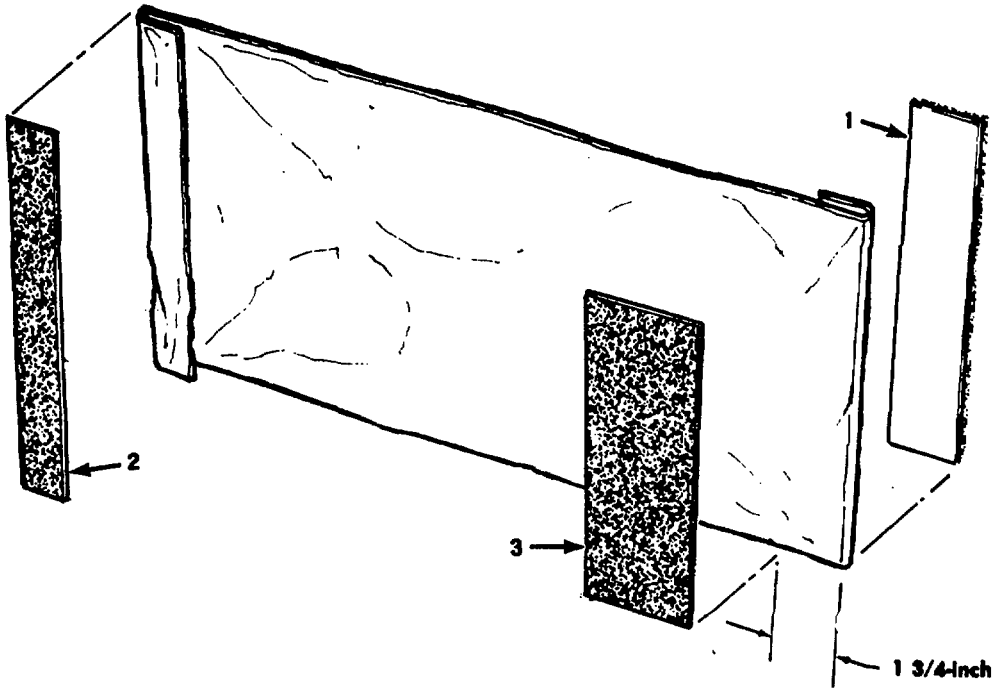
c. Fold o 1/4-inch hem on one end of the cloth; place the 1-inch pile fastener tape (1) over the fold and sew the tape to the cloth.

d. Turn the cloth over.

**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - Continued



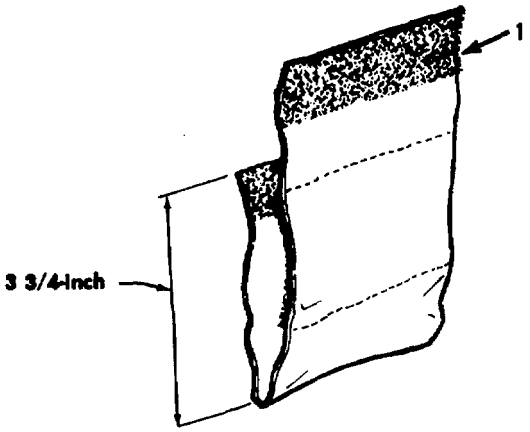

e. Fold o 1/4-inch hem on the opposite end of the cloth; place the l-inch hook fastener tape (2) over the fold and sew the tope to the cloth.

f. Measure 1 3/4-inch from the opposite end of the cloth; place the 2-inch hook fastener tape (3) and sew the tape to the cloth.

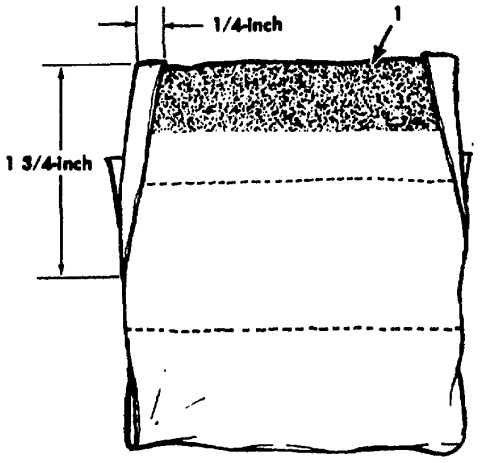
**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |

g. Fold the material, 3 3/4-inches, forming o pocket with the pile fastener tape (1) on the outside.




h. Fold o 1 3/4-inch tapered seam over the pile fastener tape (1) and sew a double stitch along both sides.




i. Turn the pocket out exposing both hoof; fastener tapes.

**4-30. NVG MOUNTING System No. 2**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|
| INSTALLATION - Continued | | |

j. Mount the pocket on the rear of the helmet below the dual battery pock.

k. Mount the NVG to the helmet.

l. With the helmet on the user, fill the pocket with lead shot until the helmet is balanced on the users head.

**WARNING**

**Do not exceed 22 ounce. of teed shot. Additional weight may Inflect strain on the users neck.**

m. Close pocket.

## 4-31. NVG MOUNTING SYSTEM NO. 3 GX-5 DELETED

Pages 4-106 through 4-126 deleted.

## 4-32. AN/AVS-6(V)1 and (V)2 MOUNTING

This task covers:

Installation of AN/AVS-6(V)1 and (V)2 mounts.

INITIAL SETUP

Tools

Screwdriver, Flat Tip, 1/4 inch wide
(NSN 5120-00-222-8852)

Screwdriver, Cross Tip
(NSN 5120-00-240-8716)

Scissors
(NSN 5110-00-293-9199)

Materials/Parts

Mount Assembly AN/VS-6(V)1
(NSN 5855-01-151-4229)

Offset Mount Assembly AN/VS-6(V)2
(NSN 5855-01-151-4230)

Fastener Tope, Hook and Pile Attachment
(NSN 5855-01 -149-4108)

Power Pock Assembly
(NSN 5855-01 -149-4104)

Personnel Required

Aviation Life Support Equipment
(A.L.S.E.) Specialist/Technician or
Personnel with ASI of-Q2-(A.L.S.E. Qualified)

**4-32. AN/AVS-6(V)1 and (V)2 MOUNTING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

**NOTE**

**Deviation from the following procedures require written approval from AVSCOM.**

**WARNING**

**DANGER OF EXPLOSION**

- Batteries used in this equipment contain sulphur dioxide gas under pressure.
- Do NOT heat, puncture, disassemble, short circuit, or" tempt to recharge, or other-wise temper with batteries.
- Turn off equipment if battery comportment becomes abnormally hot. If possible, wait until batteries hove cooled before removing them.
- Batteries have safety vents to prevent explosion. When they are venting go', you will smell it (very irritating) or hear the sound of gas escaping. When safety vents hove operated, Lotteries ore fairly safe from bursting but must still be handled with core because of heat.

**WARNING**

**TOXIC MATERIALS**

- The image intensifier tube in each monocular contains toxic materials
- A broken tube may be caused by damage to the binocular assembly, specially if the monocular housing is crocked by force.
- If the tube breaks:

  Do NOT inhale phosphor screen material.
- Do NOT allow phosphor Screen material to come in contact with mouth or open wounds.
- If phosphor screen material comes In contact with skin, wash immediately with soap and water.
- If phosphor screen materiel inhaled/ swallowed, induce vomiting, then see doctor right away.

**4-32. AN/AVS-6(V)1 and (V)2 MOUNTING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

DESCRIPTION

There ore two models of the ANVIS:

- The AN/AVS-6(V)1 mounts directly into standard SPH-4 flight helmet.

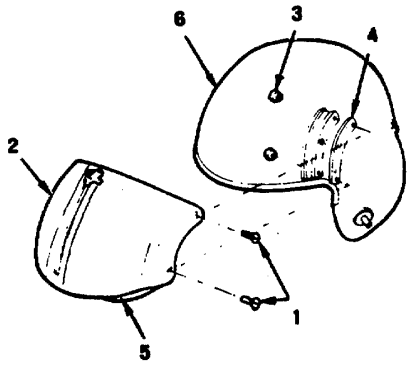
· The AN/AVS-6(V)2 has on offset mount that allows it to be attached to the SPH-4 helmet modified with the helmet-mounted sight system .

- Assemble and Prepare for Use. The AN/AVS-6(V)1 and AN/AVS-6(V)2 models of ANVIS consist of a shipping and storage case that Contains a mount and a carrying case. Open the shipping and storage case and check that the above items are in it. Remove the carrying case and check to be sure that the following parts are it:

- Binocular assembly.
- Power pack.
- Screwdriver.
- Operator's manual.
- Package of lens paper.
- Neck cord.
- Velcro attachment.

INSTALLATION - AN/AVS-6(V)1

1. Standard Visor Removal




a. Use screwdriver provided in carrying case. Remove all four attachment screws (1) from SPH-4 visor housing (2). Set screws aside.

**NOTE**

**If retaining nuts (3) foil out of helmet, set them aside too. If tape Is available, tape retaining nuts to inside of helmets**

b. Remove and set aside the two spacers (4). If spacers do not drop off, leave them on.

c. Slide SPH-4 visor housing (2) and visor (5) off the helmet (6).

**4-32. AN/AVS-6(V)1 and (V)2 MOUNTING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

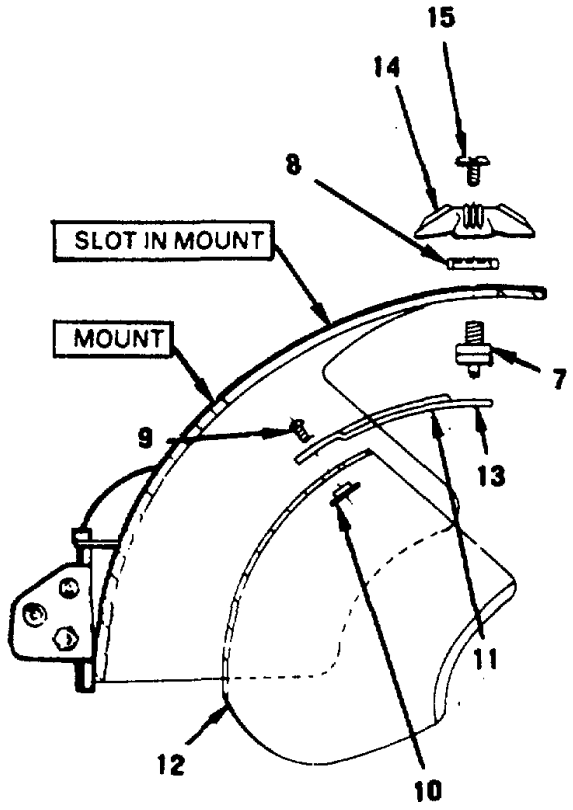
INSTALLATION - AN/AVS-6(V)1 - Continued

2. Visor Installation in ANVIS Visor Housing

a. Use screwdriver from carrying case. Remove guard lock lockstem (7) from SPH-4 visor housing by turning it clockwise.

b. Unscrew by hand the guardlock release button head.

c. Pick button-head washer (8) up off the stem.




d. Turn stem one-fourth turn and slide it out of slots in SPH-4 visor housing and visor.

e. Separate visor from SPH-4 visor housing.

f. Remove screw (9) and nut (10) from extension strap (11).

g. Insert nut (10) into slot in visor (12). Place extension strap over nut. Insert screw.

h. Tighten screw carefully. Do not over tighten.

i. Position stem (7) up through the slots (13) in extension strap and mount.

j Place button-head washer (8) onto stem (7).

k. Screw lock release button head (14) by
hand onto stem.

l. Use screwdriver to screw guard lock assembly stem center screw (15) counterclockwise into stem.

m. Lock visor in full UP position.

n. Align spacers with attachment screw holes.

o. Align visor and mount with frocks in helmet.



Change 1 4-130

**4-32. AN/AVS-6(V)1 and (V)2 MOUNTING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - AN/AVS-6(V)1 - Continued

3. AN/AVS-6{V)1 Visor Housing Installation on SPH-4.

a. Slide housing (16) to line up screw holes.

b. Press attachment screws (17) through the holes in the housing and those in the spacers (18) and helmet. Hold retaining nuts (19) inside helmet.

c. Engage screws with retaining nuts inside helmet.

d. Insert all four screws first before tightening.

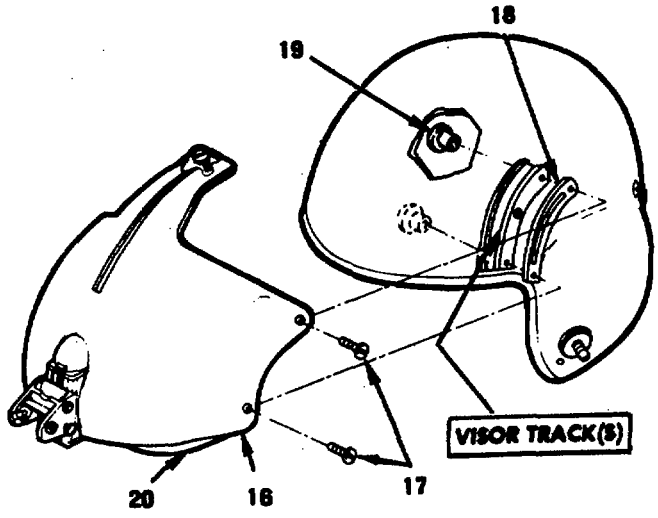
**CAUTION**

**Do NOT overtighten screws because overtightening can strip threads.**

e. Tighten screws.

f. Make sure that visor moves freely.

g. Wipe visor 120) clean with soft cloth.



**4-32. AN/AVS-6(V)1 and (V)2 MOUNTING - Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - AN/AVS-6(V)1 - Continued

4. Install or replace offset mount (AN/AVS-6(V)2).

   a. Use a flat table.

   b. Set and lock visor in full UP position

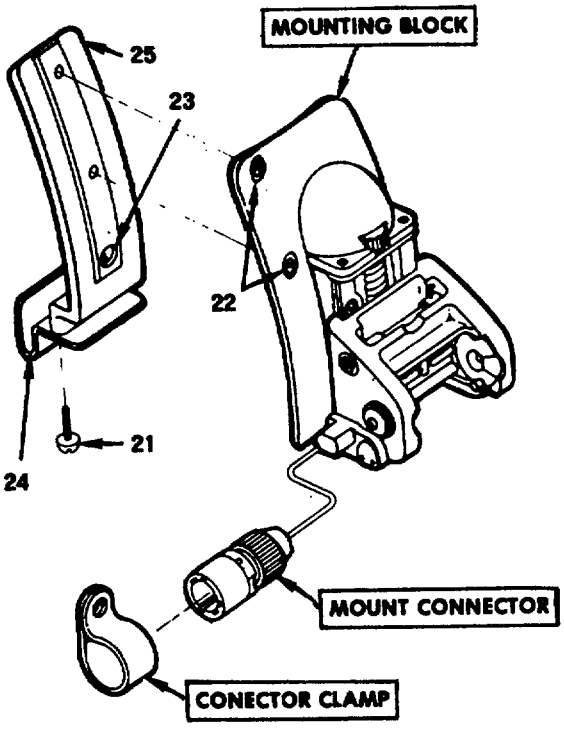
   c. Remove both spacer screws (26) from spacer (27).

