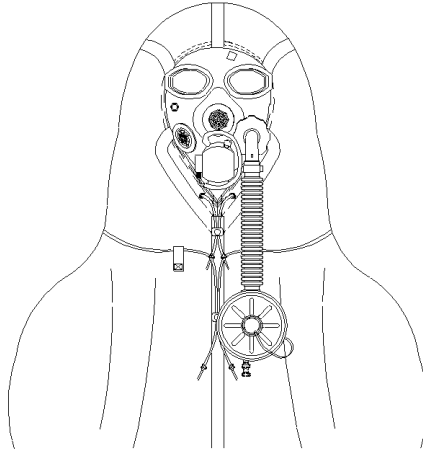


**TECHNICAL MANUAL**

**UNIT MAINTENANCE MANUAL (INCLUDING  
REPAIR PARTS AND SPECIAL TOOLS LIST) FOR**



**MASK, CHEMICAL-BIOLOGICAL: M45**  
**4240-01-414-4034--EXTRA SMALL**  
**4240-01-414-4035--SMALL**  
**4240-01-414-4051--MEDIUM**  
**4240-01-414-4052--LARGE**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**7 JUNE 1999**

## WARNING SUMMARY

This publication describes physical and chemical processes which may require the use of chemicals, solvents, paints, or other commercially available material. The user of this publication should obtain the material safety data sheets Occupation Safety and Health Act (OSHA) Form 20 or equivalent from the manufacturer or suppliers of materials to be used. The user must become completely familiar with the manufacturer/supplier information and adhere to the procedures, recommendations, warnings, and cautions of the manufacturer/supplier for the safe use, handling, storage, and disposal of their materials. The following are general safety precautions and instructions that people must understand and apply during many phases of operation and maintenance to ensure personal safety and health and the protection of DOD property. Portions of this may be repeated elsewhere in this publication for emphasis.

### WARNING AND CAUTION STATEMENTS

WARNING and CAUTION statements have been strategically placed throughout this text prior to operating or maintenance procedures, practices, or conditions considered essential to the protection of personnel (WARNING) or equipment and property (CAUTION). A WARNING or CAUTION will apply each time the related step is repeated. Prior to starting any task, the WARNINGS or CAUTIONS included in the test for that task must be reviewed and understood. Refer to the materials list at the beginning of the appropriate manual section for materials used during maintenance of this equipment. This warning summary contains the WARNINGS and CAUTIONS included in the manual. The detailed warnings for hazardous materials only are listed separately in the warning summary as the "Hazardous Materials Warnings" section.

The following are general precautions that personnel must understand and apply during operation and maintenance of the M45 mask:

- > Soldiers should not wear hair styles which could interfere with the fit of the facepiece.
- > Do not touch facepiece with n-amyl acetate (banana oil). It is a solvent and could weaken the facepiece.

**HAZARDOUS MATERIALS WARNINGS**

Warnings for hazardous material in this manual are associated with items you will come in contact with while maintaining your mask.

For each hazardous material used, a material safety data sheet (MSDS) is required to be provided and available for review. Consult your local safety and health staff concerning any questions on hazardous chemicals, MSDSs, personal protective equipment requirements, and appropriate handling and emergency procedures.

**EXPLANATION OF SINGLE HAZARD SYMBOLS**



The symbol of drops of a liquid onto a hand shows that the material will cause burns or irritation of human skin or tissue.



The symbol of a person wearing goggles shows that the material will injure the eyes.



The symbol of a flame shows that the material can ignite and burn personnel.



The symbol of a human figure in a cloud shows that vapors of a material present a danger to life or health.



The symbol of a skull and crossbones shows that a material is poisonous or is a danger to life.



The rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition or high pressure.

HAZARDOUS MATERIALS WARNINGS

Material/Icon

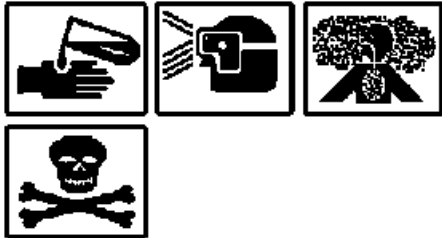
Warning

AMYL ACETATE, REAGENT,  
MIL-C-51130 (CAGEC 81349)



Amyl acetate is flammable and toxic to eyes, skin, respiratory tract and digestive system. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition. Store and use in cool areas. Vapors may explode when subjected to high temperatures.

CALCIUM HYPOCHLORITE, TECHNICAL,  
ASTM E 1229 (CAGEC 81346)/  
OC114 (CAGEC 81348)



Calcium hypochlorite is toxic to eyes, skin respiratory tract and digestive system. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas.

CLEANING COMPOUND, SOLVENT  
CRYSTAL SIMPLE GREEN (CAGEC 1Z575)



Cleaning compound is an irritant to eyes, skin, digestive system and respiratory tract. Eye protection should be used where splashing or misting may occur. Avoid repeated or prolonged contact. Use only in well ventilated areas.

LACQUER,  
TT-L-20 (CAGEC 81348)



Lacquer is flammable and toxic to eyes, skin, respiratory tract and digestive system. Skin/eye protection required. Avoid repeated/prolonged contact. Use only in well ventilated areas. Keep away from open flames or other sources of ignition.

**FIRST AID**

For first aid refer to FM 21-11.

**HEALTH/ENVIRONMENTAL HAZARD**

Filter canisters use ASC Whetlerite carbon which contains Chromium VI. Chromium VI is a known carcinogen if inhaled or swallowed. Damaged or unusable canisters are classified as hazardous waste:

DO NOT throw away damaged or unusable canisters as ordinary trash.

Do turn in damaged or unusable canisters to your hazardous waste management office or Defense Reutilization and Marketing Office (DRMO).

Canisters are completely safe to handle and use if they are not damaged in such a way that carbon leaks from them. In the unlikely event that carbon should leak, use protection such as a dust respirator to cover nose and mouth and put carbon in container such as self-sealing plastic bag; turn in to hazardous waste management office or DRMO.

Disposal of hazardous waste is restricted by the Resource Conservation and Recovery Act as amended (42 U.S.C.A. sec 6901 et seq). Violation of these laws is subject to severe criminal penalties.

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 Revision.....N/A

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**TECHNICAL MANUAL**

**Unit Maintenance Manual  
(Including Repair Parts and Special Tools List)  
for**

**MASK, CHEMICAL-BIOLOGICAL: M45  
(4240-01-414-4034--EXTRA SMALL)  
(4240-01-414-4035--SMALL)  
(4240-01-414-4051--MEDIUM)  
(4240-01-414-4052--LARGE)**

**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 procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, USA SBCCOM, ATTN: AMSSB-RBD-B, 5183 Blackhawk Road, Aberdeen Proving Ground, MD, 21010-5424. A reply will be furnished to you.

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## HOW TO USE THIS MANUAL

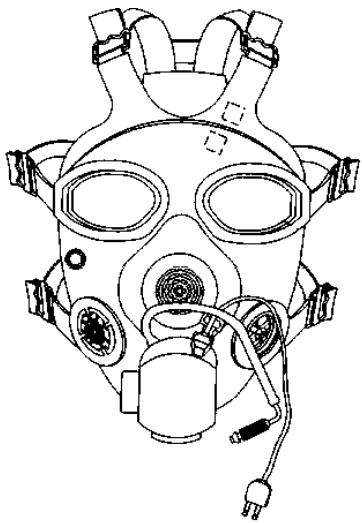
This manual contains unit maintenance procedures for the Mask, Chemical-Biological: M45. At the beginning of each chapter, you will find an index of the topics covered in the chapter.

Instructions for unit maintenance procedures are contained in Chapter 2. In using these procedures, you must familiarize yourself with the entire maintenance procedure before beginning a specific maintenance task.

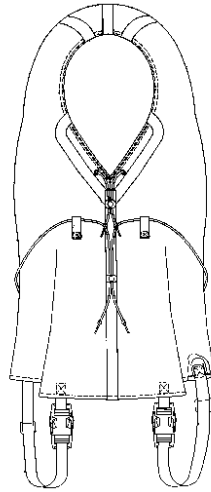
Read all the Warnings before you begin working on your equipment. Read each procedure completely before beginning a task. References in the manual are to pages, paragraphs, and appendixes or other publications as applicable.

This manual is organized for you to quickly find needed information. Several useful indexes are provided.

- a. Front Cover Index - Tabbed index of major functions and appendixes are keyed to pages in the manual. These major items are also listed in the Table of Contents.
- b. Table of Contents - List of chapters, sections and appendixes.
- c. Alphabetical Index - Extensive index for each subject, located at the end of the manual.



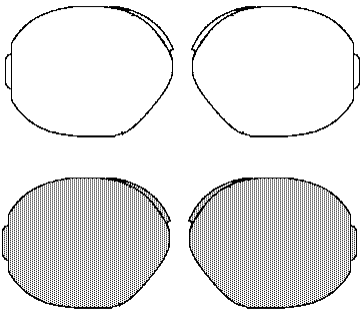
Facepiece Assembly



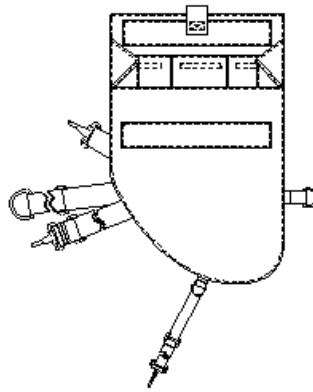
Hood



Second Skin



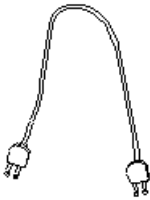
Outserts



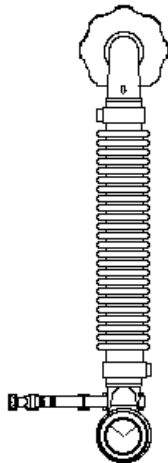
Carrier



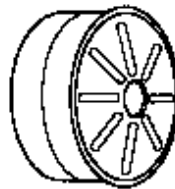
Faceform



Microphone Cable



Hose Assembly



Canister



Baffle Assembly

Fig 1, Mask, Chemical-Biological: M45

## CHAPTER 1 INTRODUCTION

---

### SECTION I. GENERAL INFORMATION

#### 1.1 SCOPE.

1.1.1 Type of Manual. Unit maintenance.

1.1.2 Model Numbers and Equipment Name. Mask, Chemical-Biological (CB): M45.

1.1.3 Purpose of Equipment. Protects the face, eyes, head, neck and respiratory tract of the soldier from field concentrations of CB agents, and radioactive fallout particles.

#### 1.2 MAINTENANCE FORMS, RECORDS, AND REPORTS.

Department of the Army forms and procedures used for equipment maintenance will be those prescribed by (as applicable) DA PAM 738-750, The Army Maintenance Management System (TAMMS).

#### 1.3 DESTRUCTION OF ARMY MATERIAL TO PREVENT ENEMY USE.

Refer to TM 43-0002-31 for methods.

#### 1.4 PREPARATION FOR STORAGE OR SHIPMENT.

Refer to Chapter 2, Section VII, for preparation for storage or shipment.

#### 1.5 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR).

Send us an EIR, or put it on an SF 368 (Product Quality Deficiency Report). Mail it to the address specified in DA PAM 738-750, or call the Chemical Maintenance Hotline 800-831-4408. We will send you a reply.

#### 1.6 CORROSION PREVENTION AND CONTROL (CPC).

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in the future items. While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem. If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of key words such as "corrosion", "rust", "deterioration", or "cracking" will assure that the information is identified as a CPC problem. The form should be submitted to the address contained in DA PAM 738-750.

**1.7 NOMENCLATURE CROSS-REFERENCE LIST.**

<u>Common Name</u>	<u>Official Nomenclature</u>
Hood	CB Mask Hood
Canister	CB Mask Canister
External Drink Tube Assembly	Drink Tube, External
Hose Clip	Lanyard Retainer Assembly
Port Gasket	Packaging, Preformed
Voicemitter Gasket	Packaging, Preformed

**1.8 LIST OF ABBREVIATIONS.**

CB	Chemical and Biological
CPC	Corrosion, Prevention and Control
ALSE	Aviation Life Support Equipment
SOP	Standing Operating Procedure
QDC	Quick Disconnect Coupling
HSB	Heat-Sealed Bag

**SECTION II. EQUIPMENT DESCRIPTION AND DATA**

**1.9 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES.**

**1.9.1 Characteristics.**

- > Facepiece is made of silicone rubber with an in-turned sealing surface so it can form a comfortable seal on soldier's face.
- > Close-fitting eyelenses shaped to improve peripheral vision.
- > Second skin and hood for easy donning /doffing operations and additional protection from liquid agents.
- > Includes clear outserts.
- > Compatible with most optical sighting/night vision devices.
- > Canister can connect directly to the facepiece
- > Canister quickly and easily replaced.
- > Microphone and microphone pass through for aircraft communications.
- > Easy to use drinking system permits intake of liquids.
- > Facepiece is equipped with both front and side voicemitters for face-to-face and phone communications.

**1.9 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES (CONT).**

**1.9.2 Capabilities and Features.**

> Facepiece provides protection to face, eyes, head, neck and respiratory tract from CB agents and radioactive particles.

> Facepieces are issued in four sizes: extra small, small, medium, and large. Facepieces are marked with XS, S, M, or L.

> Second skins are issued in three sizes: extra small/small, medium and large. Second skin are marked with XS/S, M or L.

> Vision corrective inserts can be fitted inside the facepiece.

> Second skin covers facepiece to protect facepiece from liquid agent penetration.

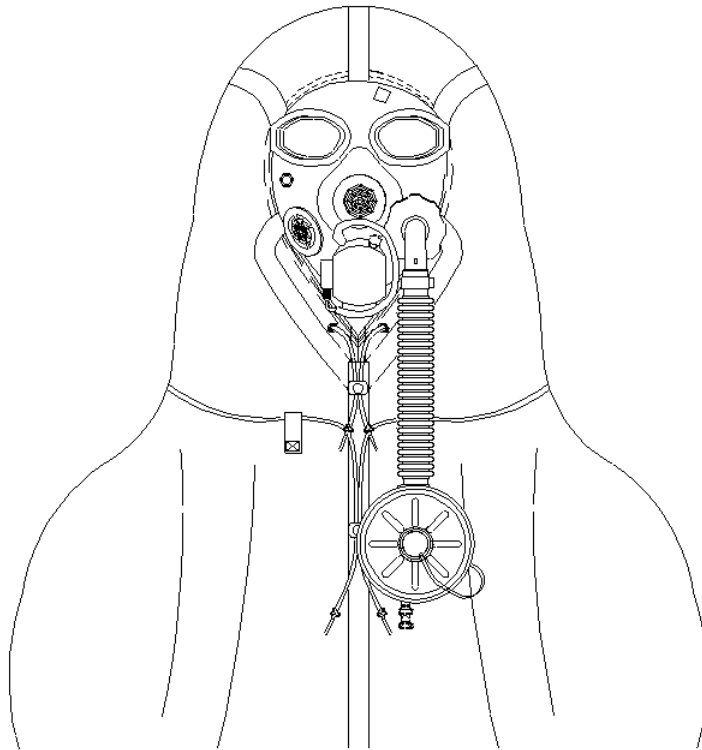
> Interchangeable nosecups (five sizes) improve fit, comfort and vision.

> Facepiece assembly interfaces with the flight helmets.

> Hose can be mounted to right side of facepiece to accommodate left hand firing.

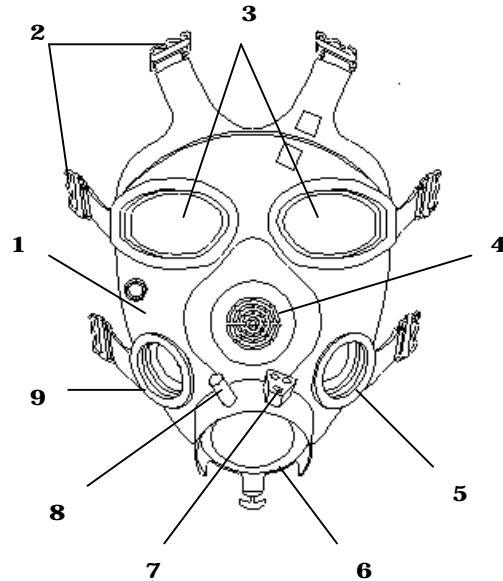
**1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS.**

The M45 mask consists of a facepiece assembly, hose assembly and various other components which connect to these assemblies.



1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).

1.10.1 Facepiece Assembly.



FACEBLANK ASSEMBLY (1) Consists of components permanently attached to the silicone rubber faceblank which include the buckle tabs, eyelenses, front voicemitter, inlet valve port, side voicemitter port and outlet valve housing.

BUCKLE TABS (2). Metal fasteners that allow the head harness to be secured to the facepiece.

EYELENSES (3). Made of rigid clear plastic and sealed in the facepiece openings by nylon eyerings.

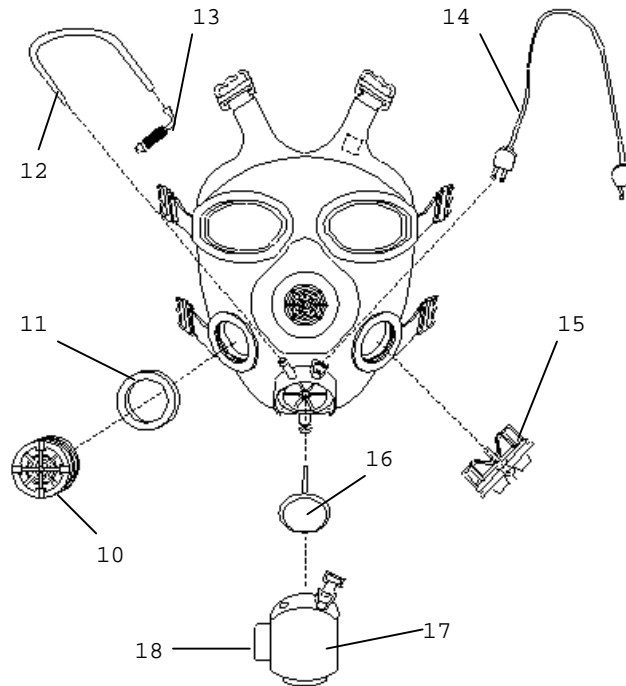
FRONT VOICEMITTER (4). Transmits the soldier's voice outside the facepiece.

INLET VALVE PORT (5). Consists of a threaded opening that allows the hose assembly swivel or the canister to be threaded tightly and seat against the inlet valve assembly valve body.

OUTLET VALVE HOUSING (6). Consists of an outlet valve seat, microphone cable receptacle (7) and drink tube pass through (8). The external drink tube connects to the fitting on the drink tube pass through.

SIDE VOICEMITTER PORT (9). Consists of the same threaded insert as the inlet valve port, and allows the voicemitter to be threaded tightly and seat against the voicemitter gasket.

1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).



SIDE VOICEMITTER (10). Transmits the soldier's voice outside the facepiece for phone applications.

VOICEMITTER GASKET (11). Seats inside voicemitter port, under the side voicemitter.

EXTERNAL DRINK TUBE (12). A rubber tube which fits over the drink tube pass through on one end and the QUICK DISCONNECT COUPLING (13) on the other. They are used to connect the mask to the M1 canteen cap for drinking.

MICROPHONE CABLE ASSEMBLY (14). Allows the soldier to use the aircraft communications system by connecting the mask to the aviator's helmet.

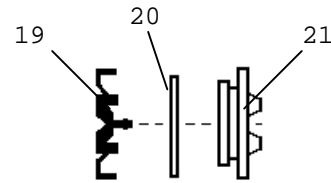
INLET VALVE ASSEMBLY (15). Sits in the inlet valve port, and acts as a seat for the inlet valve as well as a sealing surface for the hose assembly.

OUTLET VALVE DISK (16). Composed of silicone rubber, located behind outlet valve cover, and seats on outlet valve housing.

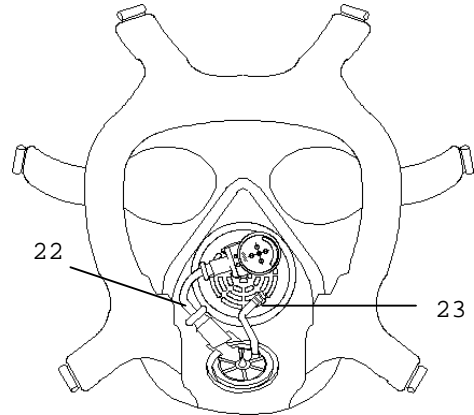
OUTLET VALVE COVER (17). Fits around the outlet valve housing, and protects the outlet valve disk and seat from dirt and damage. The left side contains a DRINK TUBE RETAINER (18), which holds the quick disconnect coupling while protecting it from dirt and damage.

**1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).**

INLET VALVE ASSEMBLY. Consists of a CAGE (19), VALVE DISK (20) and VALVE BODY (21). The cage supports and protects the disk, and is connected to the valve body. The valve body sits in the inlet valve port, and acts as a seat for the valve as well as a sealing surface for the hose assembly.

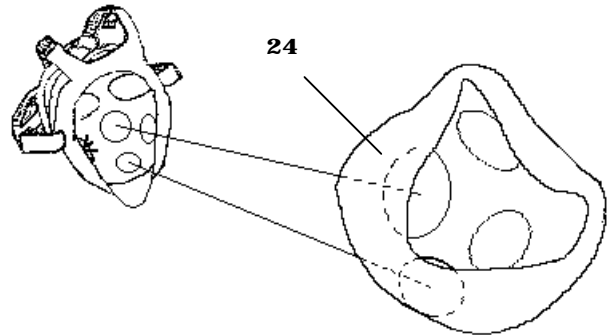


MICROPHONE ASSEMBLY (22). Allows the soldier to use aircraft communications via the microphone cable.



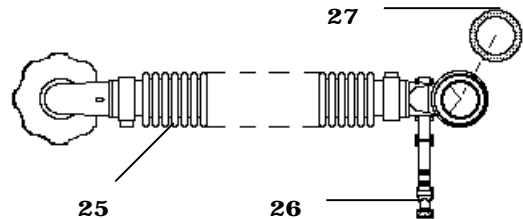
INTERNAL DRINK TUBE (23). Allows the soldier to drink while wearing the facepiece.

NOSECUP ASSEMBLY (24). Made of rubber, fits around the back of the front voicemitter and outlet valve housing. Contains the nosecup valve disks. A different nosecup configuration is available for left hand firing.



**1.10.2 Hose Assembly.**

HOSE (25). Made of flexible rubber, with a threaded canister connector on one end and a threaded swivel connector on the other. The canister connector contains a CANISTER CLIP (26), which is composed of a metal clip at the end of a strap. The clip is used to secure the hose assembly to your survival vest.



GASKET (27). Located in canister port of hose assembly, under the canister to produce a seal between the two components.

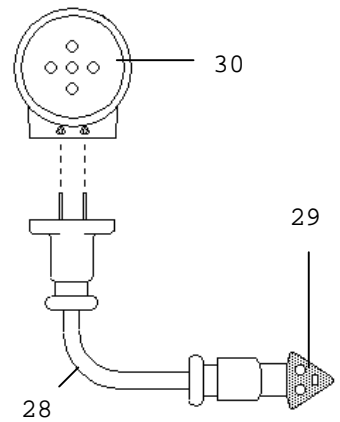


**1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).**

**1.10.3 Microphone Assembly.**

POSITIONER ASSEMBLY (28). A flexible wire, which mounts to the back of the outlet valve housing. A GASKET (29) is contained between the positioner and housing, to prevent liquids from contacting the pins. The wire allows for variable positioning.

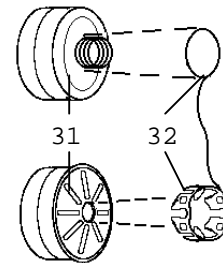
MICROPHONE (30). An M133/U microphone is mounted to the positioner assembly with screws. The microphone assembly allows for connection to communications systems via a microphone cable.



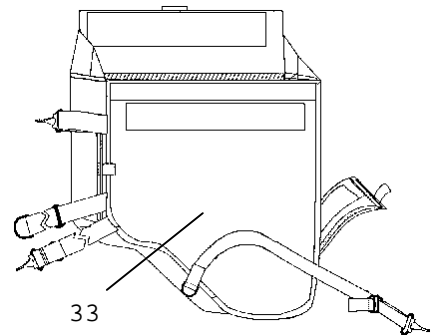
**1.10.4 Other Components.**

CANISTER (31). Attaches to the hose assembly canister port, or directly to facepiece hose port.

BAFFLE ASSEMBLY (32). A plastic cage which inserts into the canister inlet to prevent blockage of airflow. The baffle attaches to the canister threads by a lanyard.



CARRIER (33). A cloth bag with a hook and pile fastener on the quick-opening flap and adjustable straps for carrying. It includes pockets for storing components of the mask. An identification slot is attached on one side.

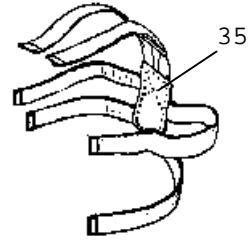


FACEFORM (34). A plastic mold that fits in the facepiece during storage for 30 days or more to maintain its shape.

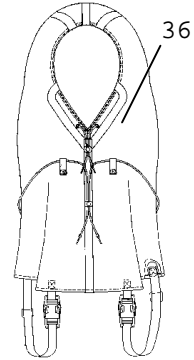


1.10 LOCATION AND DESCRIPTION OF MAJOR COMPONENTS (CONT).

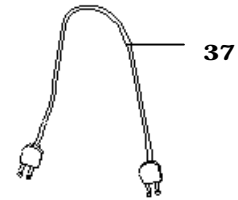
HEAD HARNESS (35). Consists of elastic webbing sewn to a rectangular head pad and buckled to facepiece. Head harness straps permit adjustment to obtain proper fit of the facepiece.



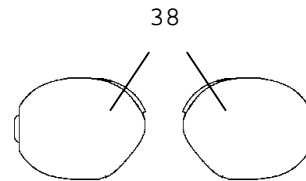
HOOD (36). Provides protection to the head and neck against liquid chemical agents. Made of lightweight butyl rubber coated fabric. It is not permanently attached to the facepiece. Hood is worn under the helmet and tied around facepiece.



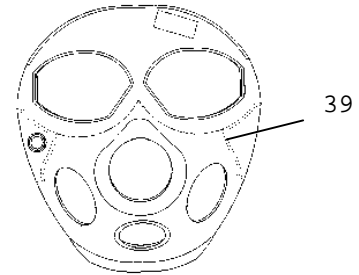
MICROPHONE CABLE (37). A flexible cable with male connectors at each end that attaches to the outlet valve housing and flight helmet.



OUTSERTS (38). Fits snugly around the eyerings to protect the eyelenses from scratches and also reduces fogging. A pair of neutral gray outserts are also provided.



SECOND SKIN (39). A butyl rubber cover that fit over the facepiece. A ridge on the bottom prevents the hood from slipping.



**1.11 EQUIPMENT DATA.**

**1.11.1 Tabulated Data.**

Weight (with carrier): 4.5 lbs. (2.0 kg)  
 Dimensions (in carrier): 12 x 12 x 6.3 in. (30.5 x 30.5 x 15.9 cm)

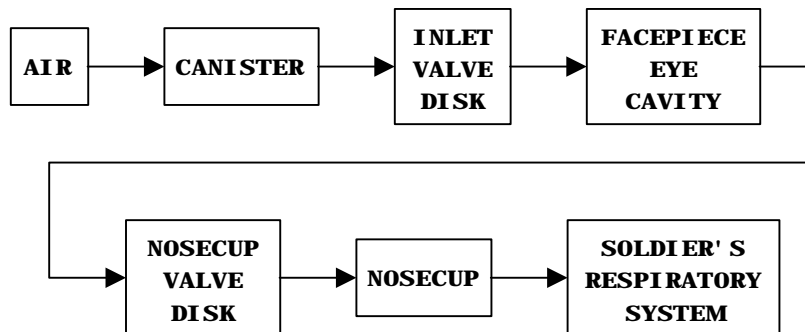
**1.11.2 Shipping and Storage Data.**

Number and type of pack: 10 masks in individual fiberboard boxes per fiberboard container  
 Fiberboard container dimensions: 34 x 24.8 x 12.3 in. (86.4 x 62.9 x 31.1 cm)

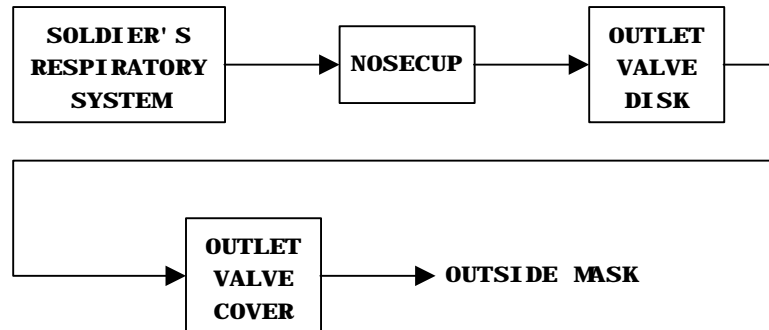
**Section III. THEORY OF OPERATION**

**1.12 PROTECTION.** The M45 mask protects the head, neck, face, and respiratory tract of the soldier from chemical agents, biological agents, and other particles. Protection is provided by the agent resistant facepiece, second skin and hood. Although all three components protect the soldier against CB agents in gaseous form, the second skin and hood provide increased liquid agent protection. The facepiece protects the respiratory system of the soldier by filtering contaminated air while maintaining an airtight seal against the face. All outside air is forced to enter the canister, which filter chemical and biological agents before entering the facepiece. The facepiece maintains a facial seal using a system of valves, which open and close during inhalation and exhalation.

**1.13 INHALE.** As a soldier inhales, the outlet valve closes on the outlet valve seat to maintain a facial seal. The vacuum causes outside air to pass through the canister, which filters out contaminated air. Filtered air then travels through the hose and past the inlet valve disk into the facepiece eye cavity. Once in the eye cavity, the filtered air flows over the inside of the eyelenses to reduce fogging and past the nosecup valves into the nosecup. Some air may enter the nosecup by flowing between the nosecup and the nose/chin area, but most will enter through the nosecup valve disks. Once the filtered air enters the nosecup, the air enters the soldier's respiratory system.



**1.14 EXHALE.** As the soldier exhales, the inlet valve disk seats against the inlet valve body. Also, the nosecup valve disks seat against the nosecup valve seats to prevent exhaled air from entering the eye cavity which results in fogging of the eyelenses. Exhaled air is then directed to the outlet valve disk, which is forced open. The overall result of the outlet disk valve opening and nosecup and inlet disk valves closing is that the facial seal is maintained. Exhaled air flows past the outlet valve disk and into the outlet valve cover, where it is directed outside the mask.



**1.15 ADDITIONAL FEATURES.** The M45 mask also provides the user with face-to-face, phone and aircraft communication capabilities as well as a drinking capability. Face-to-face and phone communication is provided by voicemitters, which contain a grill and thin membrane. The grills protect the membranes, which allow sound to pass through them but not CB agents. Aircraft communication is provided by a microphone and microphone cable, which connect at the outlet valve housing. The microphone cable may be connected to the flight helmet to interface with aircraft communications. The drinking system consists of internal and external drink tubes. When connected to the M1 canteen cap, the external drink tube coupling plunger is pushed back by the cap pin. This creates an opening in the coupling, so that liquid may pass through it and into the soldier's mouth via the internal drink tube. When not in use, the plunger inside the external drink tube coupling seats to prevent air or liquids from entering the internal drink tube and facepiece.

**CHAPTER 2  
MAINTENANCE INSTRUCTIONS**

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**Section I. REPAIR PARTS, SPECIAL TOOLS; TEST,  
MEASUREMENT AND DIAGNOSTIC EQUIPMENT (TMDE), AND  
SUPPORT EQUIPMENT**

**2.1 COMMON TOOLS AND EQUIPMENT.**

For authorized common tools and equipment, refer to the Modified Table of Organization and Equipment (MTOE), Common Table of Allowances (CTA) 50-970, or CTA 8-100, as applicable to your unit.

**2.2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT.**

Special tools, TMDE, and support equipment required are listed in appendix C (Repair Parts and Special Tools List (RPSTL)) and appendix B (Maintenance Allocation Chart (MAC)).

**2.3 REPAIR PARTS.**

Repair parts are listed and illustrated in appendix C of this manual.

**Section II. SERVICE UPON RECEIPT**

**2.4 GENERAL.**

This section contains instructions and procedures for services to be performed upon receipt of a new mask. These services include unpacking, checking unpacked equipment and installation instructions. Ten masks are individually packed in fiberboard containers that may be placed inside a large fiberboard or plywood box. Servicing Upon Receipt procedures for one M45 mask will require .2 hours to complete.

**2.5 TOOLS, TEST EQUIPMENT, SUPPLIES AND PARTS.**

Table 2-1 contains tools, test equipment, supplies and parts necessary for performing Service Upon Receipt procedures.

Table 2-1. Tools List for Service Upon Receipt of M45 Mask

NOMENCLATURE	CAGEC	PART NUMBER	NATIONAL STOCK NUMBER
Knife, Pocket	81348	GGG-K-484	5110-00-240-5943
Shears, Metal Cutting, Hand	81348	GGG-S-291	5110-00-221-1085
Shears, Straight Trimmers	81348	GGG-S-00278	5110-00-293-3444

**2.6 SERVICE UPON RECEIPT OF MATERIEL.**

Table 2-2 contains instructions for performing the services required upon receipt of this equipment. These procedures will be performed by Unit Maintenance personnel. Service Upon Receipt procedures for one M45 mask will require .2 hours to complete.

Table 2-2. Service Upon Receipt For M45 Mask

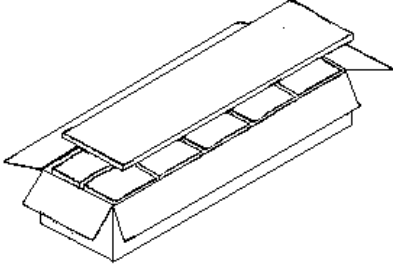
LOCATION	ITEM	ACTION	REMARKS
1. Outer Box, Fiberboard or Wood	Overpack Containers	<p>a. Unpack box by cutting tape and banding on fiberboard boxes, or by cutting banding and prying off top of wooden boxes.</p> <p>b. For wooden boxes, remove or bend nails to prevent injury.</p> <p>c. Remove inner fiberboard overpack containers.</p>	
2. Inner Fiberboard Overpack Containers	<p>M45 Mask Components</p> <p>Facepiece, Faceform and Hose</p>	<p>a. Cut tape to open overpack container.</p> <p>b. Remove unit pack heat-sealed bag (HSB) and C2/C2A1 canister can.</p> <p style="text-align: center;"><b>NOTE</b></p> <p>Second skin is already installed on facepiece.</p> <p>Masks stored more than 30 days shall be stored with faceform in facepiece.</p> <p>a. Open unit pack HSB and remove carrier.</p> <p>b. Remove facepiece HSB from carrier.</p> <p>c. Remove facepiece from HSB.</p>	

Table 2-2. Service Upon Receipt For M45 Mask (CONT)

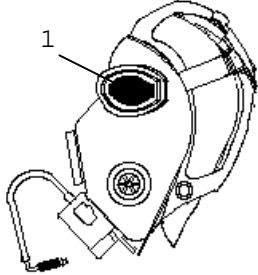
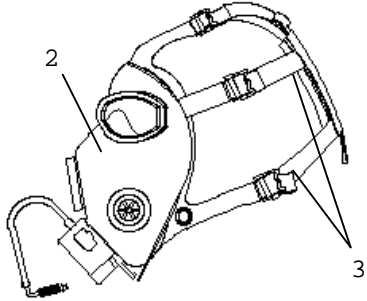
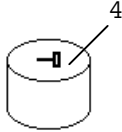
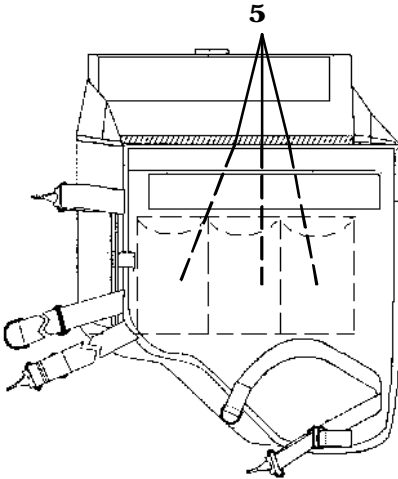
LOCATION	ITEM	ACTION	REMARKS
<p>2. Inner Fiberboard Overpack Containers</p>	<p>Facepiece, Faceform and Hose (Cont)</p>	<p>d. Peel off protective covers (1) from eyelenses.</p> <p>e. On facepiece (2), loosen head harness straps (3) and remove hose and faceform. The faceform can be stored at organizational level.</p>	 
	<p>Canister Can</p>	<p><b>NOTE</b></p> <p>Do not open C2/C2A1 canister can (4) until issued.</p> <p>Record lot numbers in accordance with unit SOP.</p>	
	<p>Other Components</p>	<p>Remove packaging from the remaining mask components inside carrier pockets (5).</p>	



Table 2-2. Service Upon Receipt For M45 Mask (CONT)

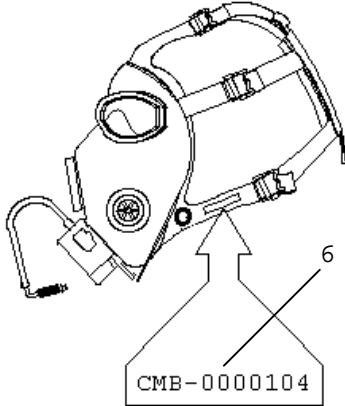

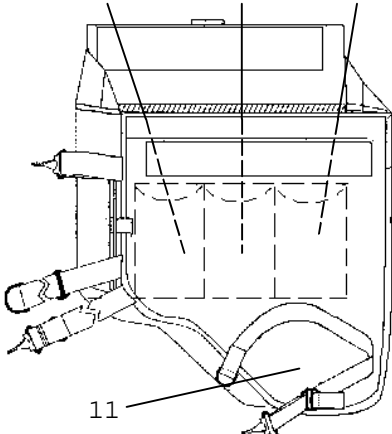
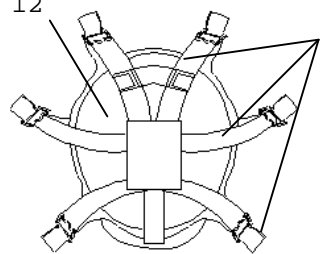
LOCATION	ITEM	ACTION	REMARKS
3. M45 Mask	M45 Mask	<p>a. Inspect equipment for damage incurred during shipment. If equipment is damaged, report the damage on Standard Form 361, Transportation Discrepancy Report.</p> <p>b. Record alphanumeric serial number (6) on the facepiece and provide it to your unit Property Book Officer (PBO).</p>	
4. Facepiece	Outserts	Install outserts on facepiece.	See TM 3-4240-341-10.
	Microphone Cable	Install microphone cable through boot on outlet valve cover, into receptacle on outlet valve housing.	See para 2.14.2.2.
	Faceform	Install Faceform (7) in facepiece for storage.	
	Hose Assembly	Install hose assembly on facepiece.	See para 2.17.3.2.

Table 2-2. Service Upon Receipt For M45 Mask (CONT)

LOCATION	ITEM	ACTION	REMARKS
5. Carrier	Baffle Assembly	Stow baffle assembly inside carrier left pocket (8).	
	Technical Manual	Stow Operator's manual inside carrier middle pocket (9).	
	Outserts	Stow outserts in carrier right pocket (10).	
	Canister Can	Stow sealed canister can in bottom rear of carrier (11).	
	Facepiece and Hood	<p>a. Stow hood in back of faceform (12), under head harness.</p> <p>b. Tighten head harness straps (13) to hold hood in place.</p>	
Hose Assembly	<p>a. Feed the hose into the bottom of the carrier.</p> <p>b. Place the top of the facepiece over the hose and canister.</p>		

**2.7 IDENTIFYING AN INDIVIDUAL'S MASK.**

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**INITIAL SETUP**

Materials/Parts  
None

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**CAUTION**

Do not make permanent identification markings on the facepiece assembly or mask carrier (AR 700-84).