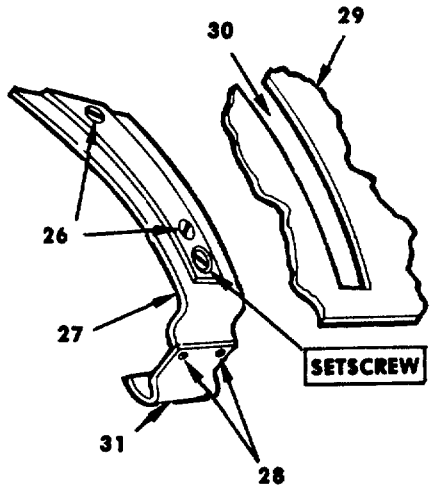
   d. Loosen but do not remove both spring clip screws (28).

The offset mount comes with spring clip screws (21), spacer screws (22), setscrew (23), and a spring clip (24) attached to the spacer (25).

**NOTE**

**Offset Mount fits onto the existing visor housing of SPH 4 helmet modified with helmet-mounted eight system.**




   e. Slide spacer (27) up between visor housing (29) and visor. Pad on the spacer must match slot (30) in the visor housing.

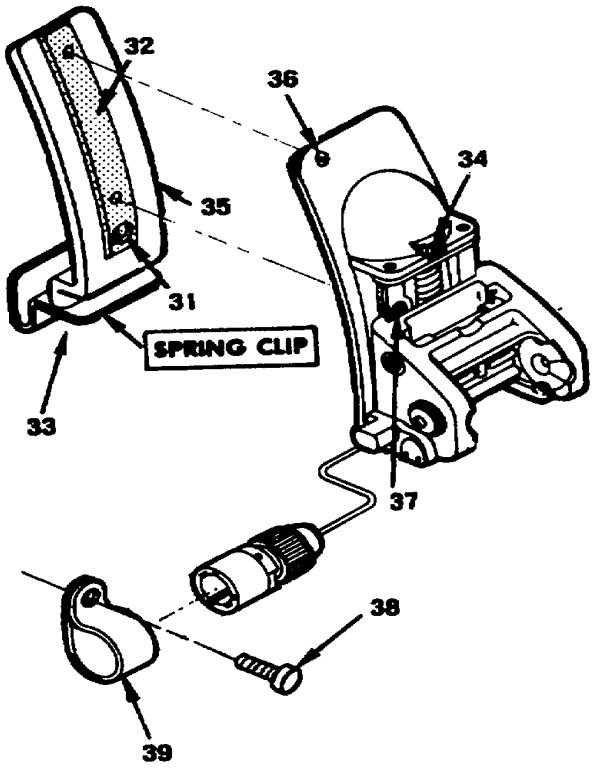
   f. Match cupped part of spring clip (31) to lower edge of helmet. Press up onto lower edge.

**14-32. AN/AVS-6(V)1 AND (V)2 MOUNTING -Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - AN/AVS-6(V)2 - Continued

5. Spacer Installation/Replacement




a. Tighten setscrew (31) until pad (32) on spacer is almost flush with slot in visor housing. Do not overtighten.

b. Tighten both spring clip screws (33).

c. Turn vertical adjustment knob (34) to set mounting block at its lowest position.

d. Align two holes in mounting block to two holes in spacer (35).

e. Insert spacer screws (36 and 37) and tighten.

f. Remove lower right-hand visor housing attachment screw (38).

g. Place connector clamp (39) over screw hole.

**NOTE**

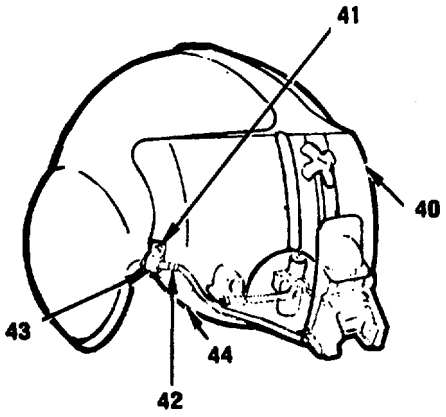
**Press finger against retaining nut Inside helmet while remounting attachment screw.**

**14-32. AN/AVS-6(V)I AND (V)2 MOUNTING- Continued**

| LOCATION/ITEM | ACTION | REMARKS |
|---|---|---|

INSTALLATION - AN/AVS-6(V)2 - Continued

6. Offset Mount Installation




a. Attach clamp to visor housing (40) by remounting attachment screw (41). Do NOT tighten it down yet.

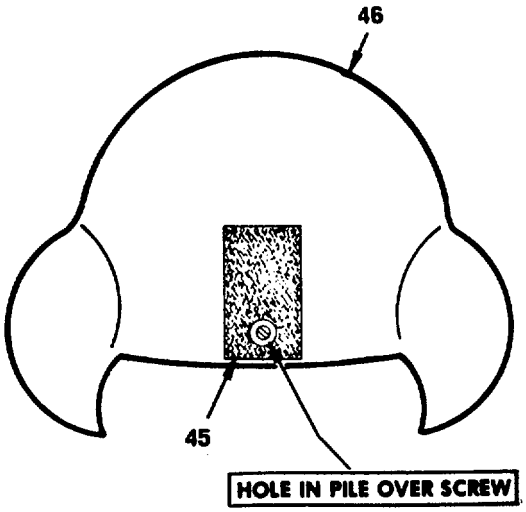
b. Insert power pack mount connector (42) into clamp (43).

c. Tighten down clamp.

**NOTE**

**The visor (44) cannot be used when the offset mount is installed.**

7. Fastener Tape, Pile Attachment




a. For both AN/AVS-6(V)1 and (V)2, install fastener tape pile (45).

**NOTE**

**Make sure that back of helmet is clean. See Task No. 4-29.**

b. Remove backing from fastener tape, pile.

c. Center and attach to back of helmet (46).

## SECTION X. INSTALLATION INSTRUCTIONS FOR OXYGEN MASK

### 4-33. SPH-4 HELMET ALTERATIONS.

Use the following procedures to accomplish the alterations:

SPH-4 helmets require two alterations.

The first alteration requires installation of two receiver mechanisms (Figure 3-1). The second alteration requires installation of the boom microphone attachment (7).

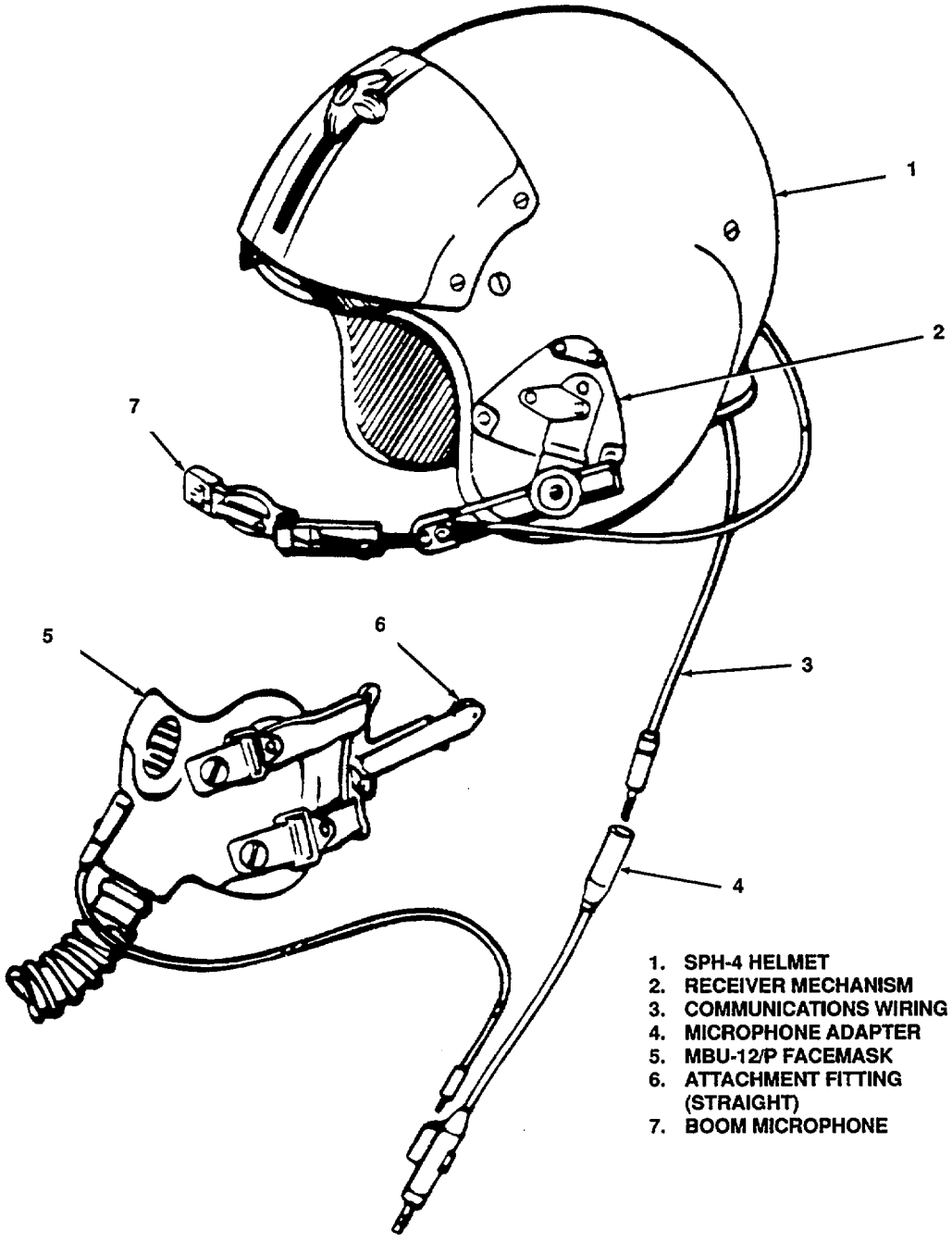
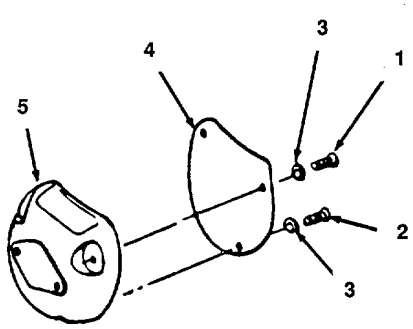



Figure 3-1. SPH-4 Flight Helmet

## 4-34. INSTALLATION OF RECEIVER MECHANISM ASSEMBLIES.

Use the following procedures to accomplish the installation of receiver mechanism assemblies.

a. Remove four screws (1 and 2), lockwashers (3), and backplate (4) from both receiver mechanisms (5).

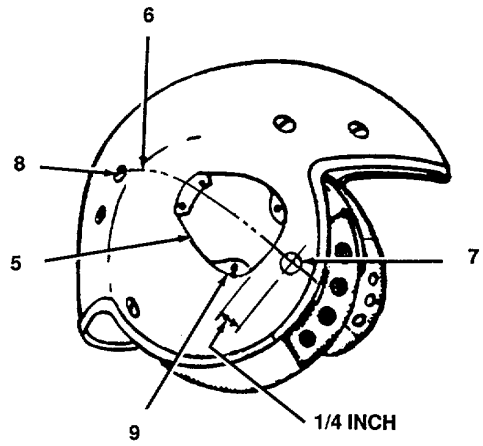



**NOTE**

Perform following procedures on both sides of the helmet unless otherwise noted.

b. Draw visible reference line (6) from front ear cup tension-strap screw (7), to rear tension-strap screw (8).

c. Center receiver mechanism (5) on step (b) reference line, 1/4 inch rearward of front tension strap screw (7). Hold centered receiver mechanism firmly against helmet and CAREFULLY trace around mechanism and mark four attachment hole locations (9) using a lead pencil.

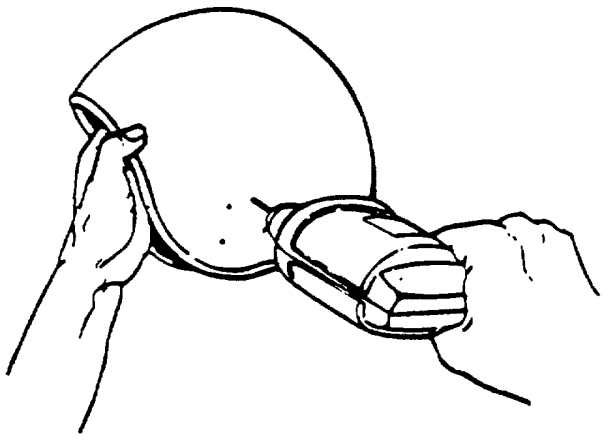



**NOTE**

Recheck accuracy of attachment hole locations before proceeding to step (d).

**4-34. INSTALLATION OF RECEIVER MECHANISM ASSEMBLIES -CONTINUED**

d. Using a NO. 25 (0.1495" dia.) drill bit, drill four mounting holes on each side of helmet shell (eight holes total). Keep drill bit perpendicular to helmet surface. Deburr mounting holes.



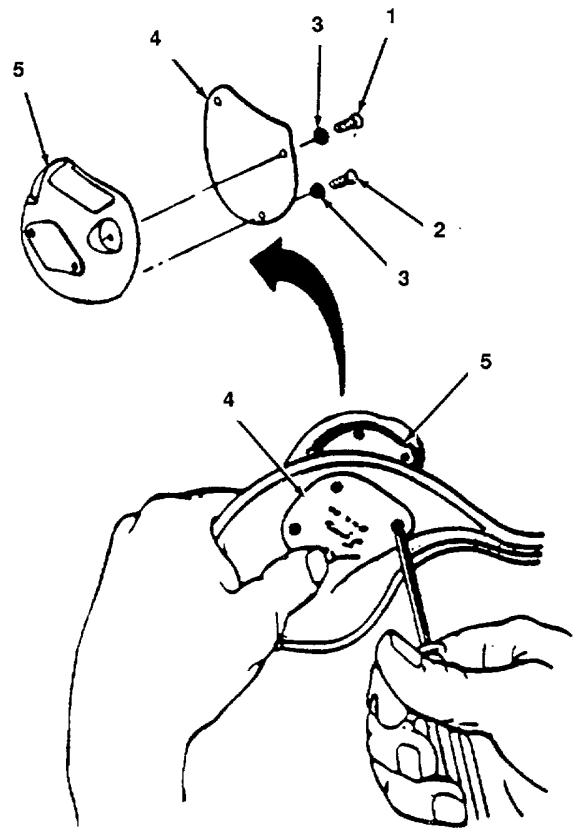
**NOTE**

Remove earcup chafing pads before proceeding to step (e).

e. Align backplate (4) with step (d) mounting holes on inside of helmet shell. Align receiver mechanism (5) with mounting holes on outside of helmet.

f. Install four screw (1 and 2) and lockwashers (3) removed in step (a) using two longer screws in front mounting holes. Tighten screws in sequence to assure complete seal between receiver mechanism and helmet shell.

g. Install new foam earcup chafing pads to replace pads removed after step (d).