**NOTE**

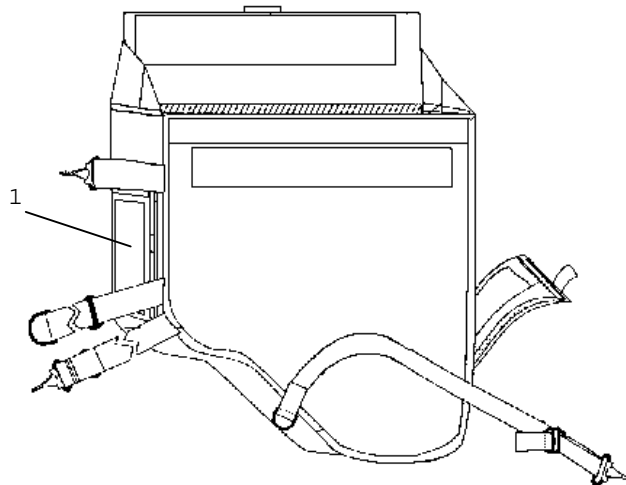
A mask shall be used only by the soldier to whom it is issued and fitted.

- a. Obtain a removable tag that fits in the ID pocket (1) on the side of the carrier.
- b. Mark the tag to identify the user, when the mask was fitted/tested and the size nose cup used.

**NOTE**

Each unit may derive its own system. For security reasons, do not include any information that may identify the parent organization. Avoid using markings similar to those of neighboring units.

- c. Place the completed identification tag in the mask carrier ID plate.



## SECTION III. SIZING, FITTING AND CHECKING THE FACEPIECE

### 2.8. SIZING AND FITTING THE FACEPIECE.

---

#### INITIAL SETUP

Materials/Parts  
None

Equipment Condition  
Soldier seated with glasses and headgear removed.  
1 of each size facepiece with same size nose cup, outlet valve  
and hose assembly installed  
Head harness over front of facepiece assembly.  
Faceform removed from facepiece assembly.  
Hood and microphone assembly removed.  
1 of each size nose cup

Personnel Required  
Unit maintainer  
Soldier (operator)

---

#### 2.8.1 Sizing the Facepiece

##### WARNING

Soldiers should not wear hairstyles, hair care products or facial products which could interfere with the fit of the facepiece. Male soldiers must be clean-shaven to prevent facepiece leaks.

##### NOTE

Initial facepiece fitting should be only performed by the unit level repairer.

##### WARNING

Edges of open can are sharp.

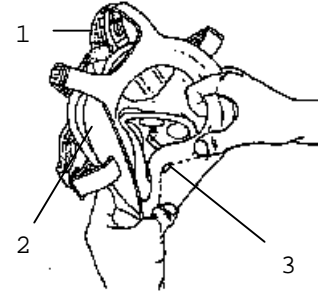
- a. Use key to open C2/C2A1 canister can and remove canister.
- b. Install canister on canister port of hose assembly or directly to facepiece hose port. Location will be in accordance with your unit SOP.

**2.8. SIZING AND FITTING THE FACEPIECE (CONT).**

**NOTE**

Hood, hose and canister must not be installed on facepiece for initial sizing.

- c. Loosen head harness straps (1) so that strap ends are approximately 1 in. (2.5 cm) from buckles.
- d. Fold head harness over front of facepiece (2).
- e. Start with a medium size facepiece, have soldier place chin in chin cup (3) and press facepiece to face.
- f. Check the edge of the facepiece to ensure it is not more than 1/2 in. into the hairline and within an inch of the ear. If the mask edge is incorrect, repeat step e with a different size facepiece.
- g. Have soldier slip head harness over head while holding facepiece against face.



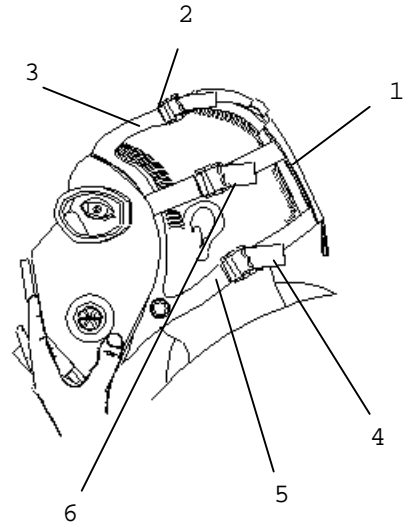
**2.8.2 Fitting the Facepiece**

- a. Have soldier hold facepiece tightly against chin.

**NOTE**

Make sure hand does not cover outlet valve.

- b. (Unit maintainer) Center head harness pad (1) on back of soldier's head and have soldier hold in place.
- c. (Unit maintainer) Place finger or thumb under buckle (2) of forehead strap (3). Then give a sharp tug until buckle feels snug. Adjust other forehead strap in same manner.
- d. (Unit maintainer) Repeat step c for the cheek straps (4). Pull out both cheek straps (5) approximately 2 in. to properly seat mask on face.
- e. Have soldier release facepiece. Facepiece should not slip down. If facepiece slips, readjust forehead facepiece remains in place.
- f. Have soldier tighten temple straps (6) by pulling on both at the same time.



2.8. SIZING AND FITTING THE FACEPIECE (CONT).

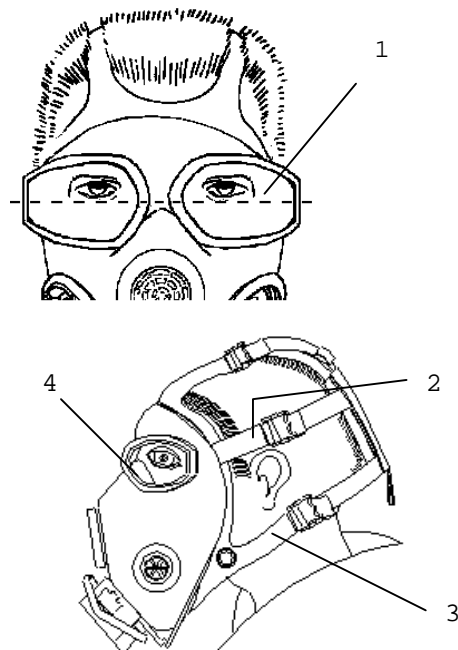
2.8.3 Checking For Fit.

WARNING

Soldier's life depends on proper fitting of facepiece.

a. (Unit maintainer) With soldier standing, check for proper fit according to the following criteria:

1. Edge of facepiece comes up on forehead but no more than 1/2 in. into hairline and within approximately 1 in. (2.5 cm) of ear.
2. Soldier's pupils are within the upper half of the eyelens (1).
3. Temple straps (2) and cheek straps (3) do not cut into ears.
4. Nosecup (4) sits on the top part of the nose and is comfortable.
5. Bottom of facepiece does not cut into throat.
6. Skin in front of ear and around chin is not wrinkled.



NOTE

A different size nosecup will affect the position of the nosecup on the nose and the position of the facepiece on the face.

b. If facepiece is difficult to fit but meets most of the criteria, try a different size nosecup. Check fit again.

c. If facepiece still does not fit, check fit with a different size facepiece and perform the steps in para 2.8.2.

NOTE

Internal drink tube will irritate lips if it touches them during non-drinking operations.

d. Ask soldier if internal drink tube touches lips. Adjust length of internal drink tube if necessary (para 2.14.6.).

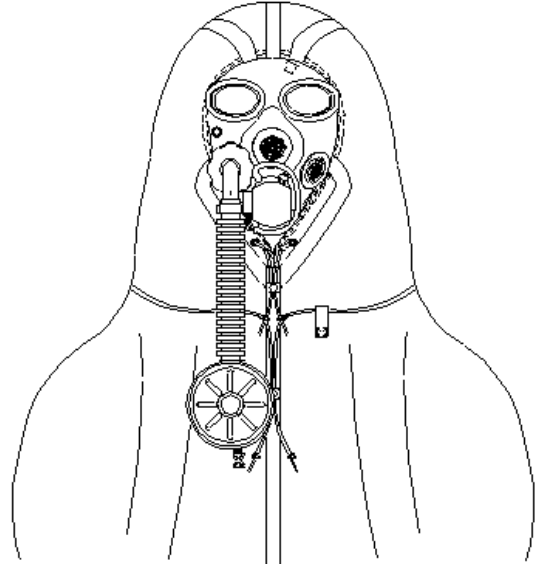
e. Check the facepiece for leaks (para 2.9).

**2.8. SIZING AND FITTING THE FACEPIECE (CONT).**

**2.8.4. Optional Wear.** The M45 mask may be configured to accommodate left-hand firing soldiers. This change requires a left-hand noseclip (see App C, Section II) and transfer of components from one side of the mask to the other. An additional wear configuration is that of a face-mounted canister. Soldiers who do not require a hose for operational use may be able to wear a mask without a hose. This change may only be made in accordance with your unit SOP.

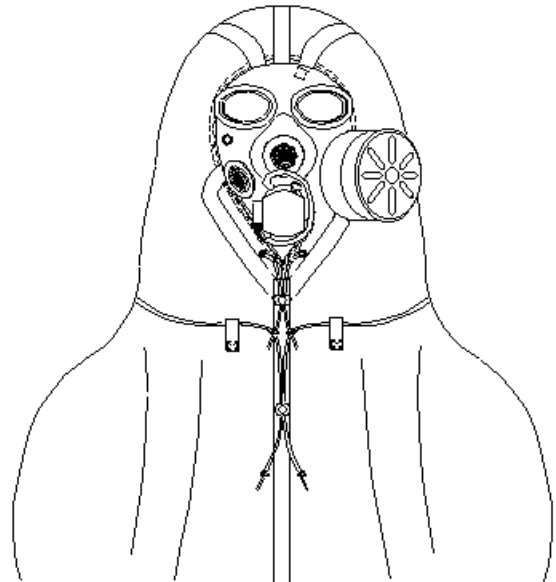
**2.8.4.1. Left-hand Firing.**

- a. Remove hose assembly, microphone assembly and internal drink tube from mask (see para 2.17.3.1, 2.15.1. and 2.14.6.1.).
- b. Remove right-hand noseclip (see para 2.14.7.1) and obtain a left-hand noseclip of the same size.
- c. Remove inlet valve assembly, side voicemitter and gasket (see 2.14.8.1, and 2.14.5.1).
- d. Install left-hand noseclip (see 2.14.7.2).
- e. Install inlet valve assembly in left side of facepiece, and gasket and side voicemitter in the right side of the facepiece (see para 2.14.8.2 and 2.14.5.2).
- f. Install microphone assembly and internal drink tube (see para 2.15.2 and 2.14.6.2).
- g. Check the facepiece for leaks (para 2.9).



**2.8.4.2. Facepiece Mounted Canister.**

- a. Remove hose assembly from facepiece (see para 2.17.3.1).
- b. Remove canister and baffle assembly from hose assembly (see para 2.17.1.1).
- c. Remove baffle from canister and install canister on facepiece (see para 2.17.2.1).
- d. Check the facepiece for leaks (para 2.9).



**2.9. CHECKING FOR LEAKS.**

---

**INITIAL SETUP**

Materials/Parts

M41 Protection Assessment Test System (PATS)  
Amyl Acetate (banana oil) (Item 1, App E)  
Applicator (Item 2, App E)  
Chemical Protective Gloves (Item 14, App E)

Equipment Condition

Facepiece has been adjusted, sized and fitted in accordance with para 2.8.  
Hose and canister installed

Personnel Required

Unit maintainer  
Operator

---

**2.9.1 Checking Facepiece for Leaks.**

**2.9.1.1 M41 Protection Assessment Test System.**

**NOTE**

Use the M41 Protection Assessment Test System (PATS) to verify the fit and to check the facepiece for leaks. The M41 shall be used in accordance with the Operator's manual for the PATS. If the M41 is not available, banana oil may be used as a substitute.

**2.9.1.2 Amyl Acetate (Banana Oil).**



AMYL ACETATE/BANANA OIL

- a. Have soldier put on mask (para 2.8) before opening the bottle of banana oil. If soldier smells banana oil just before masking, test results will be inaccurate.
- b. Remove external drink tube from retainer.



2.9. CHECKING FOR LEAKS (CONT).

CAUTION

Do not touch facepiece with banana oil. It is a solvent and could cause the mask to deteriorate.

NOTE

Make sure canister and outlet valve disk are properly installed.

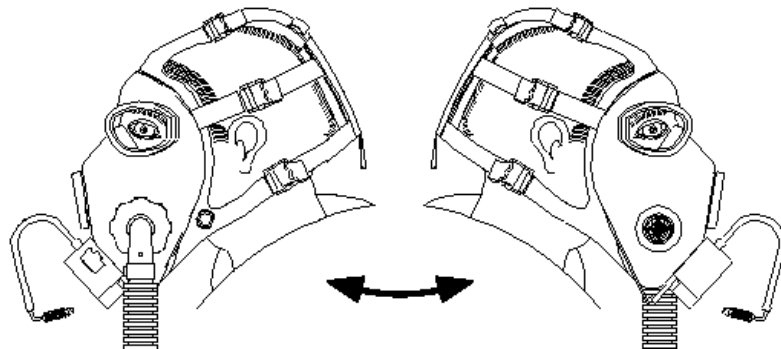
c. Dip applicator in banana oil.

d. Soldier should breath deeply through nose only. Have soldier indicate smelling banana oil by raising hand.

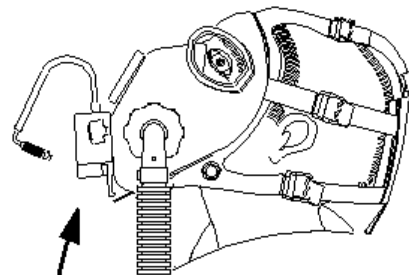
e. Move applicator approximately 1 to 2 in. (2.5 to 5.1 cm.) from facepiece as follows:

1. Have soldier turn head to left and move applicator around outer edge of facepiece.

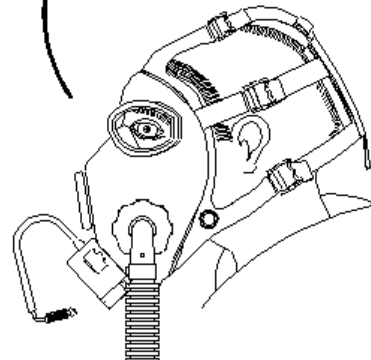
2. Have soldier turn head to right and again move applicator around outer edge of facepiece.



3. Have soldier tilt head upward and turn head from side to side. Move applicator under chin around outer edge of facepiece.



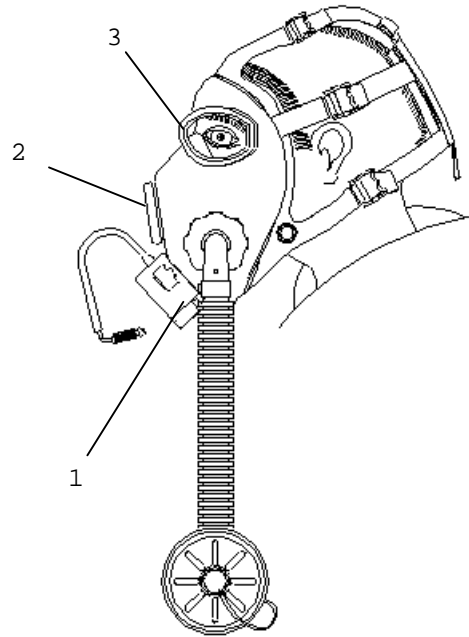
4. Have soldier tilt head forward. Move applicator around outer edge of facepiece.



2.9. CHECKING FOR LEAKS (CONT).

5. Have soldier smile and frown while looking straight ahead. Move applicator around outlet valve (1), front voicemitter (2), eyelenses (3) and completely around outer edge of facepiece.

6. Instruct soldier to press palm firmly over canister inlet. Have soldier breathe in, collapsing facepiece. Move applicator around outer edge of facepiece before having soldier breathe.



NOTE

If soldier being tested smells banana oil during initial fitting and testing, a 5-7 minute odor sensitivity recovery period is required before retesting.

f. If soldier can smell banana oil, readjust head harness to improve fit (para 2.8.2) and recheck.

g. If soldier smells banana oil after readjustment of head harness, retest with a different mask of the same size with the same size nose cup.

h. If soldier still smells banana oil, recheck with a different size nose cup in the same mask, in a different location.

i. If soldier still smells banana oil, recheck with a different size mask.

j. If soldier cannot smell banana oil, have him unmask and smell the applicator to be sure his sense of smell is not impaired. If the soldier's sense of smell is impaired, the test must be conducted in a CS (tear gas) chamber.

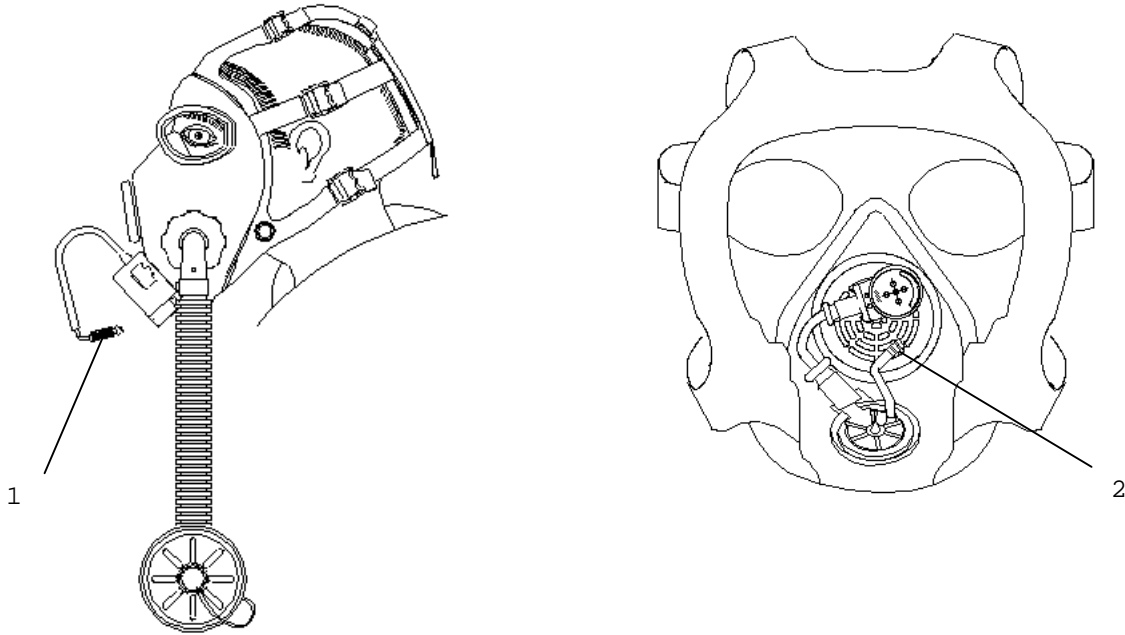
k. Install hood on facepiece (para 2.18.2).

l. Aviators helmet should be refitted by the unit ALSE repairer.

2.9. CHECKING FOR LEAKS (CONT).

2.9.2 Checking Drinking System for Leaks.

- a. Steady facepiece, withdraw external drink tube (1) from outlet valve cover and let it hang freely.
- b. Grasp internal drink tube (2) between teeth.



**WARNING**

If you see bubbles when checking the drinking system in water, the drinking system leaks.

- c. Place quick disconnect coupling (1) in a cup of potable water.
- d. Blow into internal drink tube (2). If bubbles appear, the system is leaking (See Troubleshooting, para 2.12.).
- e. If bubbles do not appear, suck on internal drink tube. If water enters your mouth, the drinking system is leaking (See Troubleshooting, para 2.12.). If water does not enter your mouth, the system is operational.

**SECTION IV. PREVENTIVE MAINTENANCE CHECKS AND SERVICES**

**2.10. PREVENTIVE MAINTENANCE CHECKS AND SERVICES.**

**INITIAL SETUP**

**Materials/Parts**

Brush, Artist's (Item 4, App E)  
 Cheesecloth (Item 10, App E)  
 Lacquer (Item 16, App E)  
 Light Source

**Equipment Condition**

Operator level PMCS has been performed

**Personnel Required**

Unit maintainer  
 Operator (Soldier)

**References**

TM 3-4240-341-10

**2.10.1 General.** Perform unit PMCS on the M45 mask semiannually (every 6 months). The operator may perform unit PMCS under the supervision of unit maintenance personnel. Semiannual PMCS will be scheduled on DD Form 314, Preventative Maintenance Schedule and Record.

**2.10.2 PMCS Procedures.** This PMCS table lists those required checks and services necessary to ensure the masks are in condition to safely perform their missions.

**2.10.3 Explanation of Columns of the PMCS Schedule.**

(1) Item Number. Checks and services are numbered in order of performance. Use this as a source for the TM Number Column on DA Form 2404, Equipment Inspection and Maintenance Worksheet, in recording results of PMCS.

(2) Interval. This column describes how often PMCS is to be performed.

(3) Item to Be Checked Or Serviced. The items listed in this column are divided into groups indicating portions of the equipment. The name corresponds to that used in the Maintenance Allocation Chart (App B, Sect II).

(4) Procedure. This column briefly describes the procedures for performing the check or service. Whenever replacement or repair is recommended, reference is made to paragraph number for the applicable maintenance instruction.

(5) Not Fully Mission Capable If. This column contains a brief description of the condition that causes the equipment to be less than fully ready to perform the assigned mission.

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

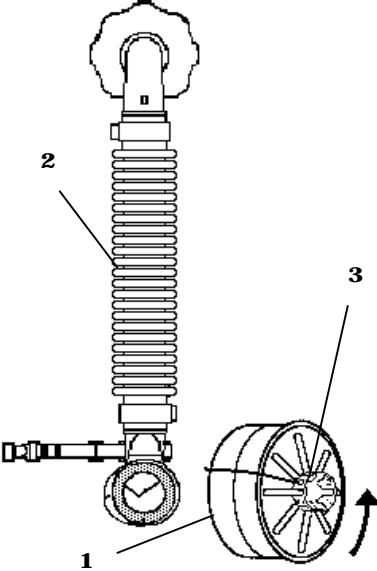
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
1	Semi-annually	Canister	<p style="text-align: center;"><b><u>CAUTION</u></b></p> <p>Care must be taken not to scratch eyelenses or outserts when handling the mask.</p> <p>a. Remove canister (1) from hose assembly (2) (or facepiece) by rotating canister counter-clockwise.</p>  <p>b. If present, remove baffle (3) from canister (see para 2.17.2.1). Shake canister and listen for loose particles.</p> <p>c. Check baffle assembly for frays, cuts, cracks and breaks.</p> <p>d. Check canister against canister replacement criteria (FM 3-4).</p>	<p>Particles rattle or dust falls out of canister.</p> <p>Baffle is damaged.</p> <p>Canister is unserviceable.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

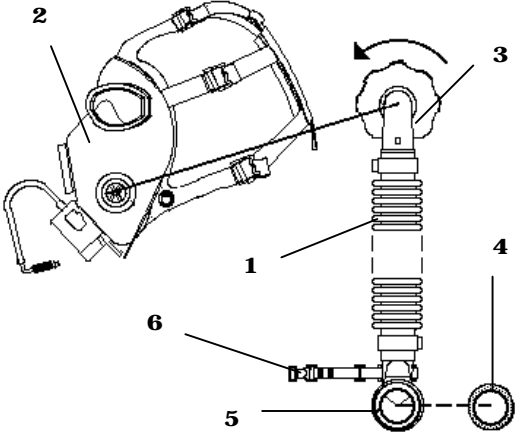
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
2	Semi-annually	Hose Assembly	<p>a. Reverse hood.</p> <p>b. Remove hose assembly (1) from facepiece (2) by rotating star knob (3) counterclockwise.</p> <p>c. Remove port gasket (4) from canister port (5), and check for dirt, cuts, tears and distortion.</p>  <p>d. Check threads on canister port (5) and star knob swivel (3) for dirt, nicks and cracks.</p> <p>e. Reinstall port gasket (4).</p> <p>f. Check hose retaining clip (6) for fraying, bends, bare metal and loss of holding power.</p> <p>g. While holding hose in one hand, pull on star knob swivel (3) to ensure that it is secure.</p> <p>h. Repeat step g for the canister port (5).</p>	<p>Port gasket is damaged.</p> <p>Threads are damaged.</p> <p>Hose clip is damaged or unserviceable.</p> <p>Star knob swivel or canister port is loose on hose.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

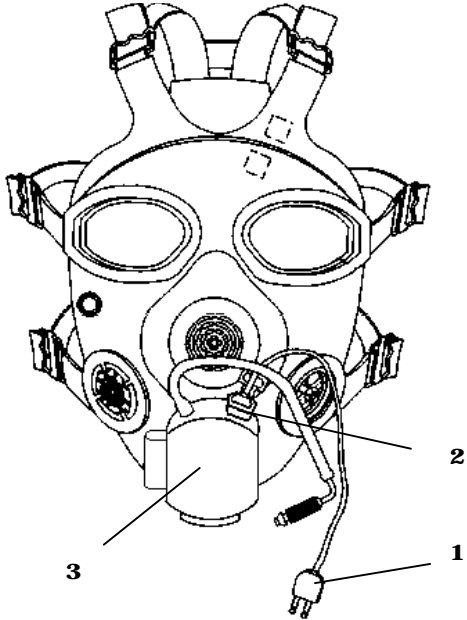
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
3	Semi-annually	Microphone Cable	<p style="text-align: center;"><b><u>CAUTION</u></b></p> <p>Grasp microphone cable by the the ends only. Do not pull on wire during removal.</p> <p>a. Remove microphone cable (1) from facepiece by grasping near boot (2) on outlet valve cover (3) and pulling.</p> <div style="text-align: center;">  </div> <p>b. Check microphone cable for cuts or exposed wires.</p> <p>c. Check ends of microphone cable for dirt, cracks and bent pins.</p>	<p>Microphone cable is cut or has exposed wires.</p> <p>Microphone cable ends are cracked or contain bent pins.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

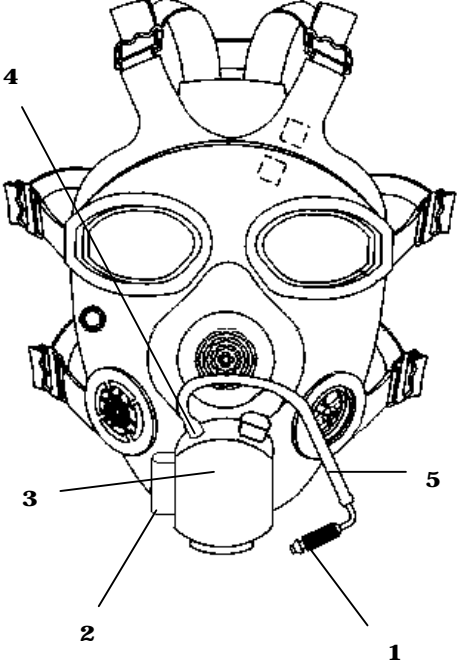
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
4	Semi-annually	External Drink Tube	<p>a. Remove quick disconnect coupling (QDC)(1) from retainer (2) on outlet valve cover (3).</p>  <p>b. Grasp attached end of drink tube (4) near outlet valve cover and pull to remove.</p> <p>c. Check external drink tube (5) for cracks and cuts.</p> <p>d. Check that QDC is securely attached to external drink tube (4).</p> <p>e. Check that QDC is not bent or dented.</p>	<p>External drink tube is cut or cracked.</p> <p>QDC is loose on external drink tube.</p> <p>QDC is dented or bent.</p>



Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

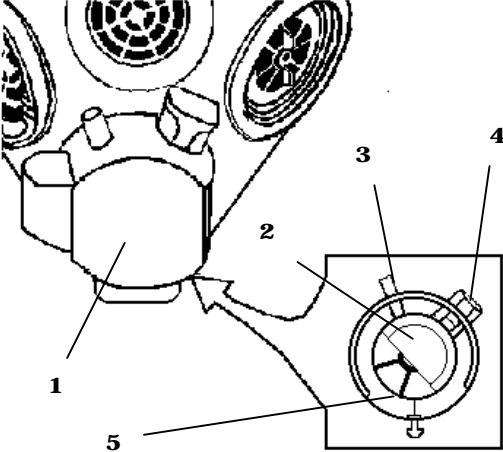
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
5	Semi-annually	Outlet Valve Cover, Disk and Housing	<p>a. Remove outlet valve cover (1) (See para 2.14.3.1.).</p>  <p>b. Check outlet valve cover (1) for dirt, holes and tears.</p> <p>c. Check outlet valve disk (2) for dirt, holes, tears and distortion.</p> <p>d. Check drink tube connector (3), electrical receptacle (4), outlet valve seat (5) and outlet valve housing for dirt, nicks and cracks.</p>	<p>Outlet valve cover is damaged.</p> <p>Outlet valve disk damaged.</p> <p>Electrical receptacle, drink tube connector or outlet valve housing is damaged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

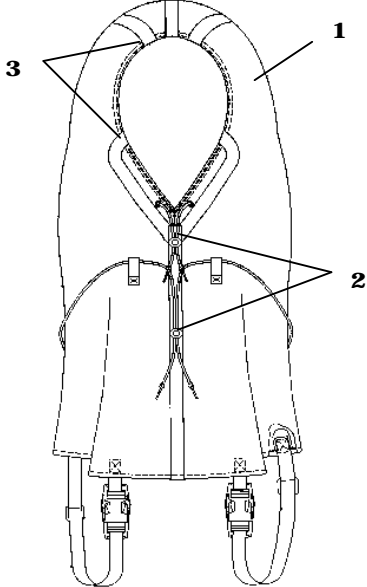
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
6	Semi-annually	Hood	<p style="text-align: center;"><b><u>CAUTION</u></b></p> <p>Holding hood too close to light source may result in damage to hood.</p> <p>a. Remove hood (1) by loosening drawstrings (2), and expanding opening (3) of the hood.</p>  <p>b. Check material around opening and drawstrings for tears, cuts and holes.</p> <p>c. Inspect hood (1) by holding in front of light source. Look for the following deficiencies:</p> <ul style="list-style-type: none"> <li>&gt; Tears, cuts or holes.</li> <li>&gt; Peeled or worn coating.</li> <li>&gt; Loose seams.</li> </ul> <p>Turn hood (1) inside out and repeat steps b and c.</p>	<p>Hood has tears, cuts or holes.</p> <p>Hood is damaged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

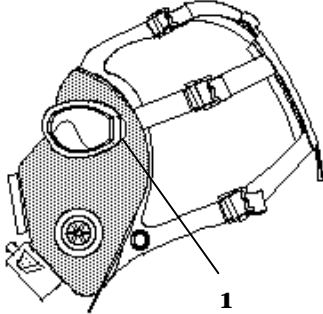
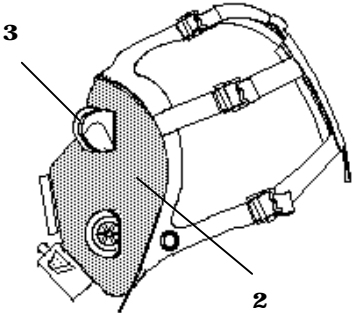
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
7	Semi-annually	Second Skin	<p>a. Remove outserts by grasping tabs (1) and pulling.</p>  <p style="text-align: center;"><b>CAUTION</b></p> <p>Holding second skin too close to light source may result in damage to second skin.</p> <p>During removal, use extreme caution when stretching second in around faceblank assembly components. Second skin could catch and tear.</p> <p>b. Remove second skin (2) as follows:</p> <p>(1) Stretch eyelens openings around and over eyerings (3).</p> 	

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

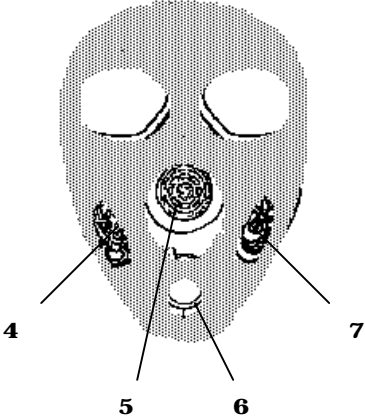
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
7	Semi-annual	Second Skin (cont)	<p>(2) Stretch and pull second skin openings over side voicemitter (4), front voicemitter (5), outlet valve housing (6) and hose assembly port (7).</p>  <p>c. Check second skin for dirt.</p> <p>d. Inspect second skin for holes, tears and splits by holding in front of light source.</p> <p>e. Check rest of second skin for stiff areas that crumble when rubbed between fingers and cracks which expand when rubber is stretched.</p>	<p>Second skin has holes, tears or splits.</p> <p>Second skin is damaged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

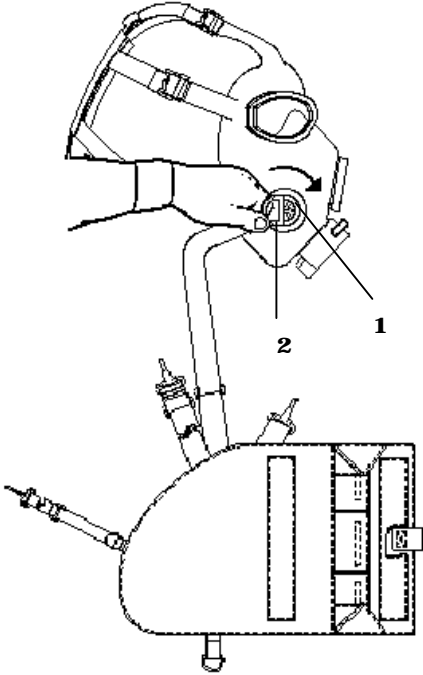
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
8	Semi-annually	Side Voicemitter	<p>Ensure that side voicemitter (1) is handtight by screwing clockwise with flat side of carrier D-ring (2), or star knob swivel.</p> 	Side voicemitter is loose.

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

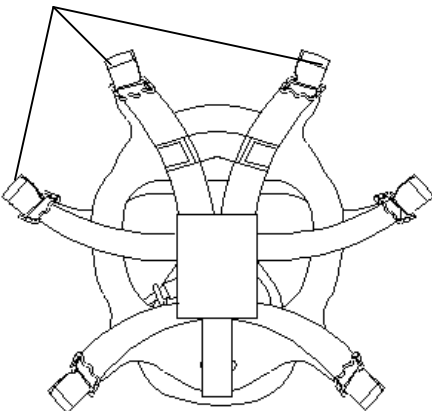

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
9	Semi-annually	Head Harness	<p>a. Check straps for bent or missing clips (1). For head harness replacement see para 2.14.1.1.</p> <div style="text-align: center;"> <p>1</p>  </div> <div style="text-align: center;">  </div> <p>LACQUER</p> <p>b. Make sure head harness strap clips (1) are covered with black lacquer. Coat all bare metal surfaces using brush (Item 4, App E) and lacquer (Item 16, App E).</p>	Clips are bent or missing.

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

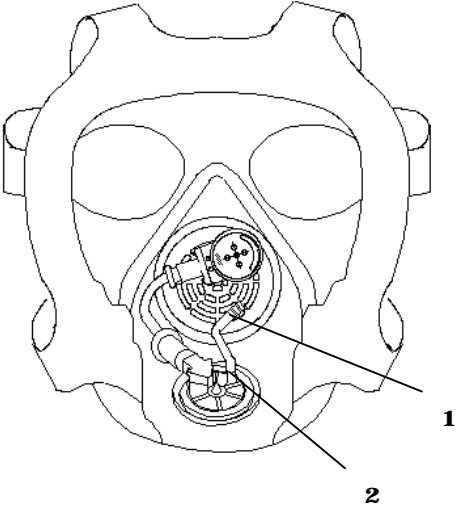
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
10	Semi-Annually	Internal Drink Tube	<p>a. Remove internal drink tube (1) by grasping near connection to outlet valve housing (2) and pull up.</p>  <p>b. Check for cuts, cracks and holes.</p> <p>c. Blow through drink tube to check for clogs.</p>	<p>Internal drink tube contains cuts, cracks or holes.</p> <p>Internal drink tube is clogged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

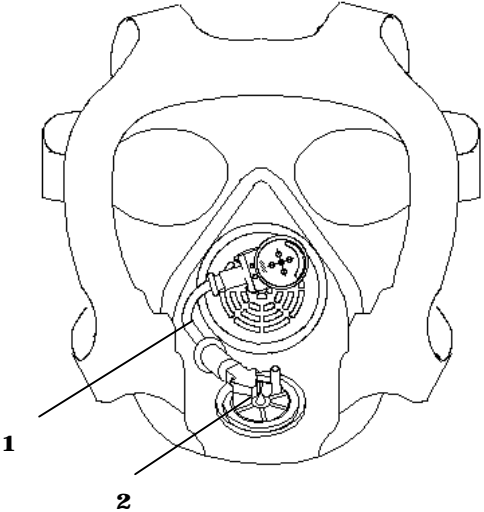
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
11	Semi-annually	Microphone Assembly	<p>Ensure microphone assembly (1) is seated and securely attached to outlet valve housing (2).</p>  <p>The diagram shows a top-down view of the M45 mask. A microphone assembly, labeled '1', is positioned in the center of the mask's facepiece. It is connected to an outlet valve housing, labeled '2', which is located at the bottom of the facepiece. The microphone assembly consists of a circular component with a mesh grille and a small rectangular component attached to its side. The outlet valve housing is a circular component with a central valve and a small rectangular component attached to its side. The diagram is a line drawing with no shading.</p>	Microphone positioner will not seat securely.



Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

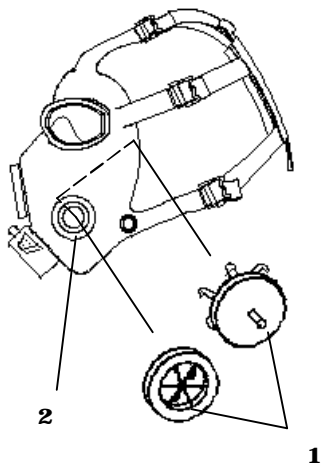
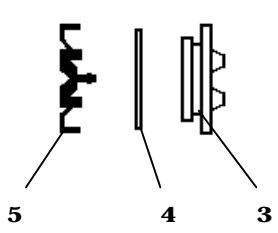
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
12	Semi-annually	Inlet Valve Assembly	<p>a. Remove inlet valve assembly (1) from facepiece (para 2.14.8.1.).</p>  <p>b. Check inlet valve port (2) for dirt, cracks, nicks or breaks.</p>  <p>c. Check valve body (3) and valve disk (4) for dirt, cuts, tears and holes.</p> <p>d. Check that cage (5) will securely mount to valve body (3).</p> <p>e. Check cage (5) for dirt, cracks, nicks or breaks.</p>	<p>Inlet valve port is damaged.</p> <p>Valve body or disk is damaged.</p> <p>Cage will not mount to valve body.</p> <p>Cage is damaged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

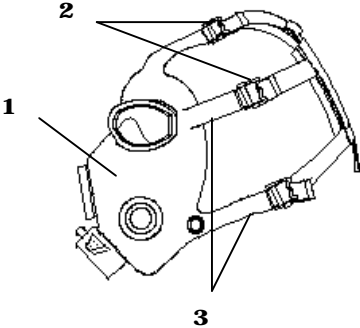

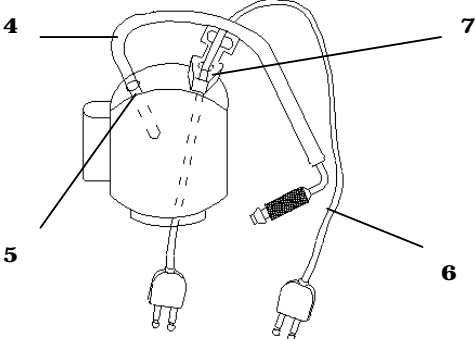
ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
13	Semi-annually	Facepiece	<p>a. Check facepiece (1) for deformities which may affect fit and seal to the face.</p>   <p>LACQUER</p> <p>b. Check facepiece strap buckles (2) for bare metal. Coat bare metal surfaces with brush and lacquer (Item 4 and 16, App E).</p> <p>c. Grasp facepiece strap buckle between thumb and forefinger. Pull facepiece straps (3) until it stretches 1/2 inch to 3/4 inches (1/3 cm to 1.9 cm). Check for weakness and tears. Repeat check for all facepiece straps.</p> <p>d. Check rest of facepiece for dirt, cuts, tears, holes and stiff areas that have lost their elasticity.</p>	<p>Facepiece is difficult to open or unusually stiff in sealing surfaces.</p> <p>Facepiece straps are torn or have lost their elasticity.</p> <p>Facepiece is damaged.</p>

Table 2-3. Preventative Maintenance Checks and Services for the M45 Mask

ITEM NO.	INTERVAL	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	NOT FULLY MISSION CAPABLE IF:
13	Semi-annually	Facepiece (cont)	<p>e. Reassemble the following components to the faceblank assembly: second skin (para 2.14.9.2.), outserts, inlet valve assembly (para 2.14.8.2.) and internal drink tube (para 2.14.6.2.).</p> <p>f. Reassemble outlet valve cover:                      (1) Work external drink tube (4) through hole on top of outlet valve cover (5).</p>  <p>(2) Feed microphone cable (6) through boot (7) on top of outlet valve cover.</p> <p>(3) Install external drink tube, microphone cable and outlet valve cover to faceblank assembly.</p>	
14	Semi-annually	Mask	<p>a. Assemble hood to facepiece (para 2.18.2).</p> <p>b. Install hose assembly to facepiece (para 2.17.3.2.).</p> <p>c. Install canister and baffle on hose assembly (para 2.17.2.2.).</p> <p>d. Refit facepiece (para 2.8.2).</p> <p>e. Perform leak check (para 2.9).</p>	Mask leaks.