## 4-35. ATTACHMENT OF BOOM MICROPHONE MOUNTING BRACKET.

Use the following procedures for attaching boom microphone mounting bracket:

a. Remove two screws (1), lockwashers (2) and nameplate (3).

b. Position forward attachment hole of microphone mounting bracket (4) over lower nameplate mounting hole on receiver mechanism (5).

c. Position nameplate (6) over mounting bracket (4) and install two screws (1) and lockwashers (2) removed in step (a).

d. Remove retaining pin (7) with needle-nose pliers while compressing flange on underside of swivel assembly.

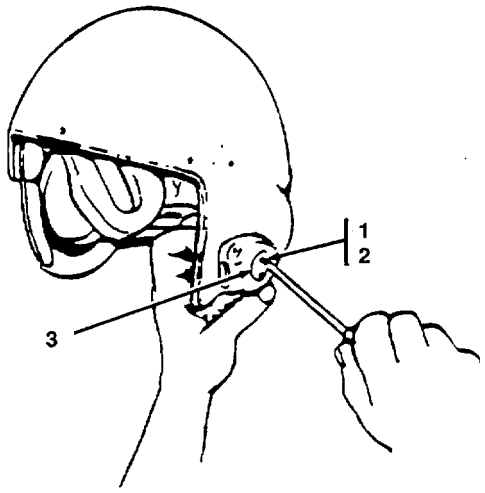
e. Remove knurled nut (8) from swivel assembly. Separate lug plate (9) together with plastic boom channel guides.

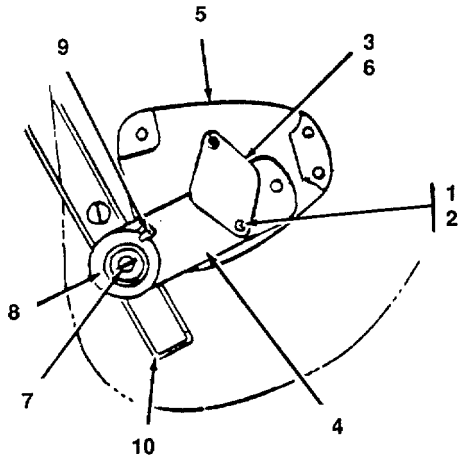
f. Insert boom (10) between channel guides and align lug plate (9) with slot in bracket (4). Install nut (8).

g. Install retaining pin (7) removed in step (d).

h. Insure installed boom microphone assembly can be adjusted from chin level to mid-visor housing position.

i. Check security of all mounting screws and adjustment tension of receiver mechanism.



## 4-36. MBU-12/P OXYGEN MASK SELECTION.

a. Leading Particulars. Leading particulars for the MBU-12/P oxygen mask are contained in Figure 3-2. Further information on the mask is available in TM 55-1660-247-12.

| PART NO. | SIZE | MASK WIDTH (W) mm (inches) | MASK HEIGHT (H) mm (inches) |
|---|---|---|---|
| 834-75-01 | Short | 127.8 (5-1/32) | 114.3 (4-1/2) |
| 834-75-02 | Regular | 131.8 (5-3/16) | 122.2 (4-13/,16) |
| 834-75-03 | Long | 128.6 (5-1/16) | 123.8 (4-7/8) |
| 834-75-04 | Extra-Long | 125.4 (4-15/16) | 130.2 (5-1/8) |

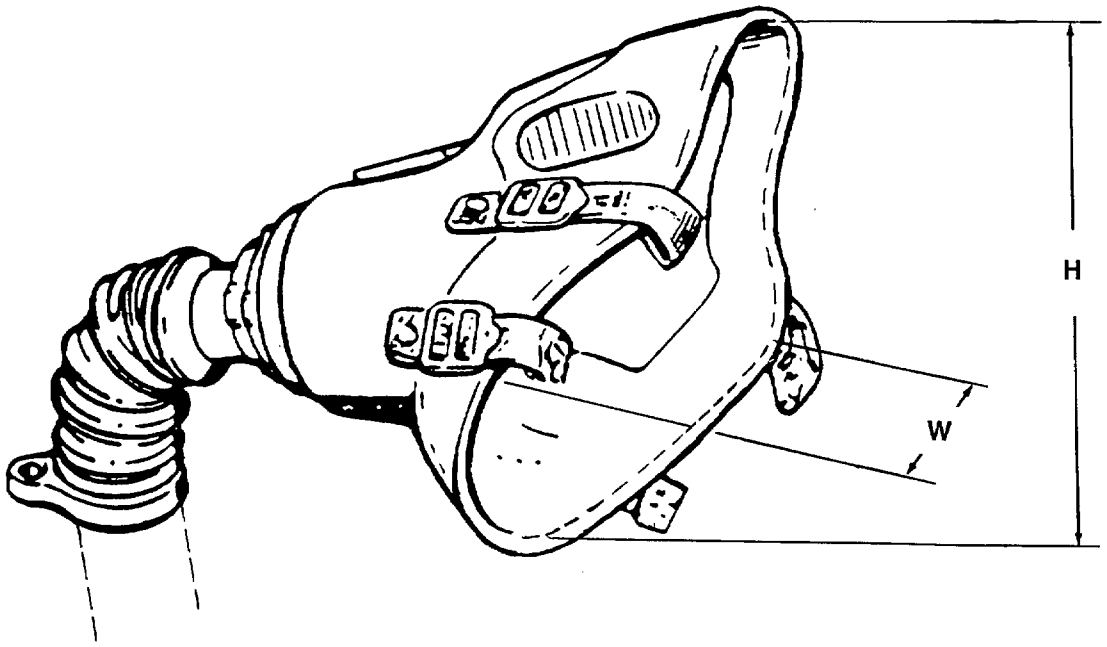



**Figure 3-2. Leading Particulars--Facemask MBU-12/P**

**4-36. MBU-12/P OXYGEN MASK SELECTION - CONTINUED.**

b. FACEMASK SELECTION. To select the appropriate facemask part number from figure 3-2, proceed as follows:

**NOTE**

To insure accurate measurements, subject shall relax facial muscles with jaw lightly closed.

(1) Measure distance from tip on underside of subject's chin to the maximum nasal root depression, using caliper, P/N 834-800. When indicated caliper is not available, use alternate caliper, P/N 450-100 or other suitable measuring device.

(2) Measure caliper gap obtained in step (1) using a ruler.

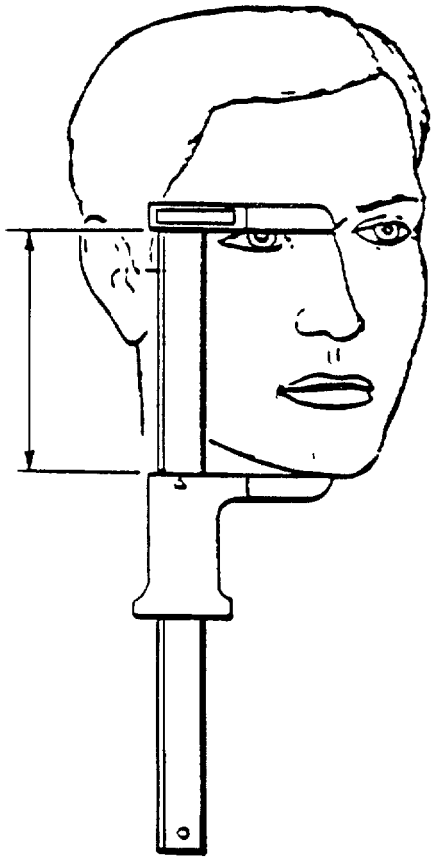
(3) Find measurement obtained in step (2) in the dimensional ranges contained in the tabular format on figure 3-3.

**NOTE**

Proper facemask fit requires the selected mask to fit comfortably and conform to facial contours. Individuals with borderline facial dimensions (i.e. 4.4, 4.8, etc.) shall select mask that conforms to proper fit requirements.

(4) Select mask size required (i.e. small, regular, etc.).

(5) Using mask size obtained in step (4), select part number required from tabular data in figure 3-2.



| Size | Face Length (inches) |
|---|---|
| Short | 4.0 - 4.4 |
| Regular | 4.4 - 4.8 |
| Long | 4.8 - 5.1 |
| Extra-Long | 5.1 - 5.5 |

**Figure 3-3. Measurement Procedure for Facemask**

## 4-37. MASK TO HELMET ADJUSTMENT.

Use the following procedures to accomplish mask to helmet adjustment.

a. Don helmet and adjust nape strap to obtain snug fit.

b. Attach mask assembly to helmet by inserting oxygen mask fitting into the second locking position of the helmet-mounted receiver mechanism.

c. Greater adjustment can be achieved as follows:

(1) Remove four tackings on the retainer strap using a razor or sharp knife.

(2) Adjust buckles to the desired position.

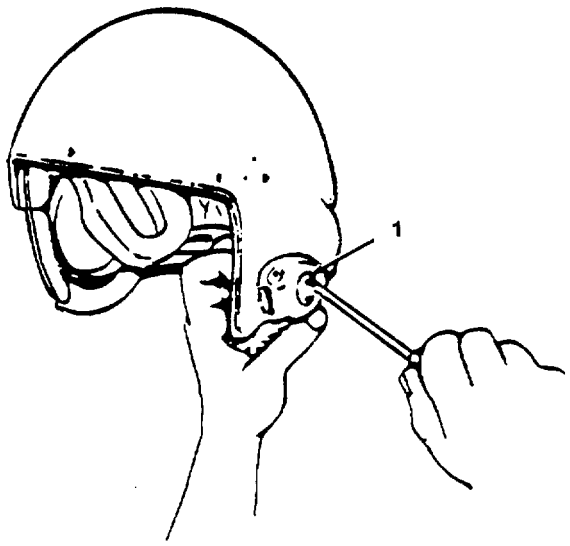
(3) Retack around the lower bar of the four buckles with two turns of double waxed thread, specification VT-276, Type IV B, tucked 8/4, or equal.

(4) Tie thread ends with a surgical knot and secure with a locking knot.

d. Adjust straps to obtain a snug, comfortable fit of mask to face without leakage.

**NOTE**

When leakage occurs between face and mask, verify mask part number with figure 3-2. When proper mask is being used and leakage occurs, proceed to step (e).



**4-37. MASK TO HELMET ADJUSTMENT-CONTINUED.**

e. Adjust angle of helmet mounted receiver mechanism by loosening two receiver mechanism adjusting screws (1). Rotate fitting and receiver mechanism until mask fits properly.

f. Tighten two receiver mechanism adjustment screws to secure angular receiver adjustment.

**WARNING**

Uncut adjustment straps shall be folded under and tacked to prevent possible injury to eyes and face.

**NOTE**

Before cutting and tacking adjustment straps, it is required that all adjustments to obtain proper fit have been performed. Straps may be folded under before tacking.

When authorized by command and when mask is issued on a temporary basis for transporting passengers or crewmembers, or when worn for trial fittings, straps do not require cutting.

g. Inspect tacking that secures top buckles to straps. Tacking shall indicate no wear. Tacking shall be double waxed thread, Specification V-T-276, Type IVB, Ticket 8/4, or equal, and shall make two turns throught the strap. Thread ends shall be tied with a surgical knot and secured with a locking knot.

h. Cut excess adjustment strap leaving not less than one inch and not more than three inches. Sear cut e strap-ends to prevent ravelling.

i. Tack per step g.

**NOTE**

Should mask be condemned, all serviceable straps and bayonets shall be removed and saved.

j. Replace original mask microphone cord with the microphone adapter kit, Item 4, Figure 3-1.

# APPENDIX A

# REFERENCES

| | |
|---|---|
| DA PAM 738-751 | Functional Users Manual for the Army Maintenance Management System-Aviation (TAMMS-A) |
| C 8800-IL-A | Brushes, Paint, Sealers, and Adhesives |
| FM 1-563 | Fundamentals of Airframe Maintenance |
| SC 5180-91-CL-R07 | Sets, Kits and Outfits Components List, Tool Kit, Electronics Equipment, TK-105G, NSN 5180-00-610-8177, LINW37388. |
| TB 43-0002.27 | Maintenance Expenditure Limits for FSC Group 72, 83, 84, FSC Classes 7210, 8340, and 8400. |
| TM 9-1270-212-14&P | Operator, Organizational, Direct Support and General Support Maintenance Manual (Including Repair Parts and Special Tools Lists and Depot Maintenance Repair Parts and Special Tools) for Fire Control Subsystem, XM-128 and XM-136. |
| TM 11-5855-238-10 | Operators' Manual for Night Vision Goggles, AN/PVS-5 and AN/PVS-5A. |
| TM 11-5855-263-10 | Operators' Manual for Aviator's Night Vision Imagining System, AN/PVS-6. |
| TM 11-5855-264-23P | Test Set for Aviator's Night Vision Imagining System, AN/PVS-6 U |
| TM 11-5965-279-13&P | Operator, Aviation Unit Maintenance and Aviation Intermediate Maintenance Manual, Including Repair Parts and Special Tools List for Headset-Microphone MK-896A/AIC. |
| TM 55-1660-247-12/TO 15x5-3-6-1 | Operation, Fitting, Inspection and Maintenance Instructions with Illustrated Parts Breakdown MBU-12/P Pressure-Demand Oxygen Mask |
| TM 1-1500-204-23 (Series) | General Aircraft Maintenance Manual |
| TM 750-244-3 | Procedures for Destruction of Equipment to Prevent Enemy Use |

# APPENDIX B

# MAINTENANCE ALLOCATION CHART

## Section I. INTRODUCTION

### B-1. GENERAL

a. This section provides a general explanation of all maintenance and repair functions authorized at various maintenance levels.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall responsibility for the performance of maintenance functions on the identified end item or component. The implementation of the maintenance functions upon the end item or component will be consistent with the assigned maintenance functions.

c. Section III contains supplemental instructions or explanatory notes for a particular maintenance function.

### B-2. MAINTENANCE FUNCTIONS

a. Inspect. To determine the serviceability of an item by comparing its physical, mechanical and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specific parameters.

e. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipment used in precision measurements. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of the equipment.

## B-2. MAINTENANCE FUNCTIONS -Continued

h. Replace. The act of substituting a serviceable-like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services (inspect, test, service, adjust, align, calibrate, or replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachning, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j. Overhaul. That maintenance effort (service/actions) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i.e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The re-build operation includes the act of returning to zero those age measurements (hours/miles, etc), considered in classifying Army equipment/components.

## B-3. COLUMN ENTRIES USED IN THE MAC

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Component/Assembly. Column 2 contains the names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 lists the functions to be performed on the item listed in column 2. (For detailed explanation of these functions, see paragraph B-2).

d. Column 4, Maintenance Level. Column 4 specifies, by the listing of a work/time figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform the maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function vary at different maintenance levels, appropriate work/time figures will be shown for each level. The number of man-hours specified by the work/time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the Maintenance Allocation Chart. The symbol designation for the various maintenance levels are as follows:

| | | |
|---|---|---|
| C | ..... | Operator or Crew |
| O | ..... | Organization Maintenance |

## B-3. COLUMN ENTRIES USED IN THE MAC-Continued

e. Column 5 and Section III, Tools and Equipment. Column 5 specifies, by code, those common tools and special tools, test, and support equipment required to perform the designated function.

f. Column 6 and Section IV, Remarks. This column shall contain a letter code in alphabetical order which shall be keyed to the remarks contained in Section III.