**2.11. CANISTER REPLACEMENT CRITERIA.**

In peacetime, canisters can be used until they become difficult to breathe through or they are damaged enough that a seal cannot be obtained. See FM 3-4, NBC Protection, for detailed canister replacement criteria. Turn in used or unusable canisters in accordance with local SOP.

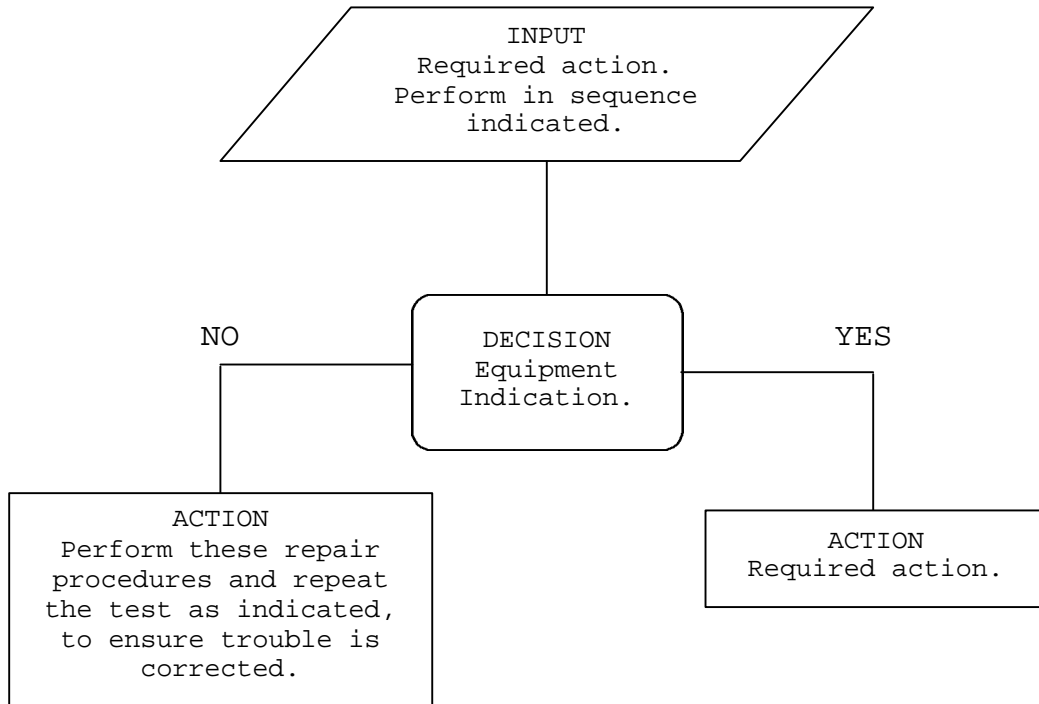
**NOTE**

Excluding seams and thread surfaces, canister dents less than 1/4 inch deep are acceptable.

**SECTION V. TROUBLESHOOTING**

**2.12. TROUBLESHOOTING PROCEDURES.**

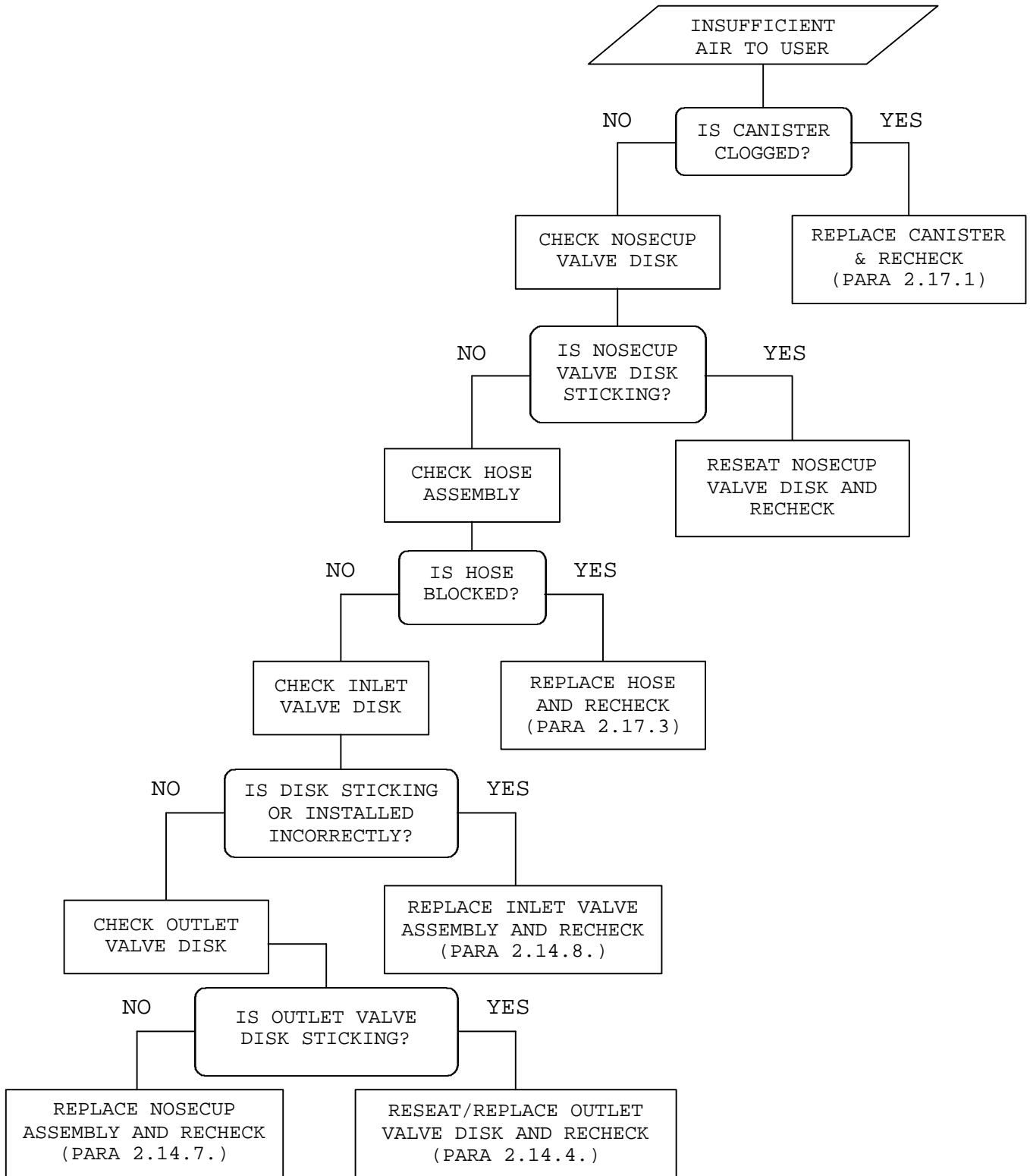
**2.12.1. Description of Troubleshooting Flowchart.** The following describes the use of the troubleshooting procedures.



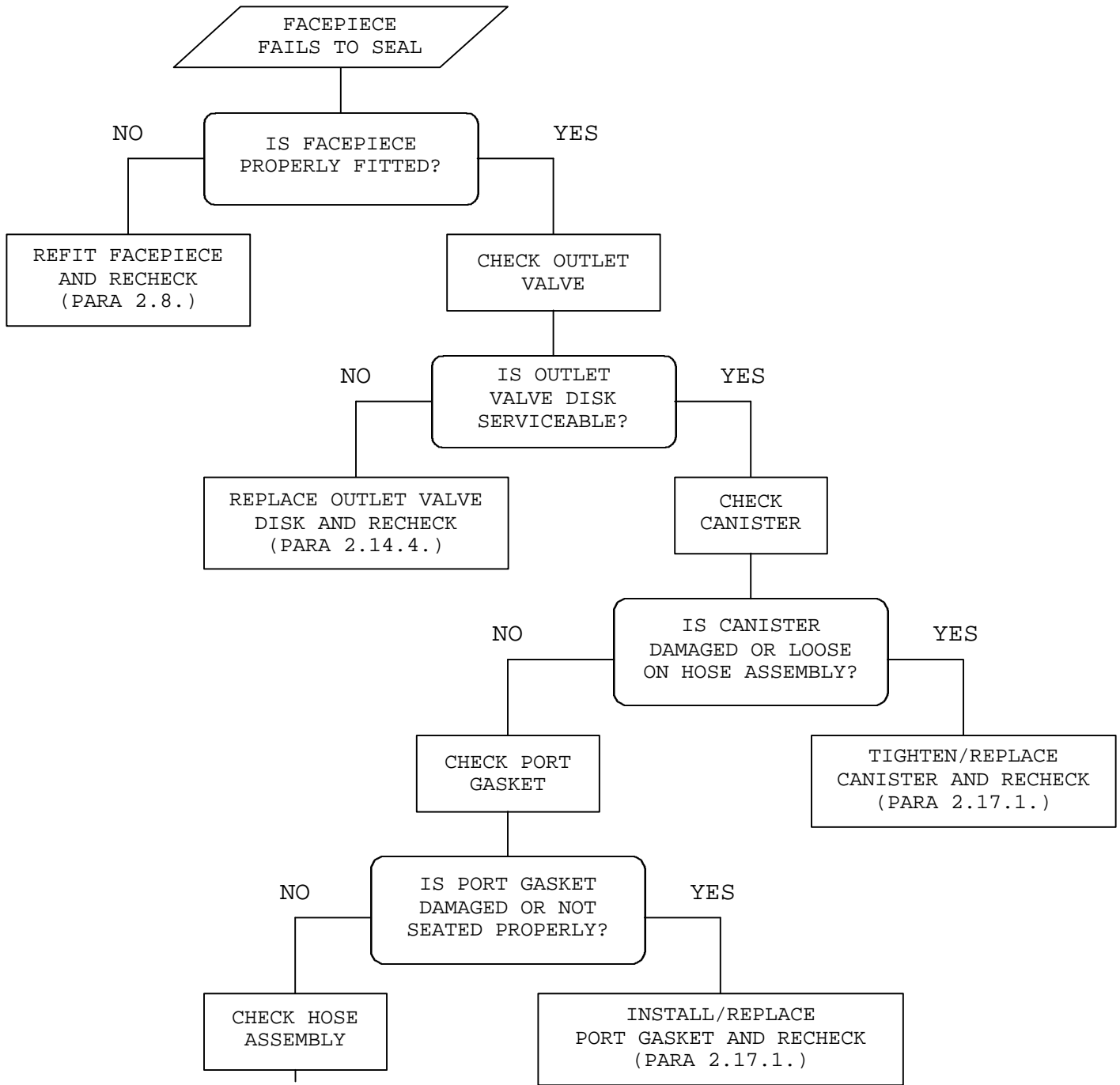
**2.12.2. Symptom Index.** Perform functional test first. Then use symptom index for quick access to the troubleshooting procedures.

- a. Insufficient Air To User.....2-34
- b. Facepiece Fails To Seal.....2-35
- c. Eyelenses Fog Excessively.....2-37
- d. Communication System Inoperative.....2-38
- e. Drinking System Inoperative.....2-40
- f. Drinking System Leaks.....2-42

2.12. TROUBLESHOOTING PROCEDURES (CONT).

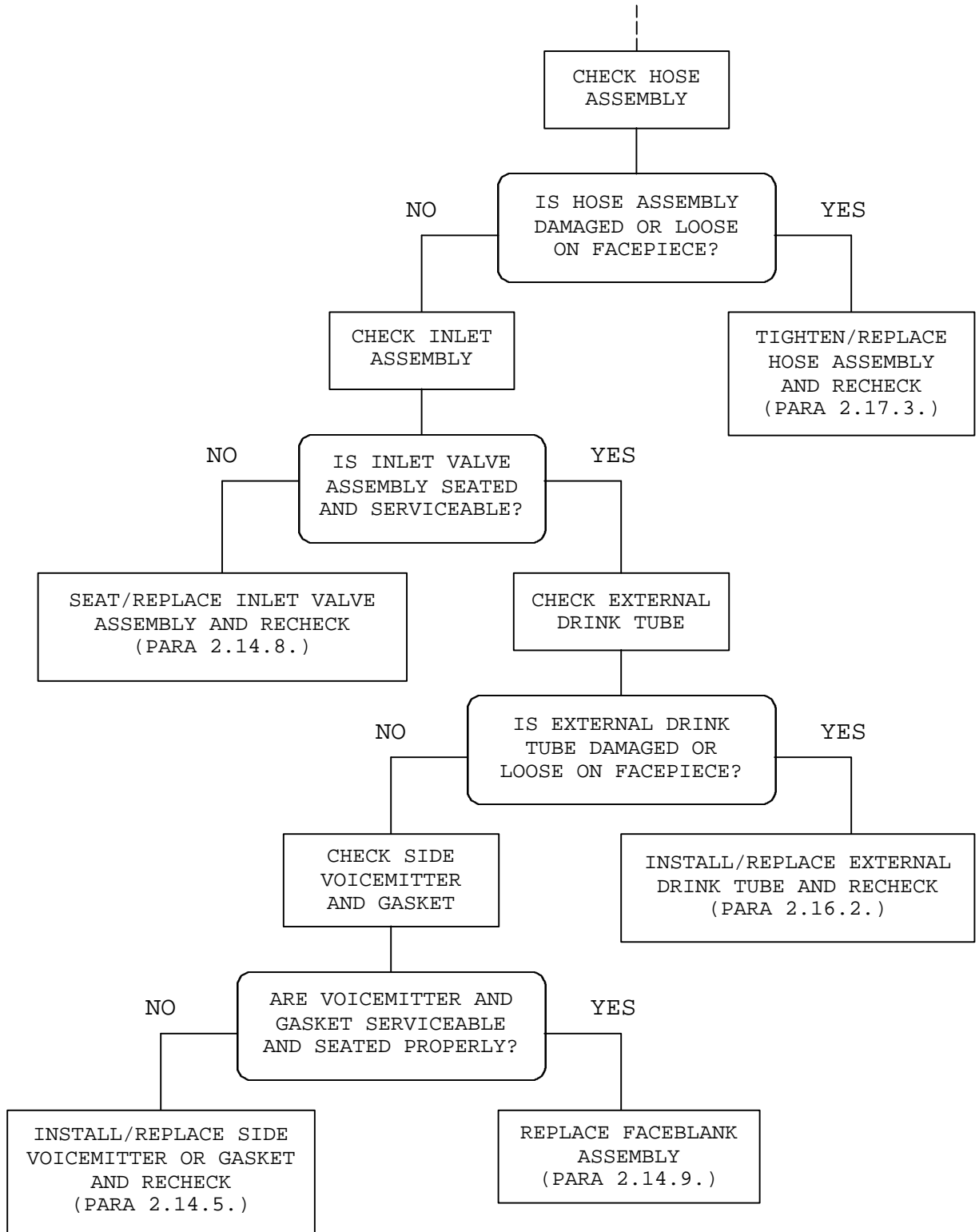


2.12. TROUBLESHOOTING PROCEDURES (CONT).



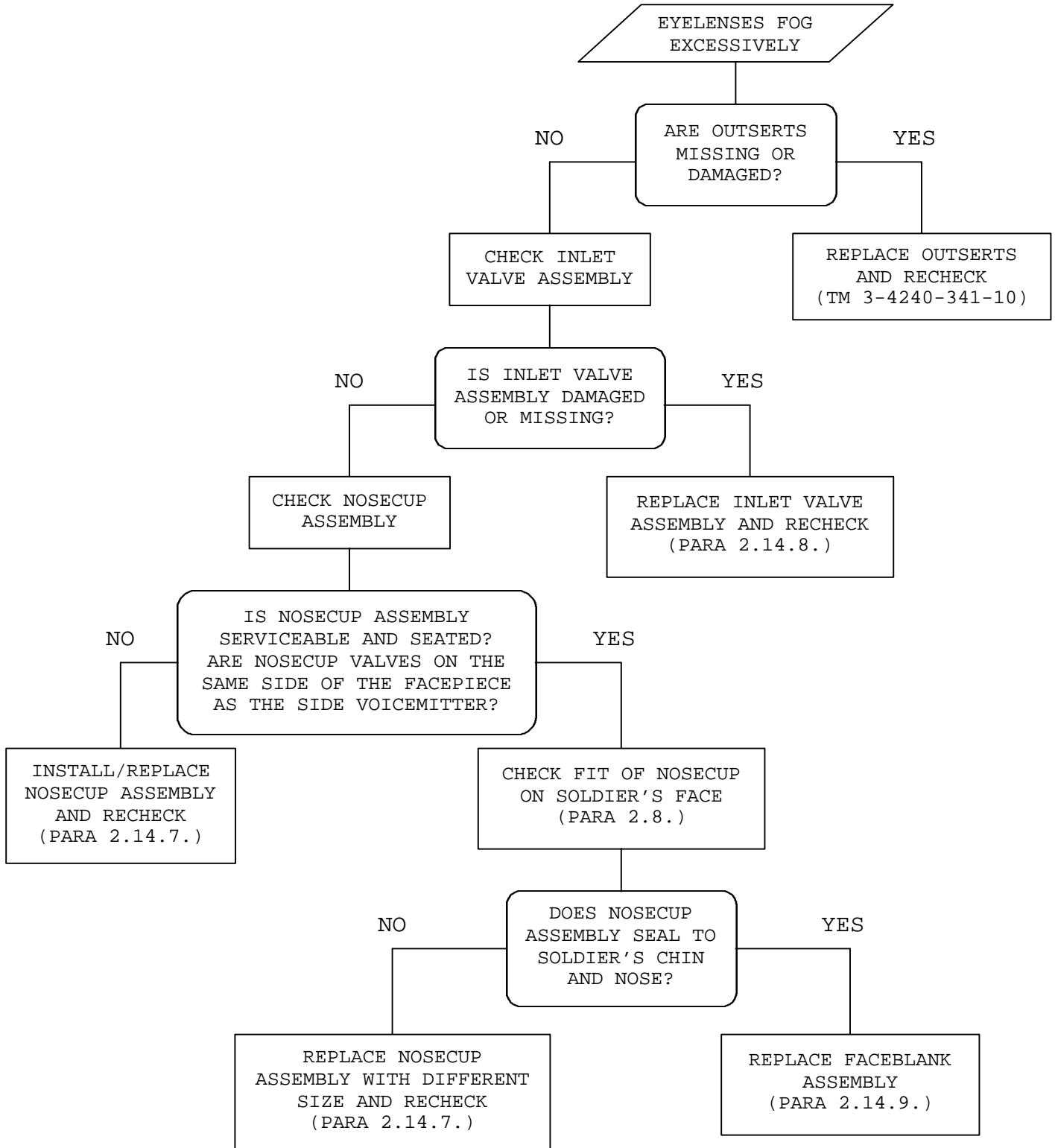
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2.12. TROUBLESHOOTING PROCEDURES (CONT).