## B-4. COLUMN ENTRIES USED IN TOOL AND TEST EQUIPMENT REQUIREMENTS

a. Column 1, Reference Code. This code scheme is recorded in column 5, Section II.

b. Column 2, Maintenance Category. This column shows the lowest level of maintenance authorized to use the tool or test equipment.

c. Column 3, Nomenclature. This column lists the name or identification of the tool or test equipment.

d. Column 4, National/NATO Stock Number. This column lists the National/ NATO Stock Number of the tool or test equipment.

e. Column 5, Tool Number. This column lists the manufacturer's code or part number of the tool or test equipment.

**Section II. MAINTENANCE ALLOCATION CHART**

| (1) Group Number | (2) Component/Assembly | (3) Maintenance Function | (4) Maintenance Level C | O | F | H | D | (5) Tools and Equipment | (6) Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 00 | Helmet | Inspect | 2.0 | | | | | | |
| | | Repair | | 6.0 | | | | | |
| 01 | Visor and Guard Lock Assembly | | | | | | | | |
| | Guard Lock Assembly | Inspect | .05 | | | | | | |
| | | Adjust | .05 | | | | | | |
| | | Replace | | .05 | | | | 2 | |
| | Visor Housing | Inspect | 0.5 | | | | | | |
| | | Service | | | | | | | |
| | | Replace | | .10 | | | | 3,4 | A |
| | Visor Tracks and Spacers | Inspect | | 0.5 | | | | | |
| | | Replace | | .30 | | | | 3,4 | A |
| | Visor | Inspect | .05 | | | | | | |
| | | Service | .05 | | | | | | |
| | | Replace | | .05 | | | | 2. | |
| 02 | Retention and Suspension Assy | | | | | | | | |
| | Retention Assy | Inspect | .05 | | | | | | |
| | | Adjust | | .05 | | | | | |
| | | Replace | | .10 | | | | 1,2,3,5,6, 10,11,12, 13,14 | A |
| | Suspension Assy | Inspect | .05 | | | | | | |
| | | Adjust | | .05 | | | | | |
| | | Replace | | .10 | | | | 2 | |
| | Chin Strap | Inspect | .05 | | | | | | |
| | | Adjust | | .05 | | | | | |
| | | Replace | | .10 | | | | 2,3 | A |
| | Ear Cup Cross Strap | Inspect | .05 | | | | | | |
| | | Adjust | .05 | | | | | | |
| | | Replace | . | 05 | | | | 2,3 | A |

**Section II. MAINTENANCE ALLOCATION CHART -Continued**

| (1) Group Number | (2) Component/Assembly | (3) Maintenance Function | (4) Maintenance Level C | O | F | H | D | (5) Tools and Equipment | (6) Remarks |
|---|---|---|---|---|---|---|---|---|---|
| | Ear Cup Assembly | | | | | | | | |
| | Seal | Inspect<br>Replace | .05 | <br>.05 | | | | | |
| | Cushion Insert | Inspect<br>Replace | .05 | <br>.10 | | | | | |
| | Ear Cup | Inspect<br>Replace | .05 | <br>.10 | | | | 1,2,3,4,14 | A |
| | Cushion Backing | Inspect<br>Replace | .05 | <br>.10 | | | | | |
| | Pad, Ear Cup Chafing | Inspect<br>Replace | .05 | <br>.10 | | | | | |
| 03 | Liner and Beading | | | | | | | | |
| | Liner | Inspect<br>Replace | .05 | <br>.30 | | | | 1,2,3,4,7,14 | A |
| | Beading | Inspect<br>Replace | .05 | <br>.30 | | | | 8,9 | |
| 04 | Night Vision Goggles Mounting | | | | | | | | |
| | <u>System NO. 1</u> | | | | | | | | |
| | Mounting Studs | Inspect<br>Replace | .01 | <br>.01 | | | | 28 | |
| | Fastener Tape Pile | Insert<br>Service<br>Replace | .01 | <br>.01<br>.01 | | | | 9 | |

**Section II. MAINTENANCE ALLOCATION CHART -Continued**

| (1) Group Number | (2) Component/Assembly | (3) Maintenance Function | (4) Maintenance Level C | O | F | H | D | (5) Tools and Equipment | (6) Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 04 Cont. | System NO. 2 | | | | | | | | |
| | Surgical Tubing | Inspect | .01 | | | | | | |
| | A-D Attaching points | Service | | .05 | | | | 10,20 | |
| | | Replace | | .10 | | | | | |
| | Fastener Tape, Pile | | | .10 | | | | | |
| | Visor Housing | Inspect | | | | | | | |
| | | Service | .01 | | | | | | |
| | | Replace | | .05 | | | | 9 | |
| | | | | .10 | | | | 9 | |
| | Rear of Helmet | Inspect | .01 | | | | | | |
| | | Service | | .05 | | | | 9,21 | |
| | | Replace | | .10 | | | | 9,21 | |
| | Counter Balance | Inspect | .01 | | | | | | |
| | | Service | | .05 | | | | | |
| | | Replace | | 1.0 | | | | 9,32 | |
| | System No. 3 GX-5 | | | | | | | | |
| | Visor Housing | | | | | | | | |
| | Fastener Tape, Pile | Inspect | .01 | | | | | | |
| | | Service | | .05 | | | | 9,21 | |
| | | Replace | | .10 | | | | 9,21 | |
| | Mounting Visor | Inspect | .01 | | | | | | |
| | Fastener Tape, Hook | Service | | .05 | | | | 9,21 | |
| | | Replace | | .05 | | | | 9,21 | |
| | Mounting Visor Bracket | Inspect | | .01 | | | | | |
| | | Service | | .02 | | | | 2 | |
| | | Replace | | | .59 | | | 2,9,13 15,16 17,20 21,22 25,26 27 | |

**Section II. MAINTENANCE ALLOCATION CHART -Continued**

| (1) Group Number | (2) Component/Assembly | (3) Maintenance Function | (4) Maintenance Level C | O | F | H | D | (5) Tools and Equipment | (6) Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 04 Cont. | Mounting Bracket | Inspect | .01 | | | | | | |
| | | Service | | .10 | | | | | |
| | | Replace | | 2.0 | | | | 2, 9, 13 15, 18, 19,20, 21,22, 23, 24, 25, 27, 29, 31 | |
| | Fastening Tape Pile Rear of Helmet | Inspect | .01 | | | | | | |
| | | Service | | .05 | | | | 9, 21 | |
| | | Replace | | .05 | | | | 9,21 | |
| | AN/AVS-6(V)1 and AN/AVS-6(V)2 (Mount Assembly Only) | Inspect | .01 | | | | | | B |
| | | Service | | .02 | | | | | |
| | | Replace | .05 | | | | | | |

## Section III. SPECIAL TOOL AND TEST EQUIPMENT REQUIREMENTS

| Reference Code | Maintenance Category | Nomenclature | National/NATO Stock Number | Tool Number |
|---|---|---|---|---|
| 1 | O | Hex Key .035 in. | 5120-00-198-5400 | |
| 2 | O | Screwdriver Flat Tip | 5120-00-222-8852 | |
| 3 | O | Screwdriver Flat Tip Special (See Fig. B-I) | | |
| 4 | O | Screwdriver 1/8 inch Blade | 5120-00-236-2140 | |
| 5 | O | Screwdriver, Jewellers | 5120-00-288-8739 | |
| 6 | O | Screwdriver 1/4 inch Blade | 5120-00-596-8502 | |
| 7 | O | Spatula, 8 inch Blade | 7330-00-254-4791 | |
| 8 | O | Razor Blade | 8530-00-162-5629 | |
| 9 | O | Scissors | 5110-00-293-9199 | |
| 10 | O | Pliers, Round Nose | 5120-00-240-6172 | |
| 11 | O | Pliers, Diagonal Cutting | 5120-00-965-0974 | |
| 12 | O | Soldering Gun | 3439-00-004-0915 | |
| 13 | O | Ruler 18 inch | 7510-00-161-6217 | |
| 14 | O | Multimeter, AN/USM-223 | 6625-01-139-2512 | |
| 15 | O | Saw Reciprocating Blade | 5130-00-967-9708 | |
| 16 | O | Frame, Hand, Hacksaw | 5110-00-289-9657 | |
| 17 | O | Square, Combination | 5210-00-257-0876 | |
| 18 | O | Punch, Center | 5120-00-278-1264 | |
| 19 | O | Clamp, C | 5120-00-180-0909 | |
| 20 | O | Knife, Craftsman | 5110-00-595-8400 | |
| 21 | O | Brush, Acid Swabbing | 7920-00-514-2417 | |
| 22 | O | Drill, Electric, Portable 3/8 | 5130-00-935-7354 | |
| 23 | O | Drill, Twist #27 | 5133-00-189-9272 | |
| 24 | O | Drill, Twist #35 | 5133-00-189-9280 | |
| 25 | O | Drill, Twist 1/4 inch | 5133-00-236-4059 | |
| 26 | O | File, Hand, Round | 5110-00-239-7739 | |
| 27 | O | File, Hand, Flat | 5110-00-241-9135 | |
| 28 | O | Screw Driver, Phillips | 5120-00-240-8716 | |
| 29 | O | Soldering, Iron, Cordless | 3439-01-045-1817 | |
| 30 | O | Soldering, Iron, Cordless | 3439-00-264-9573 | |
| 31 | O | Tool, Insert-Extractor | 5120-00-757-7653 | |
| 32 | O | Sewing Machine Medium | 3530-00-852-4779 | |
| 33 | O | Saw, Reciprocating, Portable, Electric | 5130-00-819-7767 | |

## Section IV. REMARKS

| Reference Code | Remarks |
|---|---|
| A | See Fig. B-1 for Modified Screwdriver |
| B | See TM 11-5855-264-23P |

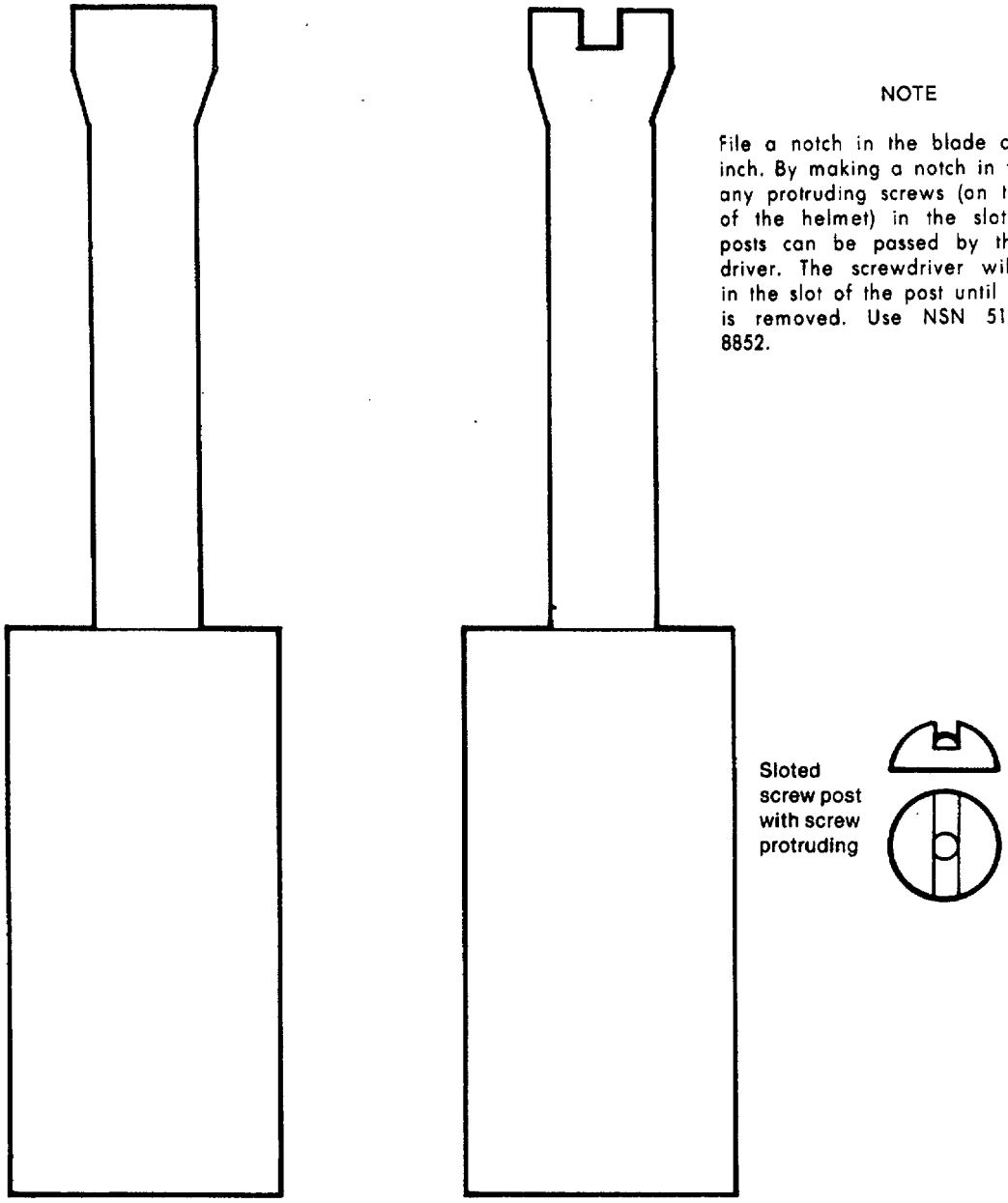



*Figure B-1. Special Tool, Modified Screwdriver*

# APPENDIX C
# COMPONENTS OF END ITEM
# AND BASIC ISSUE ITEMS LISTS

## Section I. INTRODUCTION

### C-1. SCOPE

This appendix lists components of end item and basic issue items for the Flyer's Protective Helmet to help you inventory items required for safe and efficient operation.

### C-2. GENERAL

The Components of End Item and Basic Issue Items List is divided into the following sections:

a. Section II. Components of End Item. This listing is for informational purposes only, and is not authority to requisition replacements. These items are part of the end item, but are removed and separately packaged for transportation or shipment. As part of the end item, these items must be with the end item whenever it is issued or transferred between property accounts. Illustrations are furnished to assist you in identifying the items.

b. Section III. Basic Issue Items. These are the minimum essential items required to place the helmet in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the helmet during operation and whenever it is transferred between property accounts. The illustrations will assist you with hard-to-identify items. This manual is your authority to request/requisition replacement BII, based on TOE/ MTOE authorization of the end item.

### C-3. EXPLANATION OF COLUMNS

The following provides an explanation of columns found in the tabular listings:

a. Column (1) - Illustration Number (Illus Number). This column indicates the number of the illustration in which the item is shown.

b. Column (2) - National Stock Number. Indicates the National stock number assigned to the item and will be used for requisitioning purposes.

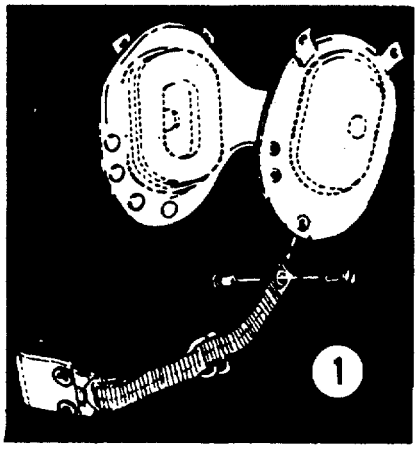
c. Column (3) - Description. Indicates the Federal item and, if required, a minimum description to identify and locate the item. The last line for each item indicates the FSCM (in parentheses) followed by the part number.

**C-3. EXPLANATION OF COLUMNS -Continued**

d. Column (4)- Unit of Measure (U/M). Indicates the measure used in performing the actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr).

e. Co!umn (5) - Quantity required (Qty rqr). Indicates the quantity of the time authorized to be used with/on the equipment.

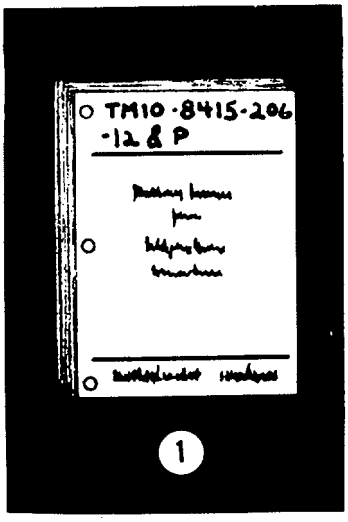
## Section II. COMPONENTS OF END ITEM





| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Usable On Code | (5) UIM | Qty Rqr |
|---|---|---|---|---|---|
| 1 | 8415-00-410-4667 | Spacer Kit, Ear Cup (97427) 67B73 | | EA | 1 |
| 2 | 8415-00-490-1197 | Visor Assembly Clear (97427) 69C2110 | | EA | 1 |
| | 8415-00-490-1196 | Visor Assembly Neutral (81337) 8-2-520-4-7 | | EA | 1 |

## Section III. BASIC ISSUE ITEMS




| (1) Illus Number | (2) National Stock Number | (3) Description FSCM and Part Number | (4) Usable On Code | (5) UIM | Qty Rqr |
|---|---|---|---|---|---|
| 1 | | TM 10-8415-206-12&P Operator and Organizational Maintenance Manual, Including Repair Parts & Special Tools List Flyers Protective Helmet Model SPH-4 Regular and Extra-Large | | EA | 1 |

# APPENDIX D
# EXPENDABLE SUPPLIES AND MATERIALS LIST

## Section I. INTRODUCTION

### D-1. SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the helmet. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

### D-2 EXPLANATION OF COLUMNS

a. Column (1) - Item number. This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. D").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C Operator/Crew

O Organizational Maintenance

c. Column (3) - National Stock Number. This is the National stock number assigned to the item; use it to request or requisition the item.

d. Column (4) - Description. Indicates the Federal item name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

e. Column (5)- Indicates the measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., ea, in, pr). If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST

| (1) Item Number | (2) Level | (3) National Stock Number | (4) Description | (5) U/M |
|---|---|---|---|---|
| 1 | O | 9390-00-656-1186 | Reflective Tape, Orange 2 inch wide | ft |
| 2 | O | 8010-01-146-2650 | Coating, Polyurethane | qt |
| 3 | O | 8010-01-055-2319 | Coating, Polyurethane | gl |
| 4 | O | 9390-00-106-2467 | Reflective Tape Red 1/2 inch wide | ft |
| 5 | O | 9390-01-097-5979 | Reflective Tape White 1/2 inch wide | ft |
| 6 | O | 9390-00-949-7552 | Reflective Tape Red 1 inch wide | yd |
| 7 | O | 5350-00-221-0883 | Sandpaper, Grit 00 | sh |
| 8 | O | 8030-00-891-8358 | Sealing Compound | qt |
| 9 | O | 5350-00-224-7209 | Silicone Carbide Paper | sh |
| 10 | O | 8040-00-833-9563 | Silicone Liner Adhesive | tu |
| 11 | O | 8040-00-832-6173 | Synthetic Rubber Adhesive | pt |
| 12 | O | 8040-00-273-8717 | Adhesive | tu |
| 13 | O | 6505-00-299-8095 | Alcohol, Denatured | gl |
| 14 | O | 5350-00-598-5537 | Sandpaper | sh |
| 15 | O | 8520-00-782-3554 | Hand Cleaner | bx |
| 16 | O | 4720-00-141-9080 | Tubing, Nonmetal | ft |
| 17 | O | 5340-00-434-9596 | Clamp, Loop | ea |
| 18 | O | 5975-00-074-2072 | Strap, Tiedown, Electrical | hd |
| 19 | O | 9650-00-204-0221 | Lead Shot | |
| 20 | O | 8305-00-926-6869 | Cloth, Duck, Nylon | fd |

## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (Cont.)

| (1) Item Number | (2) Level | (3) National Stock Number | (4) Description | (5) UIM |
|---|---|---|---|---|
| 21 | O | 8310-00-262-2772 | Thread, Nylon, Size E | to |
| 22 | O | 8315-00-106-5973 | Fastener Tape, Hook O.D. 1" | ft |
| 23 | O | 8315-00-106-5974 | Fastener Tape, Pile O.D. 1" | ft |
| 24 | O | 8315-00-498-6631 | Fastener Tape, Pile O.D. 2" | ft |
| 25 | O | 8315-00-450-9837 | Fastener Tape, Hook O.D. 2" | |
| 26 | O | 5975-00-727-5153 | Strap, Line Suport | hd |
| 27 | O | 8010-00-616-9143 | Enamel, Black, Flat | pt |
| 28 | O | 5325-00-276-4930 | Stud, Snap Fastener | ea |
| 29 | O | 5325-00-276-4946 | Socket, Snap Fastener | hd |
| 30 | O | 5855-01-149-4104 | Power Pack Assembly | ea |
| 31 | O | 8315-00-106-5974 | Fastener, Tape, Pile O.D.I" | yd |
| 32 | O | 5935-00-137-6789 | Connector, Plug Female | ea |
| 33 | O | 5975-00-727-5153 | Strap, Line Support | hd |
| 34 | O | 9330-00-202-1890 | Plastic Sheet, Acrylic-4 | sh |
| 35 | O | 7220-00-205-0389 | Deck Covering, Light | ea |
| 36 | O | 8010-00-616-9143 | Enamel, Black, Flat | Pt |
| 37 | O | 5999-00-484-5395 | Contact, Socket Miniature | ea |
| 38 | O | 5305-00-470-3205 | Screw Machine 6/32,3/16 | ea |
| 39 | O | 5305-00-054-5638 | Screw Machine 3/56, 5/16 | hd |
| 40 | O | 5310-00-177-1301 | Washer, Lock | hd |
| 41 | O | 5310-00-224-0747 | Washer, Lock | hd |

## Section II. EXPENDABLE SUPPLIES AND MATERIALS LIST (Cont.)

| (1) Item Number | (2) Level | (3) National Stock Number | (4) Description | (5) U/M |
|---|---|---|---|---|
| 42 | 0 | 5306-00-182-2014 | Bolt, Washer 1/4 X 28, 1/2" | hd |
| 43 | 0 | 5310-00-063-6716 | Nut, Plain, Wing | hd |
| 44 | 0 | 5305-00-702-0609 | Screw, Machine Flathead | hd |
| 45 | 0 | 5310-00-167-0765 | Washer, Flat | hd |
| 46 | 0 | 5310-00-952-0309 | Washer, Flat | hd |
| 47 | 0 | 5310-00-208-4026 | Nut, Self Locking | ea |
| 48 | 0 | 1560-00-856-9222 | Parts Kit, Repair, Fiberglass | kt |
| 49 | 0 | 5305-00-490-4580 | Screw, Machine | hd |
| 50 | 0 | 8040-00-865-8991 | Silicone, Adhesive, RTV Blank | oz |
| 51 | 0 | 5325-00-276-9724 | Cap, Snap Fastener | ea |
| 52 | 0 | 5365-00-260-1412 | Ring, Dee | ea |
| 53 | 0 | 5855-00-125-0762 | Strap Assembly | ea |
| 54 | 0 | 5935-01-254-7809 | Connector, Plug, Female | ea |
| 55 | 0 | 6145-01-254-7811 | Cable, Electronic, Special | ft |
| 56 | 0 | P/N K-5162 FSCM 25534 | L Bracket Camera/Flash | ea |

# APPENDIX E

## REPAIR PARTS AND SPECIAL TOOLS LIST

## SECTION I; INTRODUCTION

**E-1. Scope.** This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for performance of Organizational maintenance of the Helmet, Flyer's Protective. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the source, maintenance and recoverability (SMR) codes.

**E-2. General.** In addition to Section I, Introduction, this Repair Parts and Special Tools List is divided into the following sections:

*a. Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for repairable special tools are also listed in this section. Items listed are shown on the associated illustration(s)/figure(s).

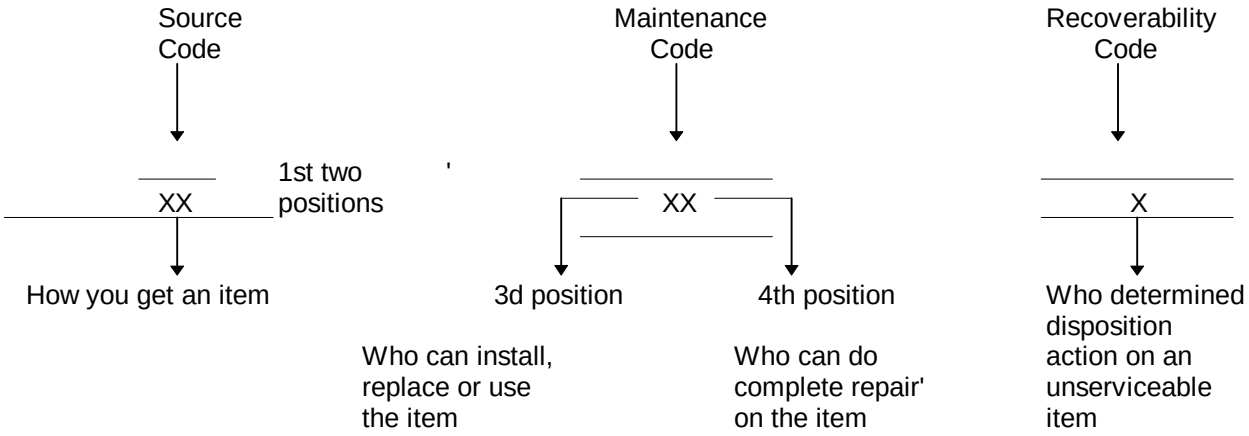
*b. Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance. (Not applicable)

*c. Section IV. National Stock Number and Part Number Index.* A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration figure and item number appearance.

**E-3. Explanation of Columns (Sections II and III).**

*a. Item NO. (Column (II).* Indicates the number used to identify items called out in the illustration.

*b. SMR Code (Column (2)).* The Source, Maintenance, and Recoverability (SMR) code is a 6-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instruction, as shown in the following breakout:




*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

*(1) Source Code.* The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows:

| Code | **Explanation** |
|---|---|
| PA<br>PB<br>PC**<br>PD<br>PE<br>PF'<br>PG | Stocked items; use the applicable NSN to request/requisition items with these source codes. They are authorized to the category indicated by the code entered in the 3d position of the SMR code.<br><br>**NOTE: Items coded PC are subject to deterioration. |
| KD<br>KF<br>KB | Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance category indicated in the 3d position of the SMR code. The complete kit must be requisitioned and applied. |

| Code | **Explanation** |
|---|---|
| MO- (Made at org/ AVUM Level)<br>MF- (Made at DS/ AVUM Level)<br>MH-(Made at GS Level)<br>ML-(Made at Specialized Repair Act (SRA))<br>MD- (Made at Depot) | Items with these codes are not to be requested/requisitioned individually. They must be made from bulk material which is identified by the part number in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the Bulk Material group of the repair parts list in this RPSTL. If the item is authorized to you by the 3d position code of the SMRcode, but the source code indicates it is made at a higher level, order the item from the higher level of maintenance. |

| Code | Explanation |
|---|---|
| AO- (Assembled by org/AVUM Level)<br>AF- Assembled by DS/AVIM Level)<br>AH- (Assembled by GS Category)<br>AL- (Assembled by SRA)<br>AD- (Assembled by Depot) | Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3d position code of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance, |

XA - Do not requisition an "XA"-coded item. Order its next higher assembly. (Also. refer to the NOTE below.)
XB- If an "X B" item is not available from salvage. order it using the FSCM and part number given.
XC - Installation drawing. diagram. instruction sheet, field service drawing. that is identified by manufacturer's part number.
XD - Item is not stocked. Order an "XD"-coded item through normal supply channels using the FSCM and part number given, if no NSN is available.

NOTE: Cannibalization or controlled exchange, when authorized. may be used as a source of supply for items with the above source codes, except for those source coded "XA" or those aircraft support items restricted by requirements of AR 700-42.

*(2) Maintenance Code.* Maintenance codes tells you the level(s) of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third and fourth positions of the SMR Code as follows:

*(*a) The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove. replace, and use an item. The maintenance code entered in the third position will indicate authorization to one of the following levels of maintenance.

| Code | Application/ Explanation |
|---|---|
| C | -Crew or operator maintenance done within organizational or aviation unit maintenance. |
| O | -Organizational or aviation unit category can remove, replace, and use the item. |
| F | -Direct support or aviation intermediate level can remove, replace, and use the item. |
| H | -General support level can remove, replace, and use the item. |
| L | -Specialized repair activity can remove, replace, and use the item. |
| D | -Depot level can remove, replace, and use the item. |

*(b)* The maintenance code entered in the fourth position tells whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (i.e., perform all authorized repair functions.) (NOTE: Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.) This position will contain one of the following maintenance codes.

| Code | Application / Explanation |
|---|---|
| O | -Organizational or (aviation unit) is the lowest level that can do complete repair of the item. |
| F | -Direct support or aviation intermediate is the lowest level that can do complete repair of the item. |
| H | -General support is the lowest level that can do complete repair of the item. |
| L | -Specialized repair activity (designate the specialized repair activity) is the lowest level that can do complete repair of the item. |
| D | -Depot is the lowest level that can do complete repair of the item. |
| Z | -Non-repairable. No repair is authorized. |
| B | -No repair is authorized. (No parts or special tools are authorized for the maintenance of a "B" coded item). However, the item may be reconditioned by adjusting, lubricating, etc., at the user level. |

*(3) Recoverability Code.* Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the SMR Code as follows:

| Recoverability Codes | Application/Explanation |
|---|---|
| Z | -Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in 3d position of SMR Code. |
| O | -Reparable item. When uneconomically reparable, condemn and dispose of the item at organizational or aviation unit level. |
| F | -Reparable item. When uneconomically reparable, condemn and dispose of the item at the direct support or aviation intermediate level. |
| H | -Reparable item. When uneconomically reparable, condemn and dispose of the item at the general support level. |
| D | -Reparable item. When beyond lower level repair capability, return to depot. Condemnation and disposal of item not authorized below depot level. |
| L | -Reparable item. Condemnation and disposal not authorized below specialized repair activity (SRA). |
| A | -Item requires special handling or condemnation procedures because of specific reasons (e.g., precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions. |

*c. FSCM (Column (3)).* The Federal Supply Code for Manufacturer (FSCM) is a 5-digit numeric code which is used to identify the manufacturer, distributor, or Government agency, etc., that supplies the item.