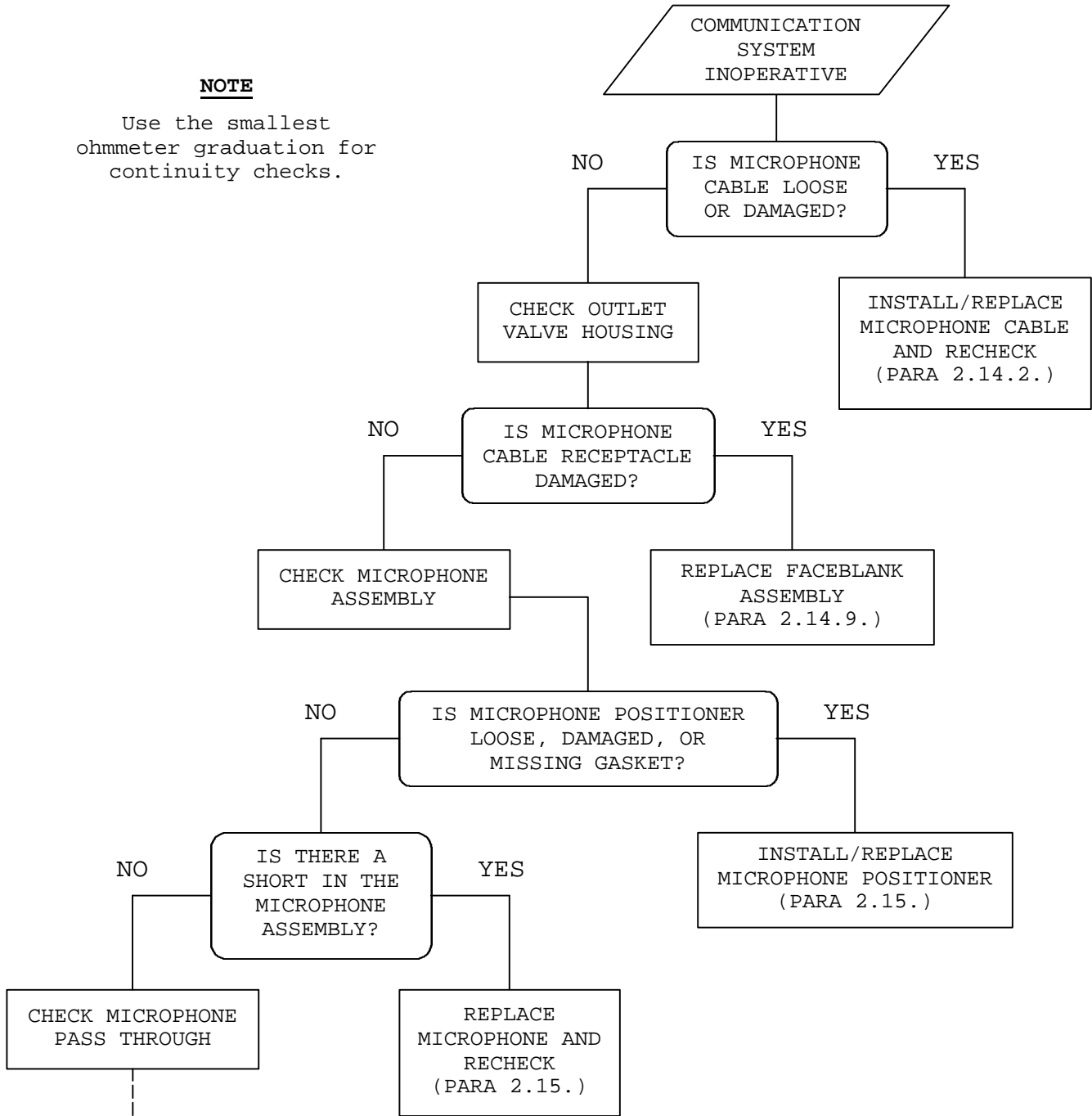
2.12. TROUBLESHOOTING PROCEDURES (CONT).



2.12. TROUBLESHOOTING PROCEDURES (CONT).

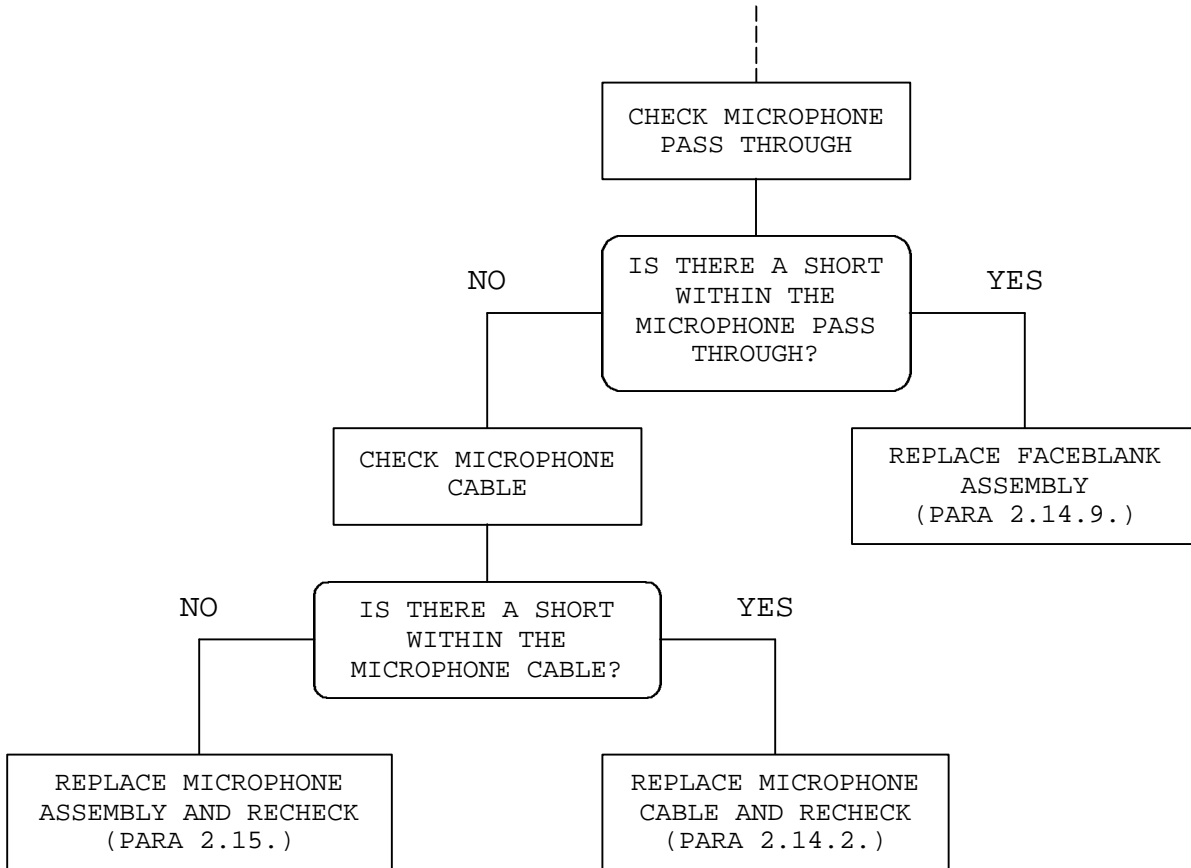
**NOTE**

Use the smallest ohmmeter graduation for continuity checks.

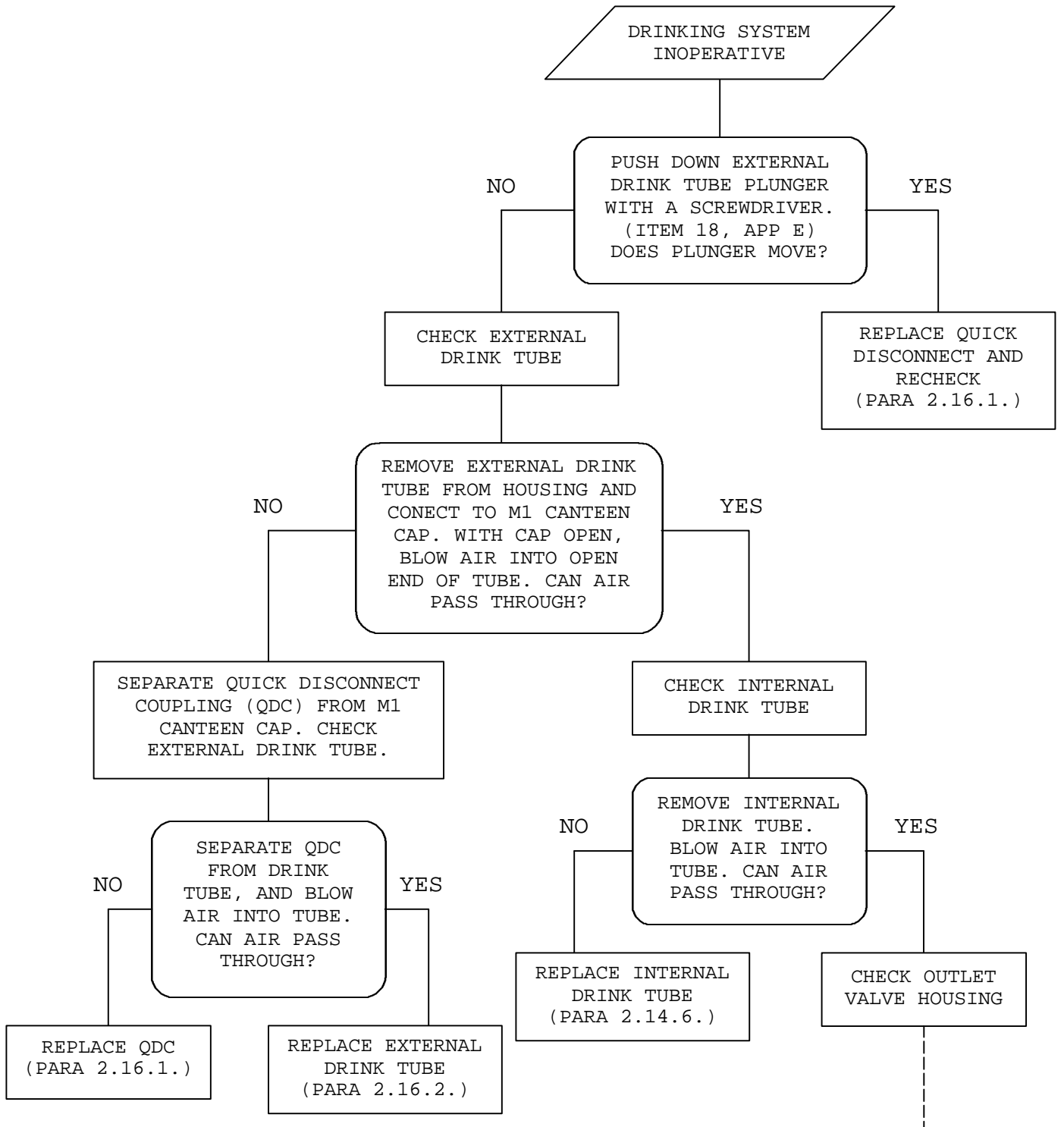


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2.12. TROUBLESHOOTING PROCEDURES (CONT).

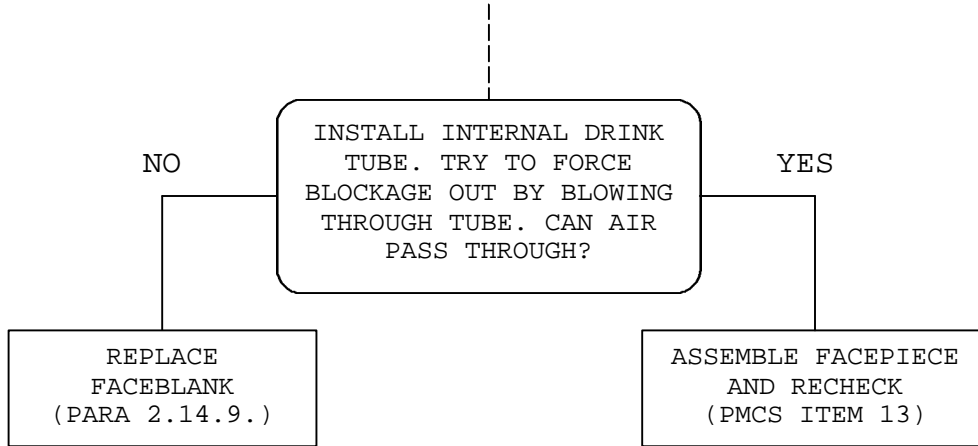


2.12. TROUBLESHOOTING PROCEDURES (CONT).

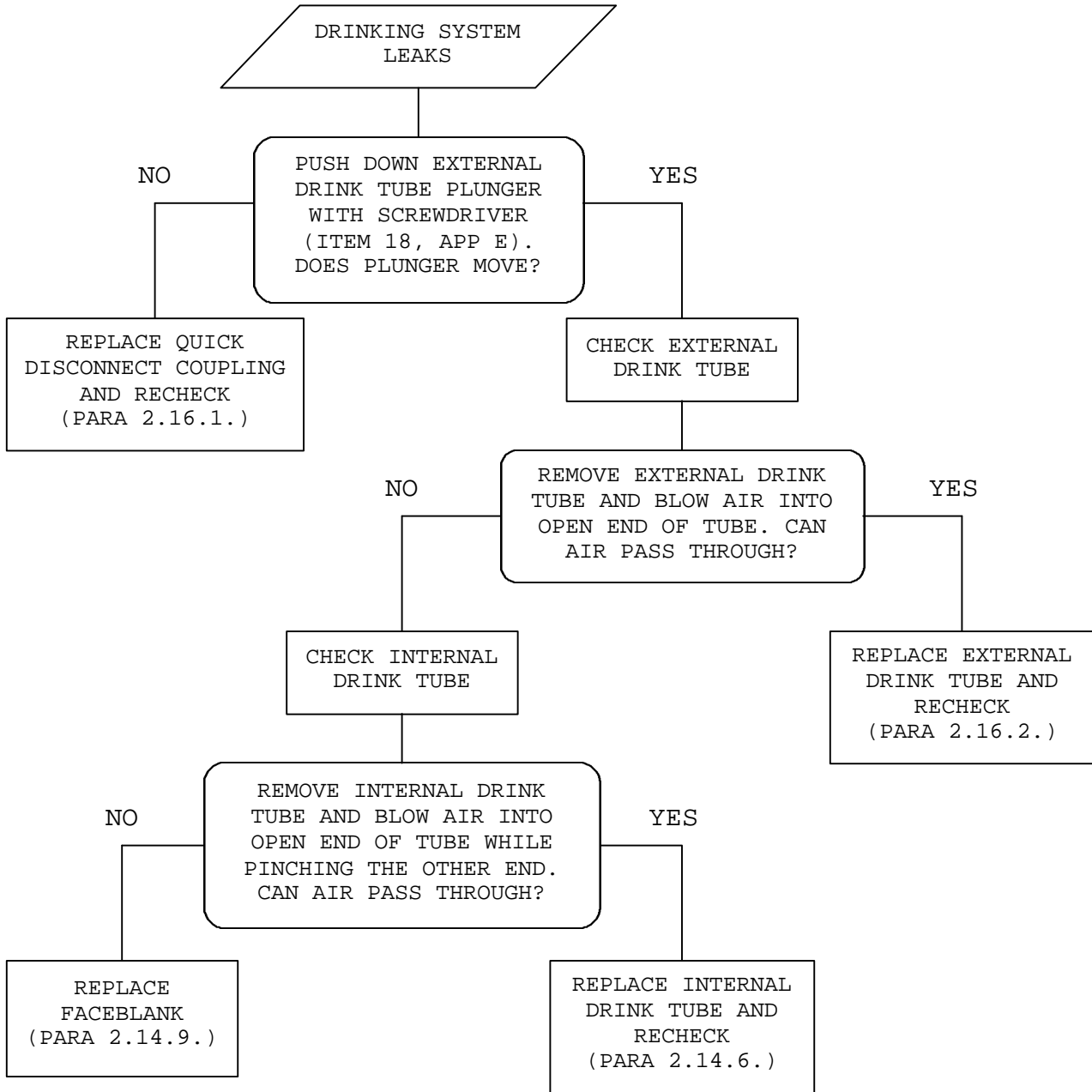


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2.12. TROUBLESHOOTING PROCEDURES (CONT).



2.12. TROUBLESHOOTING PROCEDURES (CONT).



**SECTION VI. MAINTENANCE PROCEDURES**

**2.13. GENERAL.**

**CAUTION**

DO NOT scratch eyelenses while performing maintenance procedures.

**NOTE**

Hood, hose assembly and microphone cable not shown for clarity.

The maintenance procedures in this section are to be performed by a unit maintenance technician or by the user under Unit Maintenance supervision.

This section contains detailed maintenance procedures for repairing, replacing and servicing the following components.

<b>PARA</b>	<b>PROCEDURE</b>	<b>PAGE</b>
2.14.	FACEPIECE ASSEMBLY REPAIR.....	2-44
	2.14.1. Head Harness.....	2-44
	2.14.2. Microphone Cable.....	2-46
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	2.14.4. Outlet Valve Disk.....	2-48
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	2.14.6. Internal Drink Tube.....	2-52
	2.14.7. Nosecup Assembly.....	2-54
	2.14.8. Inlet Valve Assembly.....	2-56
	2.14.9. Faceblank Assembly.....	2-58
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	2.19.1. Facepiece, Hood, Second Skin and Hose Assy..	2-67
	2.19.2. Carrier.....	2-69
2.20.	MASK SANITIZING.....	2-70
2.21.	DELIBERATE DECONTAMINATION.....	2-74

**2.14. FACEPIECE ASSEMBLY REPAIR.**

This task covers:

- 2.14.1. Head Harness Replacement
- 2.14.2. Microphone Cable Replacement
- 2.14.3. Outlet Valve Cover Replacement
- 2.14.4. Outlet Valve Disk Replacement
- 2.14.5. Side Voicemitter and Gasket Replacement
- 2.14.6. Internal Drink Tube Replacement
- 2.14.7. Nosecup Assembly Replacement
- 2.14.8. Inlet Valve Assembly Replacement
- 2.14.9. Faceblank Assembly Replacement

**2.14.1. Head Harness Replacement.**

---

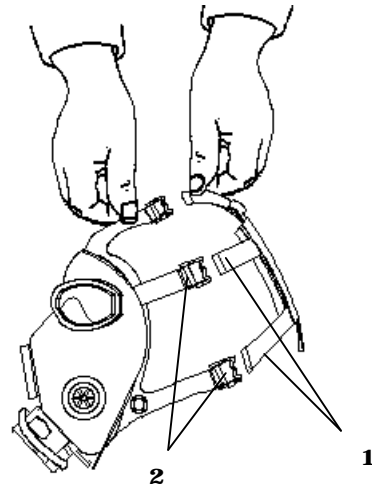
**Initial Setup.**

Materials/Parts  
None

---

**2.14.1.1. Removal.**

- a. Fold hood over front of facepiece.
- b. Work head harness straps (1) out of buckles (2).
- c. Remove head harness.