*d., Part Number (Column (4)).* Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specification standards, and inspection requirements to identify an item or range of items.

NOTE: When you use a NSN to requisition an item, the item you receive may have a different part number from the part ordered.

*e. Description and Usable On Code (UOC) (Column (5)).* This column includes the following information:

*(*1) The Federal item name and, when required, a minimum description to identify the item.

*(*2) The physical security classification of the item is indicated by the parenthetical entry (insert applicable physical security classification abbreviation e.g., Phy Sec C1 (C) - Confidential, Phy Sec C1 (S) -Secret, Phy Sec C1 (T) - Top Secret).

*(3)* Items that are included in kits and sets are listed below the name of the kit or set.

*(4)* Spare/repair parts that make up an assembled item are listed immediately following the assembled item line entry.

*(5)* Part numbers for bulk materials are referenced in this column in the line item entry for the item to be manufactured/fabricated.

*(6)* When the item is not used with all serial numbers of the same model, the effective serial numbers are shown on the last line(s) of the description (before UOC).

*(7)* The usable on code, when applicable (see paragraph E-5, Special information).

*(8)* In the Special Tools List section, the basis of issue (BOI) appears as the last line(s) in the entry for each special tool, special TMDE, and other special support equipment. When density of equipments supported exceeds density spread indicated in the basis of issue, the total authorization is increased proportionately.

*(9)* The statement "END OF FIGURE" appears just below the last item description in Column 5 for a given figure in both Section II and Section III.

*f. QTY (Column (6)).* The QTY (quantity per figure column) indicates the quantity of the item used in the breakout shown on the illustration figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column in lieu of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

**E-4. Explanation of Columns (Sect. IV).**

*a. National StockNumber (NSN) Index.*

*(1) Stock Number Column.* This column lists the NSN by National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN (i.e., 5305-01-674-1467). When using this column to locate an item, ignore the first 4 digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

**NSN**

**NIIN**

*(2) Fig. Column.* This column lists the number of the figure where the item is identified /located. The figures are in numerical order in Section 11 and Section 111

*(31 Item Column.* The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

*b. Part Number Index.* Part numbers in this Index are listed by part number in ascending alphanumeric sequence (i.e vertical arrangement of letter and number combination which places the first letter or digit of each group in order A through Z. followed by the numbers 0 through 9 and each following letter or digit in like order).

*(1) FSCM Column.* The Federal Supply Code for Manufacturer (FSCM1 Is a 5-digit numeric code used to identify the manufacturer, distributor, or Government agency. etc that supplies the item.

*(2) Part Number Column.* Indicates the primary number used by the manufacturer (individual. firm, corporation, or Government activity. which controls the design and characteristics of the item by means of its engineering drawings, specifications standards. and inspection requirements to identify an item or range of items.

*(3) Stock Number Column.* This column lists the NSN for the associated part number and manufacturer identified in the Part Number and FSCM Columns to the left.

*(4) FIG. Column.* This column lists the number of the figure where the item is identified/located in Section II and III.

*(51 Item Column.* The item number is that number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

**E-5. Special Information.** Use the following subparagraphs as applicable:

*a. Usable On Code.* The usable on code appears in the lower left corner of the Description column heading. Usable on codes are shown as 'UOC. " in the Description Column (justified left) on the first line applicable item description, nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in the RPSTL are:

RE1: Regular Size Helmet (up to head size 7 1/4).
XL1: Extra Large Size Helmet (7 1/4 and over).
NV1: NVG Mounting System NO. 1
NV2: NVG Mounting System NO. 2
NV3: NVG Mounting System NO. 3 GX-5
N4-1: AN/AVS-6(V)1
N4-2: AN/AVS-6(V)2

*b. Index Numbers.* Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the National Stock Number/Part Number Index and the bulk material list in Section II.

**E-6. How to Locate Repair Parts.**

*a. When National Stock Number or Part Number is Not Known.*

*(l) First.* Using the table of contents, determine the assembly group or subassembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and listings are divided into the same groups.

*(2) Second.* Find the figure covering the assembly group or subassembly group to which the item belongs.

*(3) Third.* Identify the item on the figure and note the item number.

*(4) Fourth.* Refer to the Repair Parts List for the figure to find the part number for the item number noted on the figure.

*(5) Fifth.* Refer to the Part Number Index to find the NSN, if assigned.

*b. When National Stock Number or Part Number is Known:*

*(1) First.* Using the Index of National Stock Numbers and Part Numbers, find the pertinent National Stock Number or Part Number. The NSN index is in National Item Identification Number (NIIN) sequence (see E-4a(1)). The part numbers in the Part Number index are listed in ascending alphanumeric sequence (see E-4.b.). Both indexes cross-reference you to the illustration figure and item number of the item you are looking for.

*(2) Second.* After finding the figure and item number, verify that the item is the one you're looking for, then locate the item number in the repair parts list for the figure.

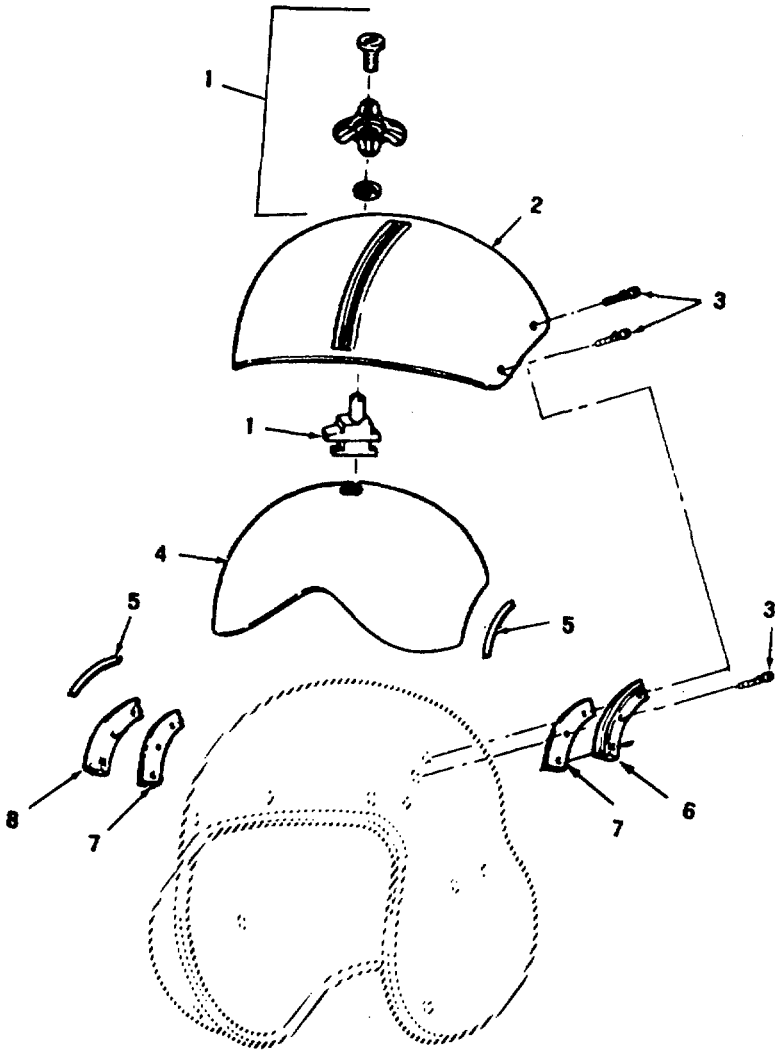



*Figure E-1. Visor and Guard Lock Assy*

SECTION II

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 01. VISOR AND GUARD LOCK ASSEMBLY | |
| | | | | FIGURE E-1. VISOR AND GUARD LOCK ASSEMBLY | |
| 1 | PAOZZ | 81337 | 8-2-523-4-12 | LOCK ASSEMBLY | 1 |
| 2 | PAOZZ | 81337 | 8-2-509 | VISOR, HOUSING ASSEM | 1 |
| 3 | PAOZZ | 81337 | 8-2-507 | SCREW ASSY HOUS TRK | 2 |
| 4 | PAOZZ | 81337 | 8-2-510-4-7 | VISOR ASSY NEUTRAL | 1 |
| 4 | PAOZZ | 81337 | 8-2-510-4-28 | VISOR ASSY CLEAR<br>UOC:RE1, XL1 | 1 |
| 4 | XDOZZ | 02622 | SPH4-2N-AA | VISOR ASSY, LPV, GREEN | 1 |
| 4 | XDOZZ | 02622 | SPH4-3N-AA | VISOR ASSY, LPV, AMBER<br>UOC:RE1, XL1 | 1 |
| 5 | PAOZZ | 81337 | 8-2-481 | SPACER, FLAT | 2 |
| 6 | PAOZZ | 81337 | 8-2-489 | TRACK, VISOR L/H | 1 |
| 7 | PAOZZ | 81337 | 8-2-525 | SPACER, TAPERED | 1 |
| 8 | PAOZZ | 81337 | 8-2-489 | TRACK,VISOR R/H | 1 |