2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

2.14.1.2. Installation.

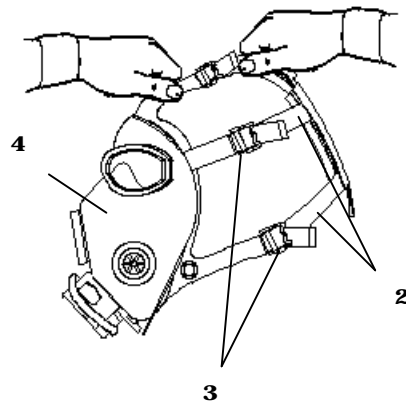
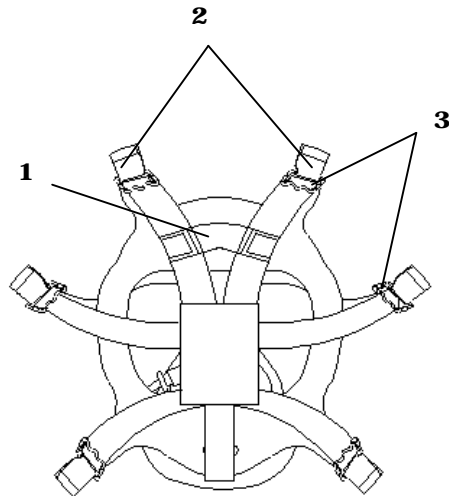
NOTE

Elastic webbing (1) that joins the two forehead straps must be on outside of straps to prevent hotspots on head.

a. While holding the facepiece, position head harness in facepiece with straps (2) next to buckles (3).

b. Push head harness strap ends into buckles and pull through approximately 1 inch (2.5 cm) so that head harness strap ends are outside.

c. Stretch head harness straps (2) away from facepiece (4) to check that buckles (3) hold tightly.



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.2. Microphone Cable Replacement.**

---

**Initial Setup.**

Materials/Parts  
None

Equipment Condition  
External drink tube has been removed from pocket on outlet valve cover (para 2.16.2) and outlet valve cover has been disengaged from outlet valve housing (para 2.14.3)

---

**CAUTION**

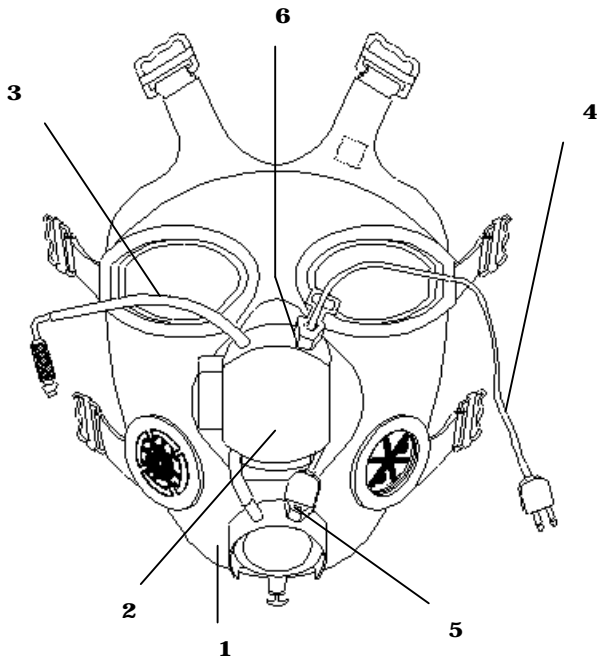
Do not remove cable by grasping wire. Only grasp connector near outlet valve housing.

**2.14.2.1. Removal.**

- a. Hold facepiece (1) face up.
- b. Slide outlet valve cover (2) onto external drink tube (3) and microphone cable (4).
- c. Grasp microphone cable near outlet valve housing receptacle (5), and pull away from facepiece.

**2.14.2.2. Installation.**

- a. Hold facepiece (1) face up.
- b. Install microphone cable (4) end through boot (6) on outlet valve cover.
- c. Install microphone cable into receptacle (5) on outlet valve housing.
- d. Install outlet valve cover (2) (para 2.14.3.).



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.3. Outlet Valve Cover Replacement.**

---

**Initial Setup.**

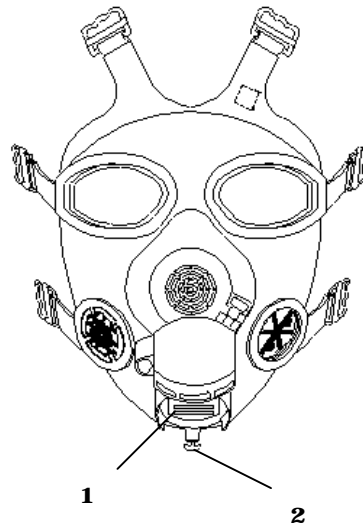
Materials/Parts  
None

Equipment Condition  
Microphone cable and external drink tube removed, paras 2.14.2.  
and 2.16.2.

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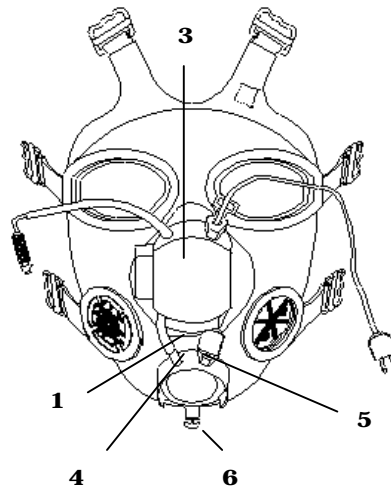
**2.14.3.1. Removal.**

- a. Hold facepiece face up.
- b. Pull down on tab (1) on bottom of outlet valve cover to slip outlet valve housing barb (2) through hole in outlet valve cover.
- c. Pull up on tab (1) until cover is removed from outlet valve housing.



**2.14.3.2. Installation.**

- a. Install external drink tube (para 2.16.2.2.) and microphone cable (para 2.14.2.2.).
- b. Install outlet valve cover (3) over external drink tube coupling (4) and microphone cable receptacle (5) of outlet valve housing.
- c. Using tab (1), pull down cover over outlet valve housing. Stretch bottom of outlet valve cover over barb (6), and slip barb into opening on cover.
- d. Make sure outlet valve cover seats around outlet valve housing.
- e. Place drink tube in front of cable receptacle boot, and around outlet valve cover and into retainer.



2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

2.14.4. Outlet Valve Disk Replacement.

---

Initial Setup.

Materials/Parts  
None

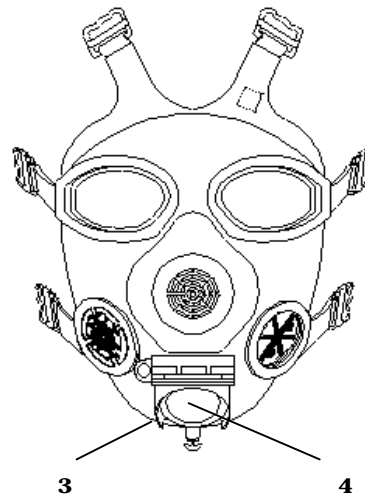
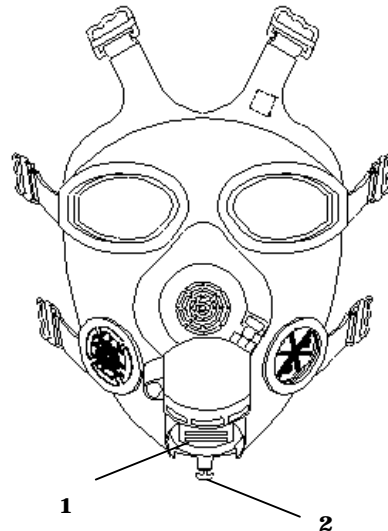
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NOTE

Microphone cable and external drink tube not shown for clarity.

2.14.4.1. Removal.

- a. Hold facepiece face up.
- b. Pull down on outlet valve cover tab (1) to slip outlet valve housing barb (2) through hole in outlet valve cover.
- c. Pull up on tab until cover is disengaged from outlet valve housing (3).
- d. Pull outlet valve disk (4) out of outlet valve housing and discard.



2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

2.14.4.2. Installation.

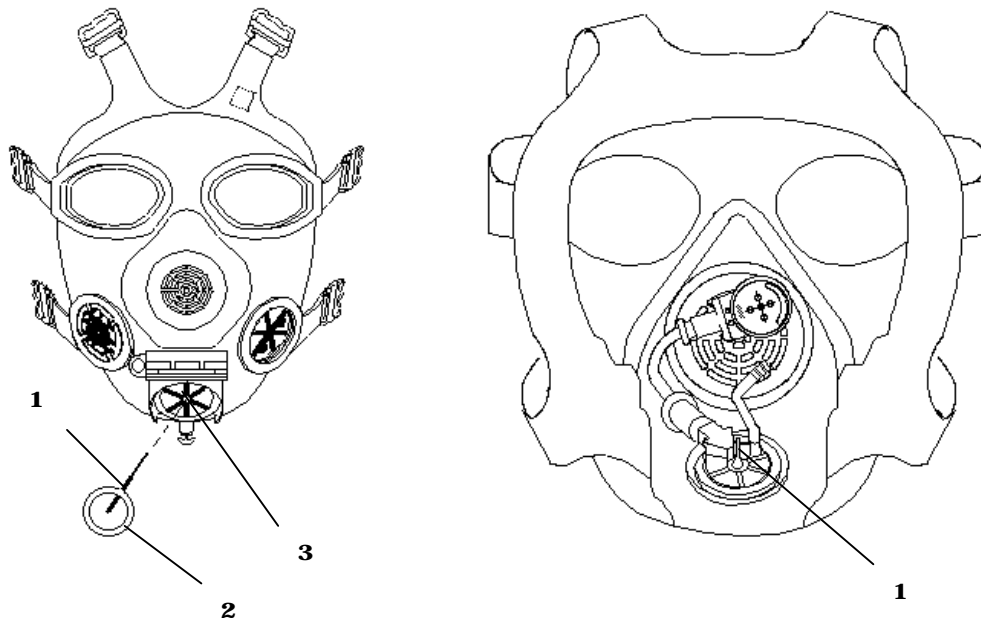
NOTE

To aid in the installation of the outlet valve disk into the the outlet valve housing, moisten the entire stem with water.

CAUTION

Do not use any tools or instruments to install outlet valve disk. Damage to outlet valve disk could cause leakage.

- a. Place stem (1) of outlet valve disk (2) in hole in the middle of the outlet valve housing (3).
- b. Press on center of disk while pulling on outlet valve disk stem (1) inside the mask. Pull until shoulder of stem slips through hole in housing.



- c. Check that disk lies flat and smooth, and has continuous contact with housing.
- d. Rotate disk with finger to make sure it is properly seated.
- e. Install outlet valve cover (para 2.14.3.2).

2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

2.14.5. Side Voicemitter and Gasket Replacement.

---

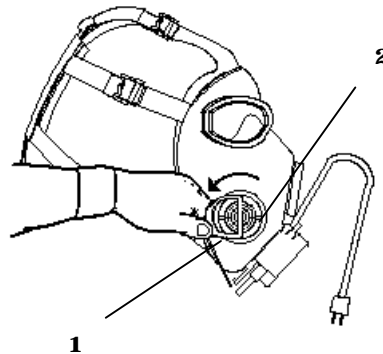
Initial Setup.

Materials/Parts  
None

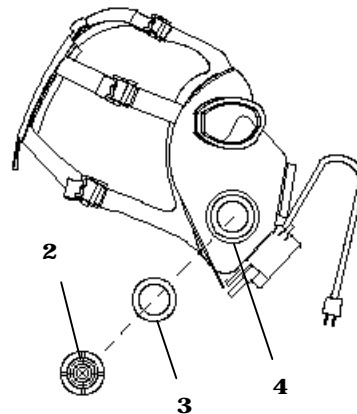
---

2.14.5.1. Removal.

a. Using flat side of D-ring (1) on carrier strap (or swivel knob on the hose assembly), unscrew side voicemitter (2) counterclockwise.



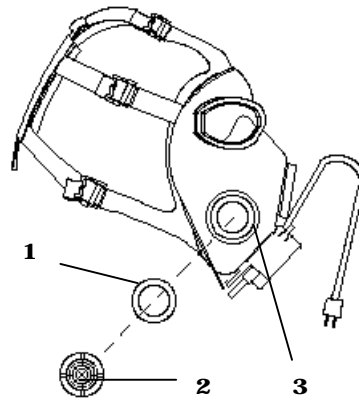
b. Remove side voicemitter (2) and gasket (3) by lifting out of sideport (4).



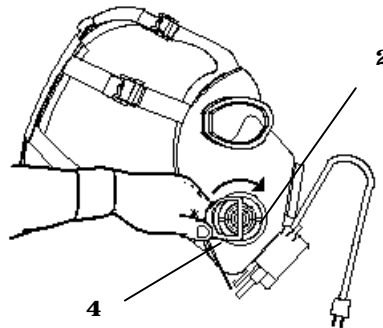
2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

2.14.5.2. Installation.

a. Position gasket (1) and side voicemitter (2) in sideport (3) of facepiece.



b. Tighten side voicemitter (2) with flat side of carrier D-ring (4) (or swivel knob on hose assembly) by turning clockwise.



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.6. Internal Drink Tube Replacement.**

---

**Initial Setup.**

Materials/Parts  
Shears (Item 19, App E)

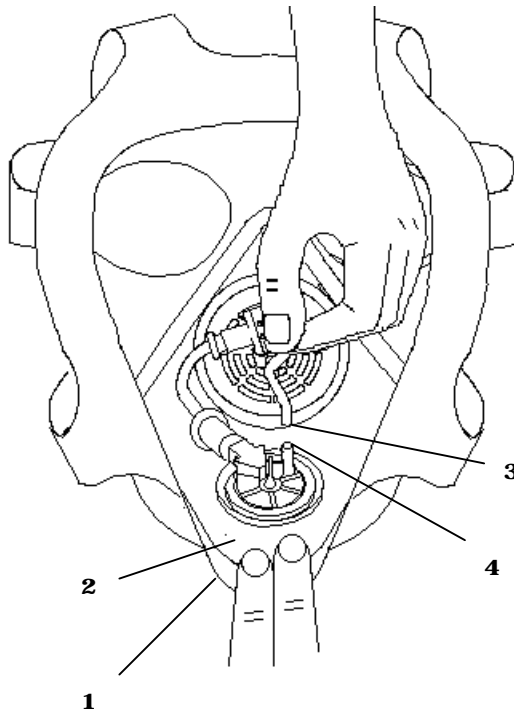
---

**2.14.6.1. Removal.**

- a. Fold hood and head harness over front of facepiece.
- b. While folding facepiece chin surface (1) and nosecup back (2), grasp internal drink tube (3) at outlet valve housing coupling (4) and pull away.

**2.14.6.2. Installation and Checking For Fit.**

- a. Fold hood and head harness over front of facepiece.
- b. While folding facepiece chin surface (1) and nosecup back (2), position internal drink tube (3) on drink tube coupling (4) and press drink tube in place. Make sure internal drink tube bottoms fully against outlet valve housing, opening faces away from outlet valve housing and barbed end is toward mouth.





2.14. FACEPIECE ASSEMBLY REPAIR (CONT).

CAUTION

Internal drink tube will irritate lips if it touches them while wearing facepiece.

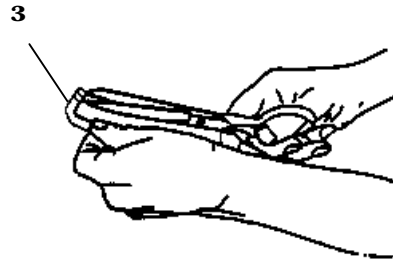
c. Have soldier don facepiece and check to see if internal drink tube touches their lips.

d. If internal drink tube touches soldier's lips while wearing facepiece, adjust length of internal drink tube as follows:

CAUTION

Internal drink tube must be removed from facepiece prior to adjusting length to prevent damage to facepiece.

- (1) Remove internal drink tube (3) from facepiece.
- (2) Cut internal drink tube behind first barb.
- (3) Reinstall internal drink tube in facepiece.



e. Repeat steps c and d as necessary to achieve proper fit.

**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.7. Nosecup Assembly Replacement.**

---

**Initial Setup.**

Materials/Parts  
None

Equipment Condition  
Microphone cable, internal drink tube, inlet valve assembly, microphone assembly, external drink tube, hose assembly and hood removed (paragraphs 2.14.2., 2.14.6., 2.14.8., 2.15., 2.16.2., 2.17.3. and 2.18.)  
Outserts installed.

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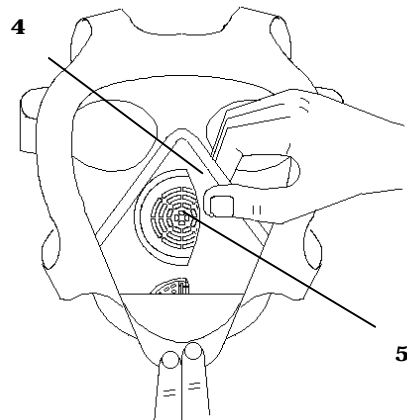
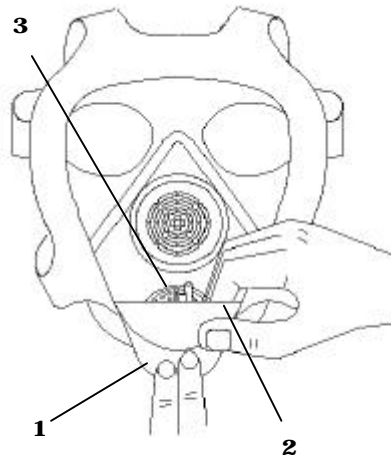
**2.14.7.1. Removal.**

a. Fold head harness over front of facepiece.

b. While folding facepiece chin surface (1) back, grasp right bottom of nosecup assembly (2) and pull until nosecup is disengaged from the right side of the outlet valve housing (3).

c. Grasp right-top of nosecup assembly (4) and pull until nosecup is disengaged from the right side of the front voicemitter (5).

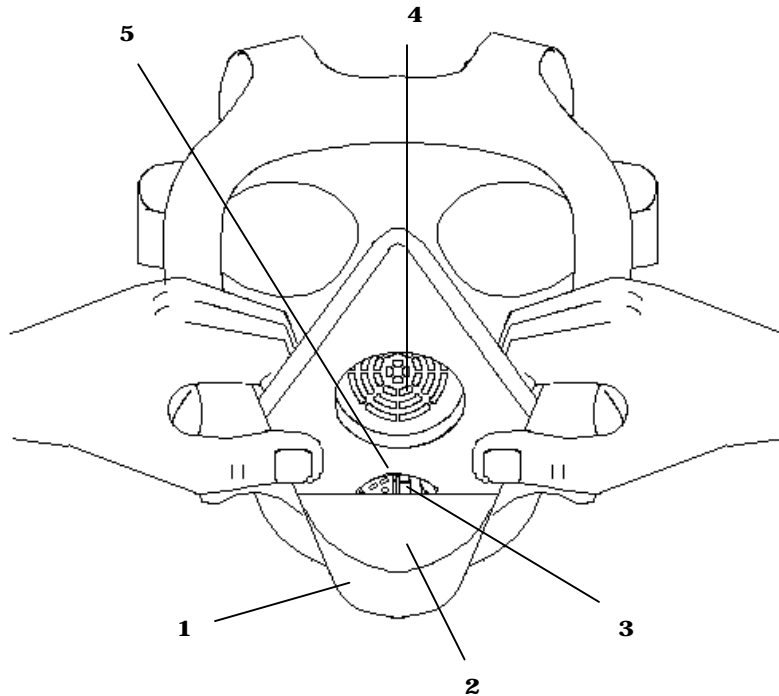
d. Repeat steps b and c for the left side and remove nosecup from facepiece.



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.7.2. Installation.**

- a. Fold head harness over front of facepiece.
- b. While folding facepiece chin surface (1) back, position nosecup assembly (2) over the back of outlet valve housing (3) and front voicemitter (4).



- c. Grasp both sides of nosecup and stretch so that material (5) will fit between voicemitter and outlet valve housing.
- d. Work the lip of the nosecup assembly under the bottom of the voicemitter and top of the outlet valve housing.
- e. Work the entire lip of the nosecup assembly under the edge of the outlet valve housing.
- f. Repeat step e for the front voicemitter opening of the nosecup.
- g. Install microphone cable, internal drink tube, inlet valve assembly, microphone assembly, external drink tube, hose assembly and hood paras (2.14.2., 2.14.6., 2.14.8., 2.15., 2.16.2., 2.17.3. and 2.18.)
- h. Reposition head harness.