END OF FIGURE

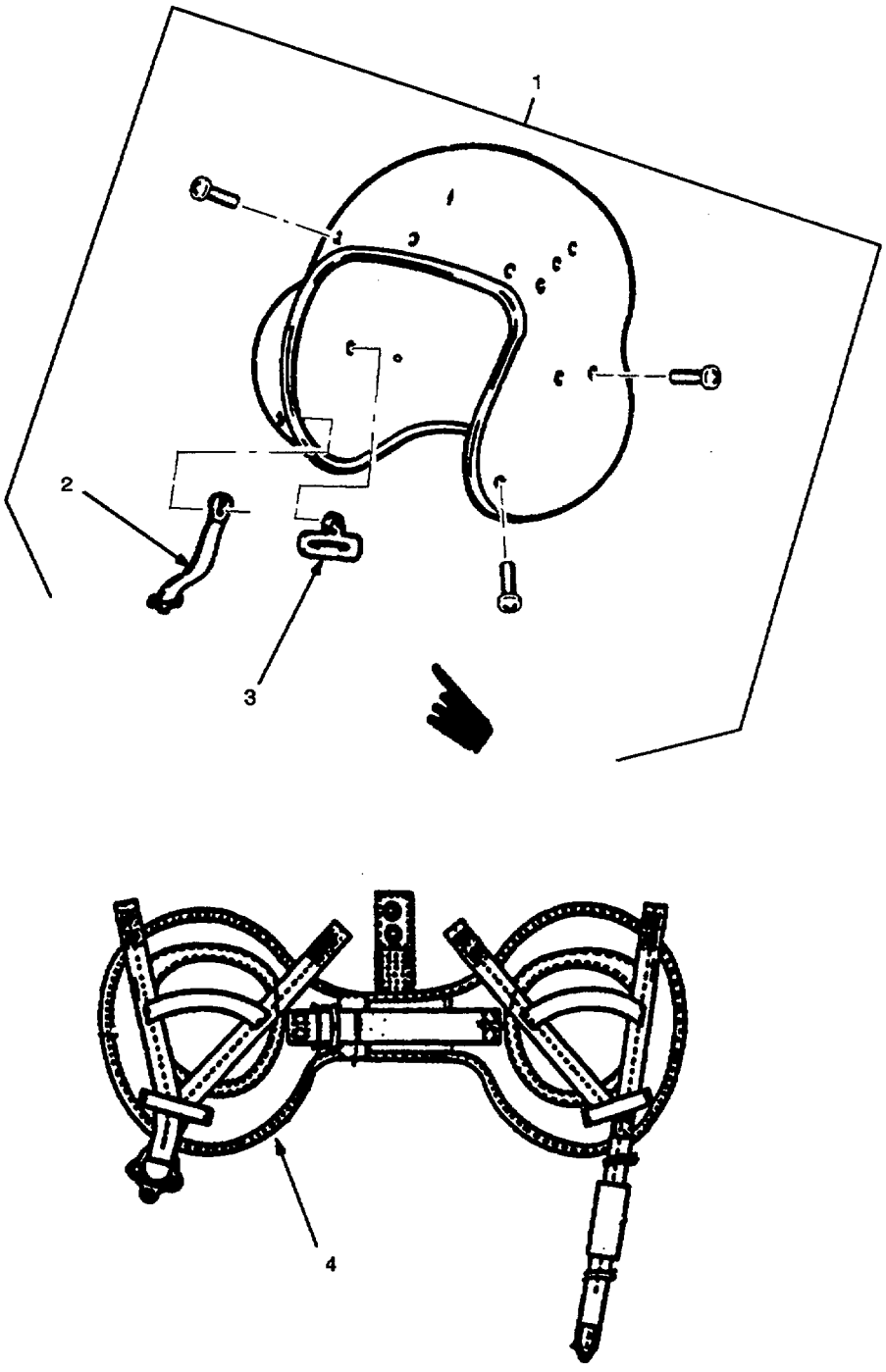



**Figure E-2. Retention and Suspension Assembly (Sheet 1 of 2).**

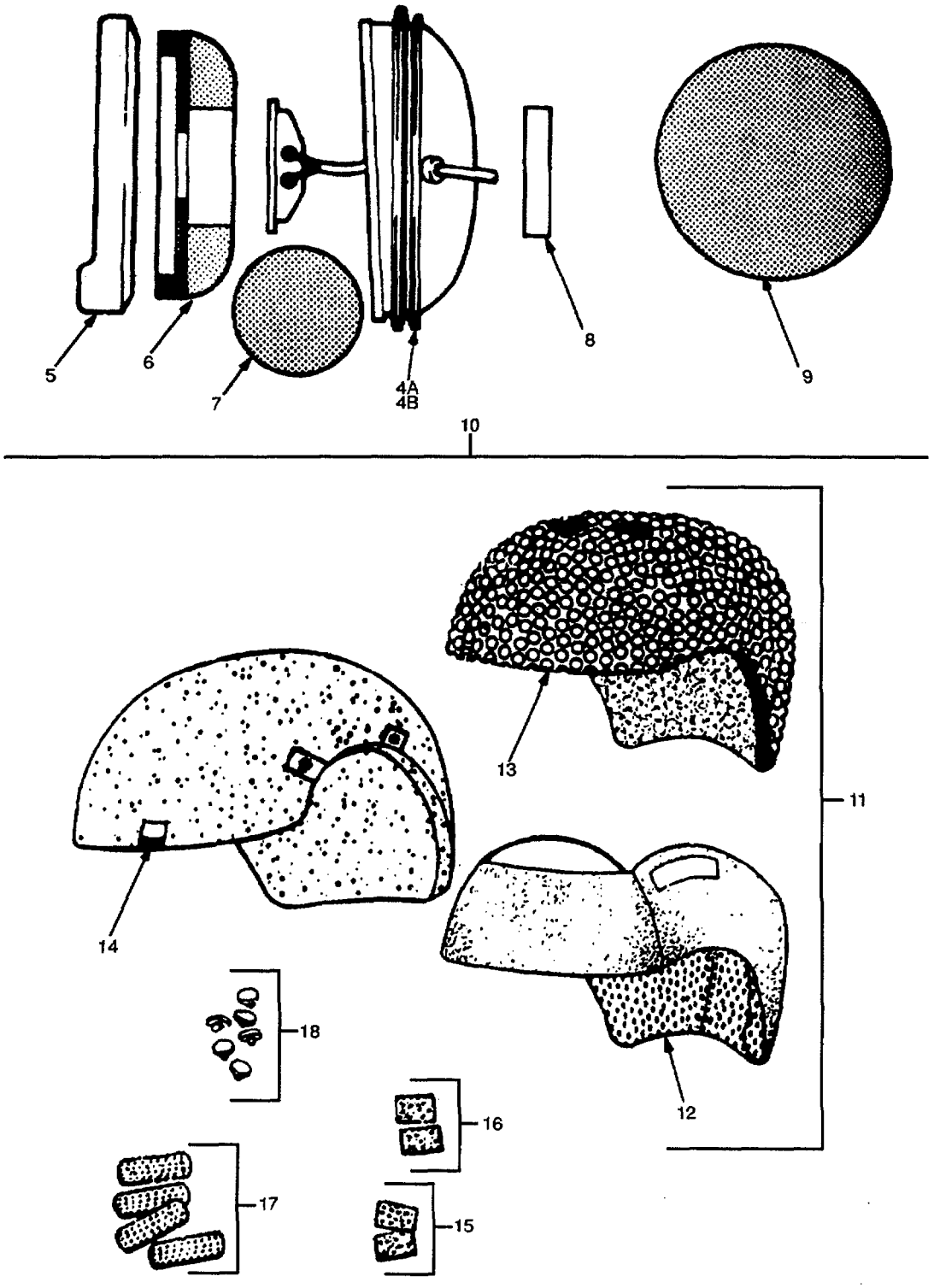



**Figure E-2. Retention and Suspension Assembly (Sheet 2 of 2).**

SECTION II

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODE (UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 02. RETENTION AND SUSPENSION ASSY | |
| | | | | FIGURE E-2. RETENTION AND SUSPENSION ASSY | |
| 1 | PAOZZ | 81337 | 8-2-501-12 | SCREW, ASSY, RETN ASY | 4 |
| 2 | PAOZZ | 81337 | 8-2-515 | CROSS STRAP EARCUP | 1 |
| 3 | PAOZZ | 81337 | 8-2-516-13 | .ADAPTER | 1 |
| 4 | PAOZZ | 97427 | 89D7639-1 | RETENTION ASSY REG<br>UOC:RE1 | 1 |
| 4A | PAOZZ | 81337 | 8-2-511-6 | EARCUP R/H | 1 |
| 4B | PAOZZ | 81337 | 8-2-511-5 | EARCUP UH H | 1 |
| 5 | PAOZZ | 81337 | 8-2-513-5-8 | .EAR PAD ASSEMBLY | 1 |
| 6 | PAOZZ | 81337 | 8-2-860 | .CUSHION, EARCUP INSR | 1 |
| 7 | PAOZZ | 81337 | 8-2-512 | .CUSHION, BACKING | 1 |
| 8 | PAOZZ | 81337 | 8-2-555 | .SPACER KIT EARCUP | 1 |
| 9 | PAOZZ | 81337 | 8-2-501-12 | PAD, EARCUP CHAFFING | 1 |
| 10 | PAOZZ | 97427 | A7256-1 | .LINER AND TPL ASSEMBLY: REG | 1 |
| | PAOZZ | 97427 | A7256-2 | .LINER AND TPL ASSEMBLY: X-LGE | 1 |
| | PAOZZ | 97427 | A7256-3 | .LINER AND TPL ASSEMBLY: SMALL REG | 1 |
| 11 | PAOZZ | 97427 | D7087-4 | .TPL ASSEMBLY: REG (LAYERS & COVER) | 1 |
| | PAOZZ | 97427 | D7087-5 | .TPL ASSEMBLY: X-LGE (LAYERS & COVER) | 1 |
| | PAOZZ | 97427 | D7087-11 | ..TPL ASSEMBLY: SMALL REG (LAYERS & COVER) | 1 |
| 12 | PAOZZ | 97427 | D7088-4 | ...TPL COVER: REG | 1 |
| | PAOZZ | 97427 | D7088-5 | ...TPL COVER: X-LGE | 1 |
| | PAOZZ | 97427 | D7088-11 | ...TPL COVER: SMALL REGULAR | 1 |
| 13 | PAOZZ | 97427 | C7257-1 | ...TPL LAYER ASSEMBLY: REG | 1 |
| | PAOZZ | 97427 | C7257-2 | ...TPL LAYER ASSEMBLY: X-LGE | 1 |
| | PAOZZ | P7427 | C7257-4 | ...TPL LAYER ASSEMBLY: SMALL REG | 1 |
| 14 | PAOZZ | 97427 | D7286-1 | .LINER, ENERGY ABSORBING: REG | 1 |
| | PAOZZ | 97427 | D7211-1 | .LINER, ENERGY ABSORBING: X-LGE | 1 |
| 15 | PAOZZ | 97427 | A7256-20 | ....FASTENER, PILE: 1" x 1/2 | 2 |
| 16 | PAOZZ | 97427 | A7256-21 | ....FASTENER, HOOK: 1" x 1/2 | 2 |
| 17 | PAOZZ | 97427 | B7027 | ....FASTENER, HOOK: 2 1/4" x 1" self-adhesive | 4 |
| 18 | PAOZZ | 97427 | A4944 | ...PLUGS, RUBBER | 6 |
| | | | | END OF FIGURE | |

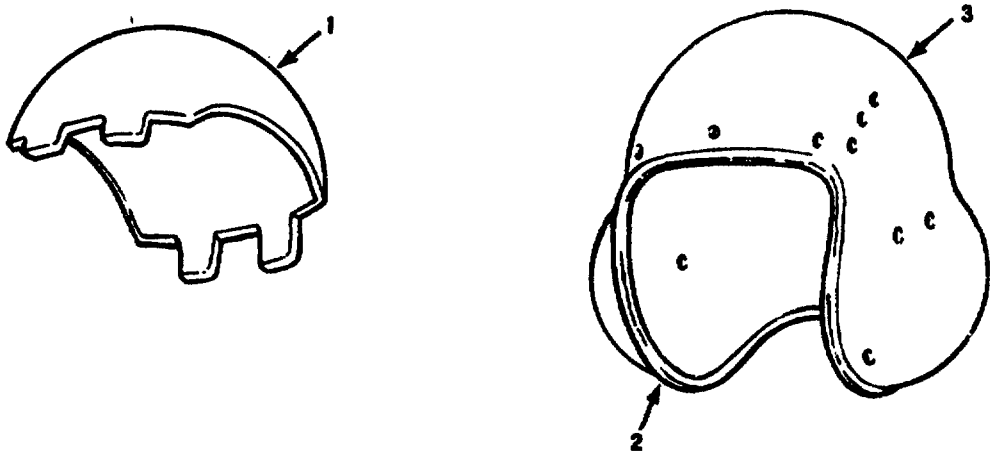



**Figure E-3. Liner, Boading and Outershell.**

**SECTION II**

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE CN CODESIUOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 03. LINER AND BEADING AND OUTERSHELL | |
| | | | | FIGURE E-3. LINER AND BEADING AND OUTERSHELL | |
| 1 | PAOZZ | 81337 | 8-2-521 | LINER ENERGY ABSORB | 1 |
| | | | | UOC:RE1 | 1 |
| 1 | PAOZZ | 81331 | 8-2-522 | LINER ENERGY ABSORB | 1 |
| | | | | UOC:XL1 | |
| 2 | PAOZZ | 81337 | 8-2-501 | BEADING,EDGE,RUBBER | 1 |
| 3 | XAOZD | | | SHELL, OUTER, REGULAR RE1 | 1 |
| 3 | XAOZD | | | SHELL, OUTER, EXTRA LARGE XL1 | 1 |

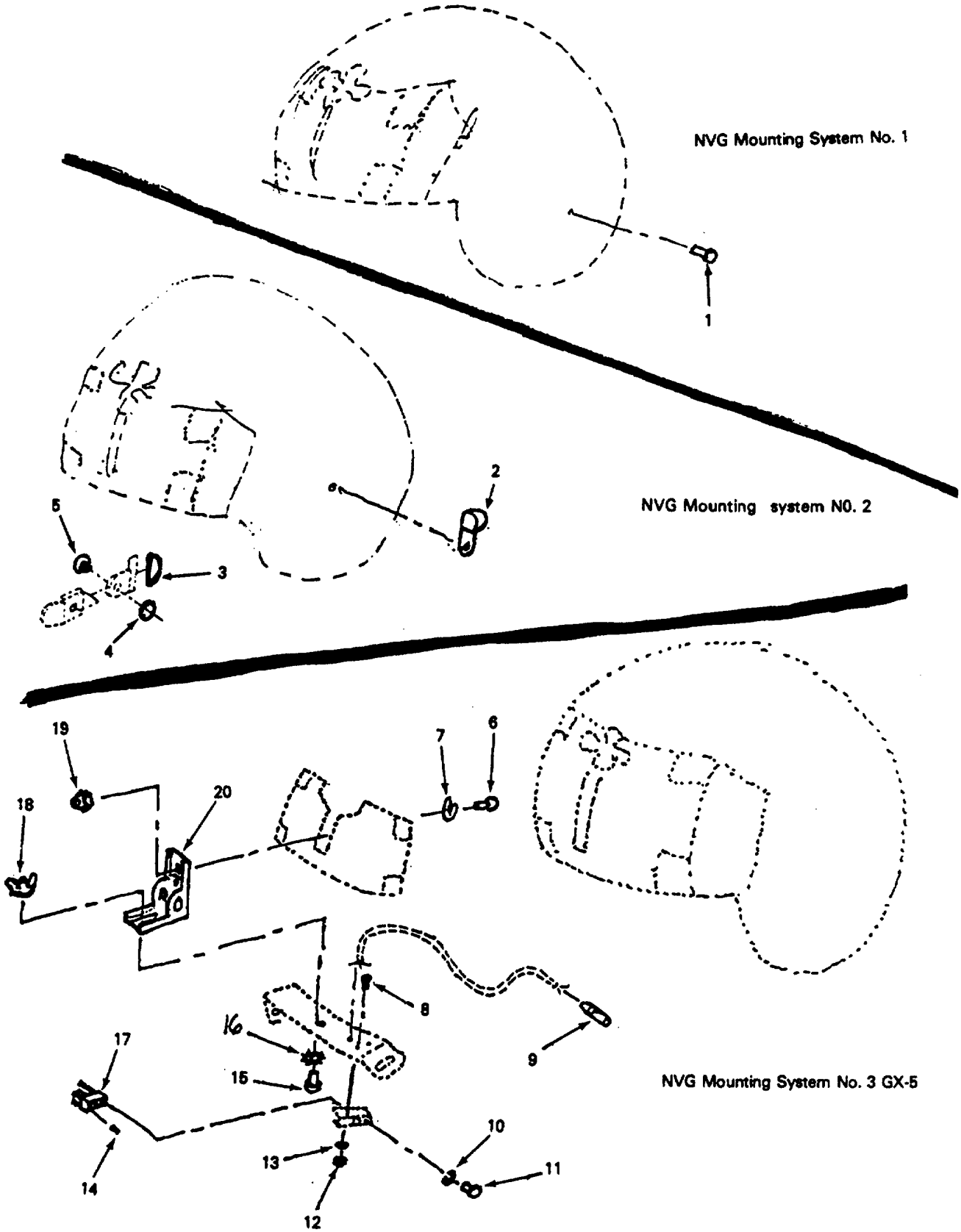



Figure E-4. NVG Attachments (Sheet 1 of 2)

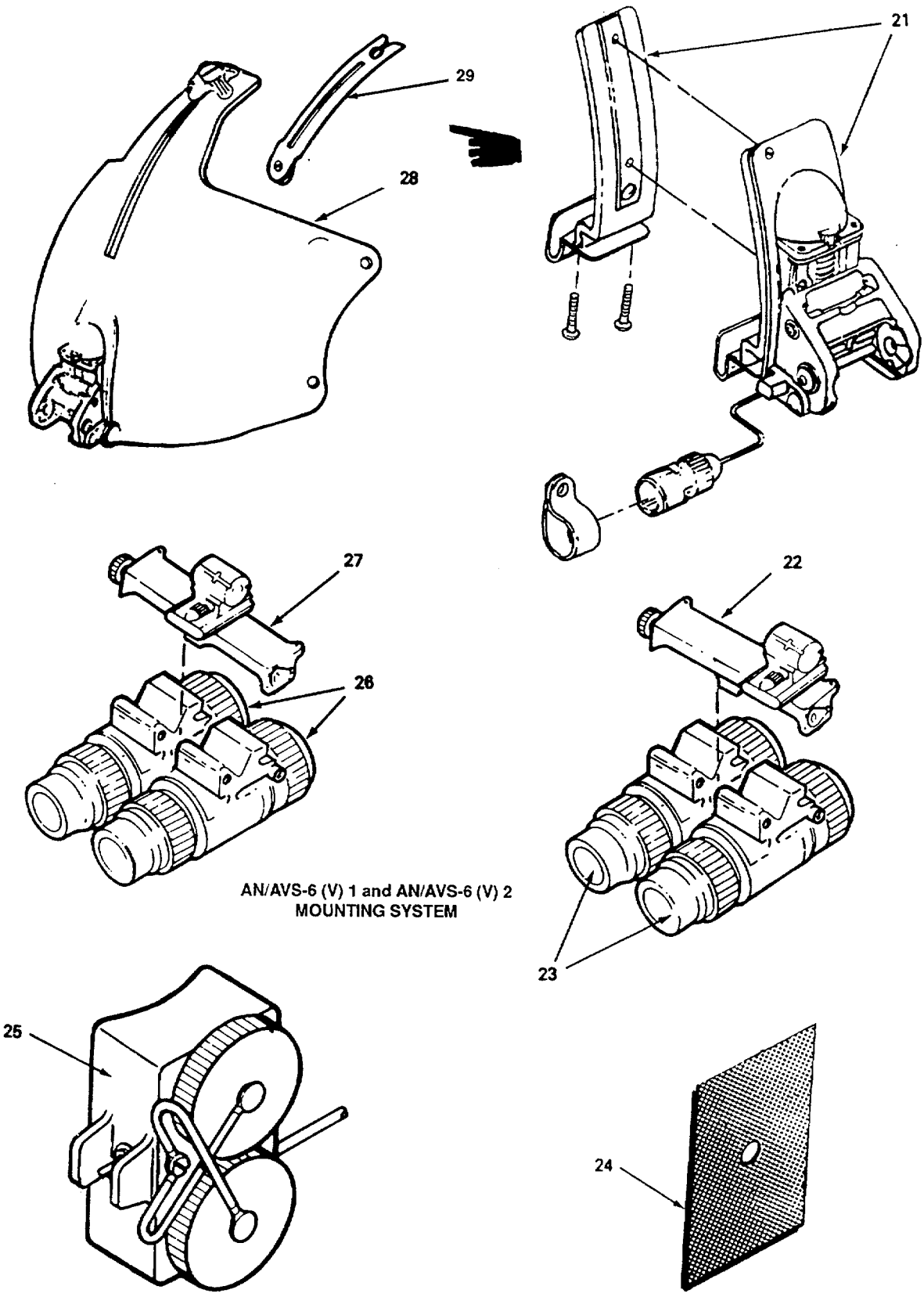



Figure E-4. NVG Attachments (Sheet 2 of 2)

**SECTION II**

| (1) ITEM NO | (2) SMR CODE | (3) FSCM | (4) PART NUMBER | (5) DESCRIPTION AND USABLE ON CODES (UOC) | (6) QTY |
|---|---|---|---|---|---|
| | | | | GROUP 04. NVG ATTACHMENTS | |
| | | | | FIGURE E-4. NVG ATTACHMENTS | |
| 1 | PAOZZ | 88044 | AN227-10M6 | STUD, SNAP, FASTENER USE ON N1 | 2 |
| 2 | PAOZZ | 96906 | MS21122C6 | CLAMP, LOOP USE ON N2 | 2 |
| | PAOZZ | S3120 | C121Z9C102 | STRAP, TIEDOWN, ELECT USED TO FABRICATE RELEASE ASSY,USE ON N2 | 2<br>2 |
| 3 | PAOZZ | 81349 | MILR3390 | DEE-RING | 2 |
| 4 | PAOZZ | 88044 | AN227-7 | SOCKET,SNAP FASTENER USE ON N2 | 2 |
| 5 | PAOZZ | 12204 | 112457. | CAP,SNAP,FASTENER | 2 |
| 6 | PAOZZ | 96906 | MS24694S50 | SCREW,MACHINE USE ON N3 | 1 |
| 7 | PAOZZ | 88044 | AN970-3 | WASHER,FLAT USE ON N3 | 1 |
| 8 | PAOZZ | 51273 | F13-25LG | SCREW,MACHINE USE ON N3 | 2 |
| 9 | PAOZZ | 2P953 | RCGOB304C0040 | CONNECTOR,RECEPTACLE USE ON N3 | 6 |
| 10 | PAOZZ | 96906 | MS35338-136B | WASHER,LOCK USE ON N3 | 1 |
| 11 | PAOZZ | 96906 | MS51957-25B | SCREW,MACHINE USE ON N3 | 1 |
| 12 | PAOZZ | 96906 | MS35649-224B | NUT,PLAIN,HEXAGON USE ON N3 | 2 |
| 13 | PAOZZ | 96906 | MS35338-134B | WASHER,LOCK | 2 |
| 14 | PAOZZ | 13567 | RT205962-2 | CONTACT,ELECTRICAL USE ON N3 | 4 |
| 15 | PAOZZ | 88044 | AN4H3A | BOLT,MACHINE USE ON N3 | 1 |
| 16 | PAOZZ | 96906 | MS35335-33 | WASHER,LOCK USE ON N3 | 1 |
| 17 | PAOZZ | 80063 | SMD657412 | CONNECTOR,PLUG,ELEC USE ON N3 | 1 |
| 18 | PAOZZ | 96906 | MS35426-14 | NUT,PLAIN,WING USE ON N3 | 1 |
| 19 | PAOZZ | 96906 | MS20500-1032 | NUT,SELF-LOCKING,HE USE ON N3 | 1 |
| 20 | PAOZZ | 25534 | K-5162 | L-BRACKET,CAMERA/FL USE ON NS | 1 |
| 21 | PAOZZ | 54490 | 5002610 | MOUNT,ASSEMBLY USE ON N4-1 | 1 |
| 22 | PAFZZ | 54490 | 5002570 | SHELF,SLIDE USE ON N4-1 | 1 |
| 23 | XBOFF | 54490 | 5002626 | BINOCULAR, ASSEMBLY USE ON N4-1 | 1 |
| 24 | PAOZZ | 54490 | 5002516-2 | FASTENER TAPE,H-P USE ON N4-1,N4-2 | 1 |
| 25 | PAOZZ | 54490 | 500210 | POWER PACK ASSEMBLY USE ON N4-1,N4-2<br>UOC:RE1 | 1 |
| 26 | XBOFF | 54490 | 5002520 | BINOCULAR,ASSEMBLY USE ON N4-2 | 1 |
| 27 | PAOZZ | 54490 | 5002570 | SHELF,SLIDE ASSY USE ON N4-2 | 1 |
| 28 | PAOZZ | 54490 | 5002530 | MOUNT ASSEMBLY USE ON N4-2 | 1 |
| 29 | PAOZZ | 54490 | 5002590 | VISOR LINK ASSY USE ON N4-2 | 1 |
| | | | | END OF FIGURE | |

**SECTION IV**

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

**NATIONAL STOCK NUMBER INDEX**

| STOCK NUMBER | FIG. | ITEM | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|---|
| 5310-00-063-6716 | E-4 | 18 | | | |
| 5975-00-074-2072 | E-4 | | | | |
| 8415-00-117-4428 | E-3 | 1 | | | |
| 8415-00-117-4429 | E-3 | 1 | | | |
| 5310-00-167-0765 | E-4 | 7 | | | |
| 8415-00-169-6436 | E-2 | 3 | | | |
| 5310-00-177-1301 | E-4 | 13 | | | |
| 5306-00-182-2014 | E-4 | 15 | | | |
| 5310-00-208-4026 | E-4 | 19 | | | |
| 5310-00-209-0786 | E-4 | 16 | | | |
| 5325-00-276-4946 | E-4 | 4 | | | |
| 8415-00-410-4665 | E-1 | 7 | | | |
| 8415-00-410-4666 | E-1 | 5 | | | |
| 8415-00-411-0115 | E-1 | 2 | | | |
| 5340-00-434-9596 | E-4 | 2 | | | |
| 5310-00-470-3089 | E-4 | 12 | | | |
| 8415-00-490-1202 | E-1 | 3 | | | |
| 5305-00-702-0609 | E-4 | 6 | | | |
| 8415-01-111-9027 | E-2 | 5 | | | |
| 5855-01-149-4108 | E-4 | 24 | | | |
| 5855-01-260-6451 | E-4 | 29 | | | |

SECTION IV

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

### PART NUMBER INDEX

| FSCM | PART NUMBER | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|
| 88044 | AN227-10M6 | 5325-00-276-4930 | E-4 | 1 |
| 88044 | AN227-7 | 5325-00-276-4946 | E-4 | 4 |
| 88044 | AN4H3A | 5306-00-182-2014 | E-4 | 1 |
| 88044 | AN970-3 | 5310-00-167-0765 | E-4 | 7 |
| 53120 | CI2IZ9C102 | 5975-00-074-2072 | E-4 | 2 |
| 51273 | F13-2-5LG | 5305-00-054-5638 | E-4 | 8 |
| 25534 | K-5162 | | E-4 | 20 |
| 81337 | 8-2-523-4-12 | 8415-00-933-9280 | E-1 | 1 |
| 81349 | MILR3390 | 5365-00-260-1412 | E-4 | 3 |
| 96906 | MS20500-1 032 | 5310-00-208-4026 | E-4 | 19 |
| 96906 | MS21122C6 | 5340-00-434-9596 | E-4 | 2 |
| 96906 | MS24694 | 5305-00-702-0609 | E-4 | 6 |
| 96906 | MS35335-33 | 5310-00-209-0786 | E-4 | 16 |
| 96906 | MS35338-134B | 5310-00-177-1301 | E-4 | 13 |
| 96906 | MS35338-136B | 5310-00-224-0747 | E-4 | 10 |
| 96906 | MS3 5426-14 | 5310-00-063-6716 | E-4 | 18 |
| 96906 | MS35649-224B | 5310-00-470-3089 | E-4 | 12 |
| 96906 | MS51957-25B | 5305-00-470-3205 | E-4 | 1 |
| 2P953 | RCGOB304C0040 | 5935-01-254-7809 | E-4 | 9 |
| 13567 | RT205962-2 | 5999-00-484-5395 | E-4 | 14 |
| 80063 | SM-D-657412 | 5935-00-137-6789 | E-4 | 17 |
| 12204 | 112457 | 5325-00-276-9724 | E-4 | 5 |
| 54490 | 500210 | 5855-01-149-4104 | E-4 | 25 |
| 54490 | 5002516-2 | 5855-01-149-4108 | E-4 | 24 |
| 54490 | 5002520 | | E-4 | 26 |
| 54490 | 5002530 | 5855-01-151-4229 | E-4 | 28 |
| 54490 | 5002570 | 5855-01-151-4227 | E-4 | 22 |
| 54490 | 5002570 | 5855-01-151-4227 | E-4 | 27 |
| 54490 | 5002610 | 5855-01-151-4230 | E-4 | 21 |
| 54490 | 5002626 | | E-4 | 23 |
| 81337 | 8-2-481 | 8415-00-410-4666 | E-1 | 5 |
| 81337 | 8-2-489-4-2 | 8415-00-410-4669 | E-1 | 6 |
| 81337 | 8-2-489-4-3 | 8415-00-410-4668 | E-1 | 8 |
| 81337 | 8-2-501-12 | 8415-00-490-1201 | E-2 | 1 |
| 81337 | 8-2-501-12 | 8415-01-017-5708 | E-2 | 9 |
| 81337 | 5-2-501-11 | 8415-00-757-8213 | E-3 | 2 |
| 81337 | 8-2-507 | 8415-00-490-1202 | E-1 | 3 |
| 81337 | 8-2-509 | 8415-00-411-0115 | E-1 | 2 |
| 81337 | 8-2-5130-4-28 | 8415-00-490-1197 | E-1 | 4 |
| 81337 | 8-2-510-4-8 | 8415-00-490-1196 | E-1 | 4 |
| 81337 | 8-2-511-6 | 8415-01-017-5706 | E-2 | 4A |
| 81337 | 8-2-511-5 | 8415-01-017-5707 | E-2 | 4B |
| 81337 | 8-2-860 | 8415-01-330-6618 | E-2 | 6 |
| 81337 | 8-2-555 | 8415-00-410-4667 | E-2 | 8 |
| 81337 | 5-2-512-5-6 | 8415-01-017-5709 | E-2 | 7 |
| 81337 | 8-2-513-5-8 | 8415-01-111-9027 | E-2 | 5 |

**SECTION IV**

## NATIONAL STOCK NUMBER AND PART NUMBER INDEX

### PART NUMBER INDEX

| FSCM | PART NUMBER | STOCK NUMBER | FIG. | ITEM |
|---|---|---|---|---|
| 97427 | 89D7639-1 | 8415-01-330-6609 | E-2 | 4 |
| 81337 | 8-2-515-10 | 8415-00-410-4661 | E-2 | 2 |
| 81337 | 8-2-516 | 5415-00-169-6436 | E-2 | 3 |
| 81337 | 8-2-521 | 8415-00-117-4428 | E-3 | 1 |
| 81337 | 5-2-522 | 8415-00-117-4429 | E-3 | 1 |
| 81337 | 8-2-525 | 8415-00-410-4665 | E-1 | 7 |

# INDEX

**M**



**N**



**O**

**O**-Continued



**P**



**R**



**S**



**T**



**V**

**By Order of the Secretary of the Army:**

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

**Official:**

**R. L. DILWORTH**
***Brigadier General, United States Army***
***The Adjutant General***

DISTRIBUTION:
To be distributed in accordance with DA Form 12-31, AVUM and AVIM Maintenance requirements for all Fixed and Rotary Wing Aircraft.

*U.S. GOVERNMENT PRINTING OFFICE : 1995-387-868 (32237)

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

*THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.*

## SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

| PUBLICATION NUMBER | PUBLICATION DATE | PUBLICATION TITLE |
|---|---|---|
| | | |

BE EXACT PIN-POINT WHERE IT IS

| PAGE NO. | PARA-GRAPH | FIGURE NO. | TABLE NO. |
|---|---|---|---|
| | | | |

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

| PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER | SIGN HERE |
|---|---|
| | |

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

## The Metric System and Equivalents

### *Linear Measure*

1 centimeter = 10 millimeters =.39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

### *Liquid Measure*

1 centiliter = 10 milliters =.34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 16 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

### *Weights*

1 centigram = 10 milligrams =.15 grain
1 decigram = 10 centigrams = 1.54 grains
I gram = 10 decigram =.035 ounce
1 dekagram = 10 grams =.35 ounce
I hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

### *Square Measure*

1 sq. centimeter = 100 sq. millimeters =.155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers =.386 sq. mile

### *Cubic Measure*

1 cu. centimeter = 1000 cu. millimeters =.06 cu. inch.
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

## Approximate Conversion Factors

| ***To change*** | ***To*** | ***Multiply*** | ***To change*** | ***To*** | ***Multiply by*** |
|---|---|---|---|---|---|
| inches | centimeters | 2.540 | ounce-inches | newton-meters | .007062 |
| feet | meters | .305 | centimeters | inches | .394 |
| yards | meters | .914 | meters | feet | 3.280 |
| miles | kilometers | 1.609 | meters | yards | 1.094 |
| square inches | square centimeters | 6.451 | kilometers | miles | .621 |
| square feet | square meters | .093 | square centimeters | square inches | .155 |
| square yards | square meters | .836 | square meters | square feet | 10.764 |
| square miles | square kilometers | 2.590 | square meters | square yards | 1.196 |
| acres | square hectometers | .405 | square kilometers | square miles | .386 |
| cubic feet | cubic meters | .028 | square hectometers | acres | 2.471 |
| cubic yards | cubic meters | .765 | cubic meters | cubic feet | 35.315 |
| fluid ounces | milliliters | 29,573 | cubic meters | cubic yards | 1.308 |
| pints | liters | .473 | milliliters | fluid ounces | .034 |
| quarts | liters | .946 | liters | pints | 2.113 |
| gallons | liters | 3.785 | liters | quarts | 1.057 |
| ounces | grams | 28.349 | liters | gallons | .264 |
| pounds | kilograms | .454 | grams | ounces | .035 |
| short tons | metric tons | .907 | kilograms | pounds | 2.205 |
| pound-feet | newton-meters | 1.356 | metric tons | short tons | 1.102 |
| pound-inches | newton-meters | .11296 | | | |

## Temperature (Exact)

| | | | | |
|---|---|---|---|---|
| °F | Fahrenheit temperature | 5/9 (after subtracting 32) | Celsius temperature | °C |

**PIN: 059902-006**