**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.8. Inlet Valve Assembly Replacement.**

---

**Initial Setup.**

Materials/Parts  
None

Equipment Condition  
Hose assembly removed (para 2.17.3.)

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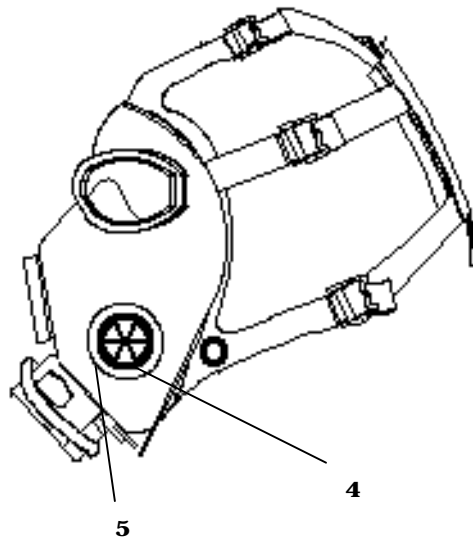
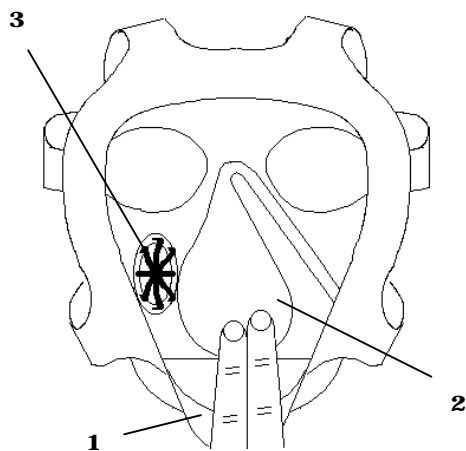
**2.14.8.1. Removal.**

a. Fold hood and head harness over front of facepiece.

b. Pull facepiece chin-surface (1) back and fold nosecup (2).

c. Grasp cage (3) with hand and separate from inlet valve body (4).

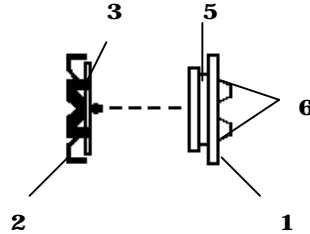
d. Remove valve body from port (5).



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.8.2. Installation.**

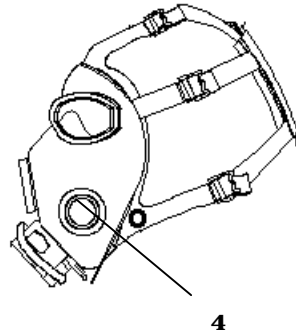
a. Separate the inlet valve body (1) from the cage (2) and disk valve (3) by pulling them apart.



b. Seat the inlet valve body (1) in the facepiece port (4), working the groove (5) of the inlet valve body into the flat edge of the port. Make sure the valve body tabs (6) are on the outside of the facepiece.

c. Fold head harness over front of facepiece.

d. While holding the inlet valve body (1) in place from the outside, push the pin on the cage (2) into the hole in the body (1) from inside the facepiece.

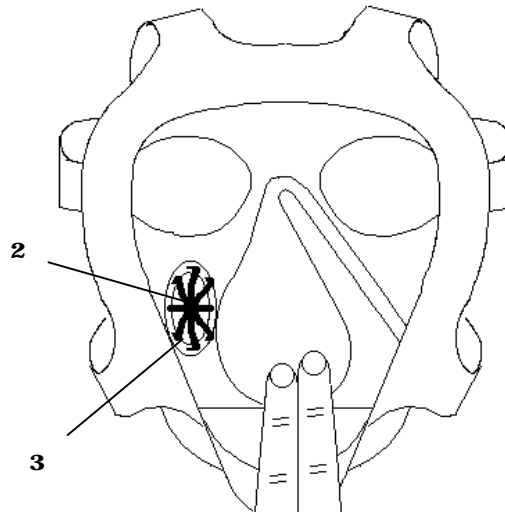


e. Check that the inlet valve disk (3) lies flat on the valve body (1).

**NOTE**

Ensure that nose cup does not interfere with rotation check.

f. From inside the facepiece, rotate the inlet valve disk (3) and cage (2) with your finger to make sure that they are properly seated and not sticking.



**2.14. FACEPIECE ASSEMBLY REPAIR (CONT).**

**2.14.9. Faceblank Assembly Replacement.**

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Initial Setup.

Materials/Parts  
None

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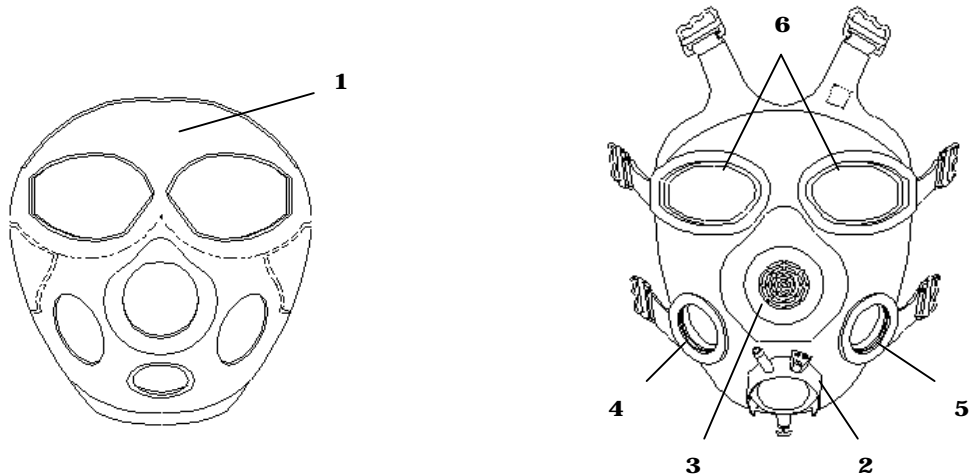
**2.14.9.1. Removal.**

Remove mask components in the following order: hose assembly (para 2.17.3.), hood (para 2.18.), microphone cable (para 2.14.2.), external drink tube (para 2.16.2.), outlet valve cover (para 2.14.3.), second skin (PMCS Item 7), side voicemitter and gasket (para 2.14.5.), inlet valve assembly (para 2.14.8.), head harness (para 2.14.1.), internal drink tube (para 2.14.6.), microphone assembly (2.15.), outlet valve disk (para 2.14.4.), nose cup (para 2.14.7.) and outserts (PMCS Item 7).

**2.14.9.2. Installation.**

1. Install outserts, nose cup, outlet valve disk, microphone assembly, internal drink tube, head harness, inlet valve assembly, side voicemitter and gasket to faceblank assembly (see para 2.14.9.1).

2. Install second skin (1) by stretching and pulling openings over the faceblank components in the following order: outlet valve housing (2), front voicemitter (3), side voicemitter port (4), hose port (5), and eyerings (6).



3. Install outlet valve cover, external drink tube, microphone cable, hood and hose assembly (see para 2.14.9.1).

**2.15. MICROPHONE ASSEMBLY REPAIR.**

**2.15. Microphone Assembly Replacement.**

---

**Initial Setup.**

Materials/Parts  
None

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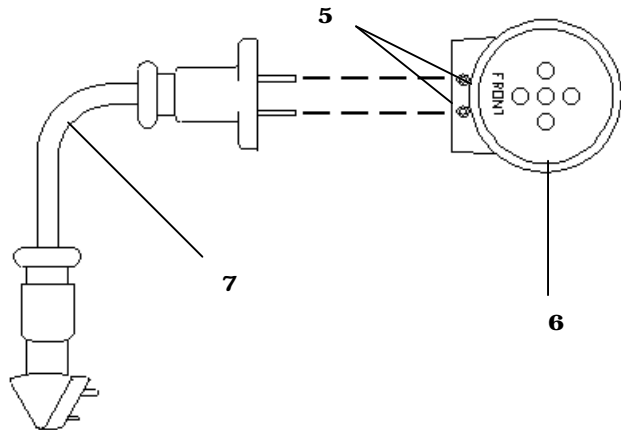
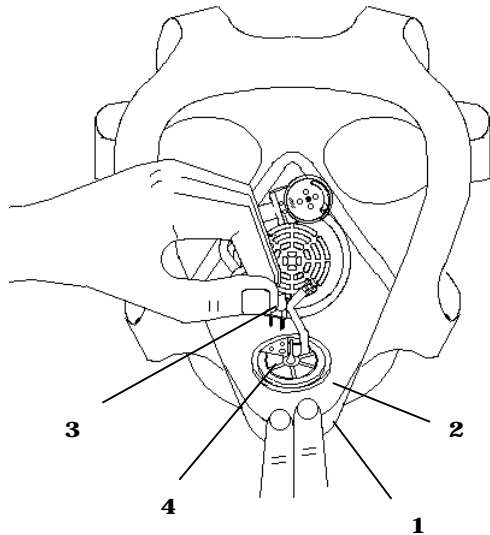
**2.15.1. Removal.**

a. Fold head harness over front of facepiece.

b. While folding facepiece chin surface (1) and nosecup (2) back, grasp microphone positioner (3) near outlet valve housing (4) and pull straight up.

c. Using jeweler's screwdriver (App E, Item 18), loosen set screws (5) on microphone (6) by turning counterclockwise.

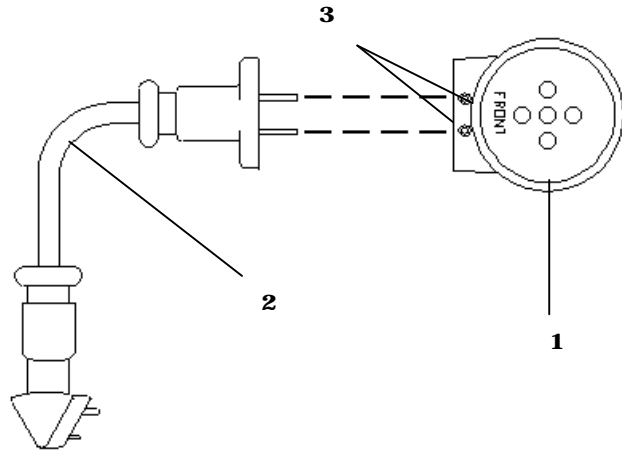
d. Separate microphone (6) from positioner (7).



2.15. MICROPHONE ASSEMBLY REPAIR (CONT).

2.15.2. Installation.

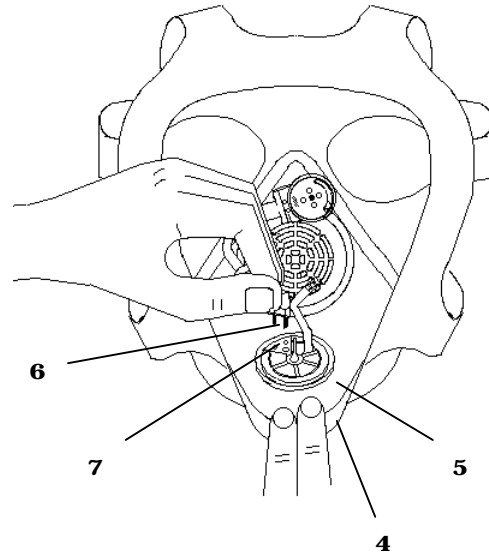
a. With microphone (1) oriented front side up and positioner (2) oriented with triple contacts down, install microphone on positioner by aligning twin electrical contacts with openings on microphone bottom.



b. Using jeweler's screwdriver (App E, Item 18), tighten set screws (3) by turning clockwise.

c. Fold head harness over front of facepiece.

d. While folding facepiece chin surface (4) and nosecup (5) back, align microphone positioner contacts (6) with outlet valve housing connector (7) and push.



e. Reposition head harness.



**2.16. EXTERNAL DRINK TUBE REPAIR.**

This task covers:

- 2.16.1. Quick Disconnect Coupling
- 2.16.2. External Drink Tube

**2.16.1. Quick Disconnect Coupling Replacement.**

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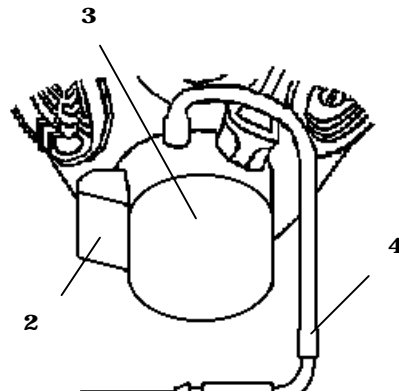
**Initial Setup.**

Materials/Parts  
None

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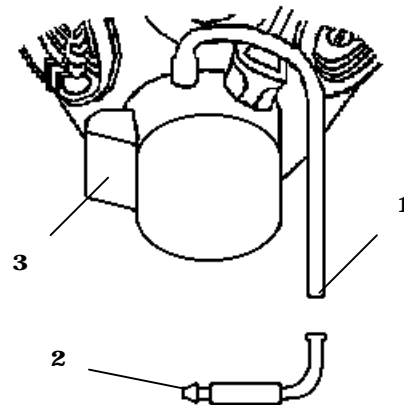
**2.16.1.1. Removal.**

- a. Lay mask face up.
- b. Remove quick disconnect coupling (1) from pocket (2) on outlet valve cover (3).
- c. With one hand, grasp the drink tube where it joins the quick disconnect coupling (4). With your other hand, grasp the quick disconnect coupling and pull apart.



**2.16.1.2. Installation.**

- a. Lay mask face up.
- b. Moisten end of drink tube (1) and insert quick disconnect coupling (2) into tube.
- c. Ensure tube extends over nipple end of quick disconnect coupling 5/8 to 3/4 inch.
- d. Reinstall quick disconnect coupling into pocket (3).
- e. Check for leaks in accordance with Para 2.9.



**2.16. EXTERNAL DRINK TUBE REPAIR (CONT).**

**2.16.2. External Drink Tube Replacement.**

---

**Initial Setup.**

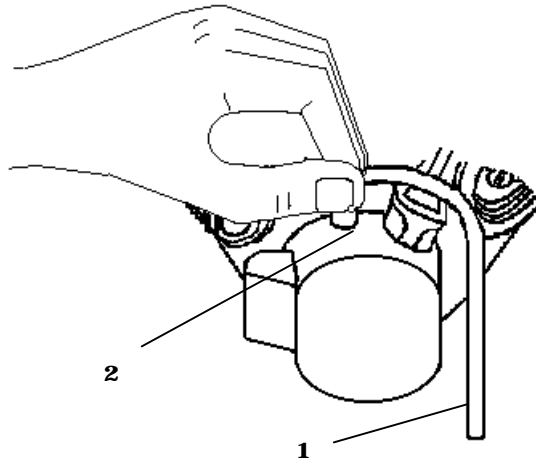
Materials/Parts  
None

Equipment Condition  
Quick disconnect coupling removed, para 2.16.1.1.

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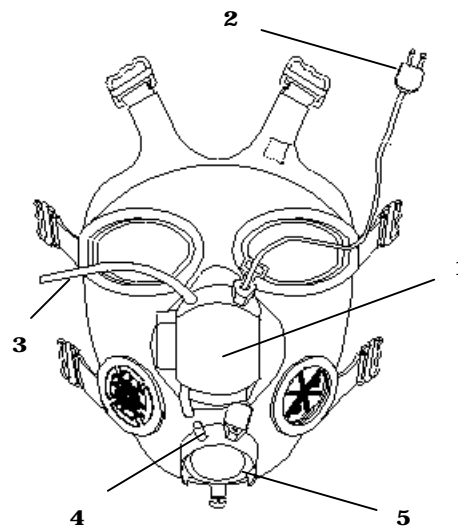
**2.16.2.1. Removal.**

- a. Hold facepiece face up.
- b. Grasp external drink tube (1) near outlet valve cover (2) and pull.



**2.16.2.2. Installation.**

- a. Hold facepiece face up.
- b. Disengage outlet valve cover (1) (para 2.14.3.1) and slide onto microphone cable (2).
- c. Feed external drink tube (3) into hole on top of outlet valve cover.
- d. Moisten end of drink tube, and work onto outlet valve coupling (4) until it bottoms against the outlet valve housing (5).
- e. Install outlet valve cover and quick disconnect coupling (para 2.14.3.2. and 2.16.1.2.).



**2.17. HOSE ASSEMBLY REPAIR.**

This task covers:

- 2.17.1. Port Gasket Replacement
- 2.17.2. Baffle Replacement
- 2.17.3. Hose Replacement

**2.17.1. Port Gasket Replacement.**

---

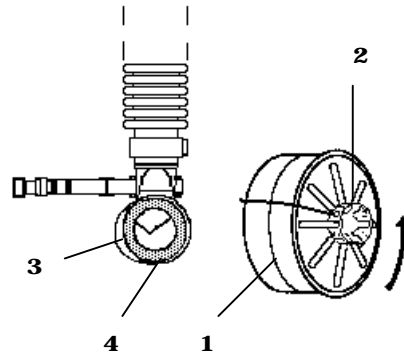
**Initial Setup.**

Materials/Parts  
None

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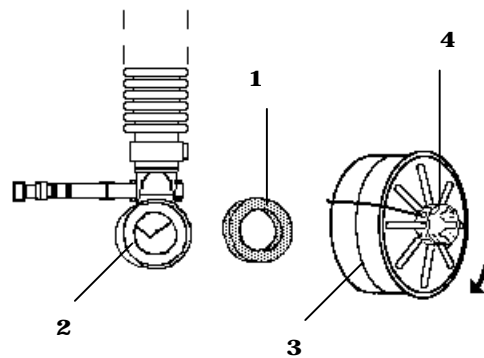
**2.17.1.1. Removal.**

- a. Remove canister (1) and baffle (2) from canister port (3) by unscrewing.
- b. Remove port gasket (4) from canister port (3).



**2.17.1.2. Installation.**

- a. Install port gasket (1) in canister port (2). Make sure gasket is fully seated.
- b. Install canister (3) and baffle (4) on canister port (2) by screwing until hand tight.



**2.17. HOSE ASSEMBLY REPAIR (CONT).**

**2.17.2. Baffle Assembly Replacement.**

---

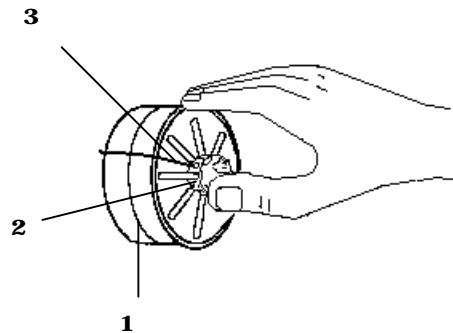
**Initial Setup.**

Materials/Parts  
None

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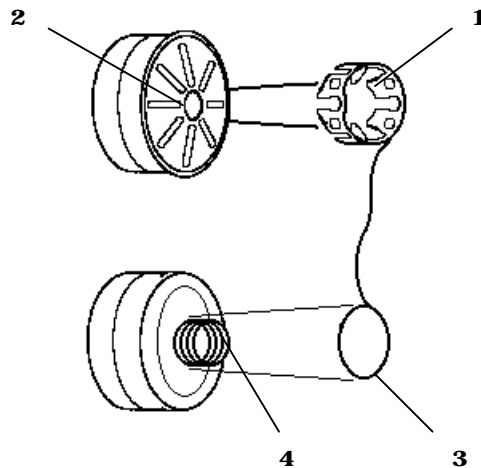
**2.17.2.1. Removal.**

- a. Remove canister (1) and baffle (2) from hose (para 2.17.1.1.).
- b. Remove baffle (2) from canister (1) by placing thumb on side of baffle and wrapping fingers around canister.
- c. Press thumb on side of baffle with slight upward motion.
- d. Remove baffle lanyard (3) from canister threads.



**2.17.2.2. Installation.**

- a. Aline baffle (1) with canister inlet (2) and press down.
- b. Place baffle loop (3) around canister threads (4) on back of canister.
- c. Install canister and baffle on hose (para 2.17.1.2.).



**2.17. HOSE ASSEMBLY REPAIR (CONT).**

**2.17.3. Hose Replacement.**

---

**Initial Setup.**

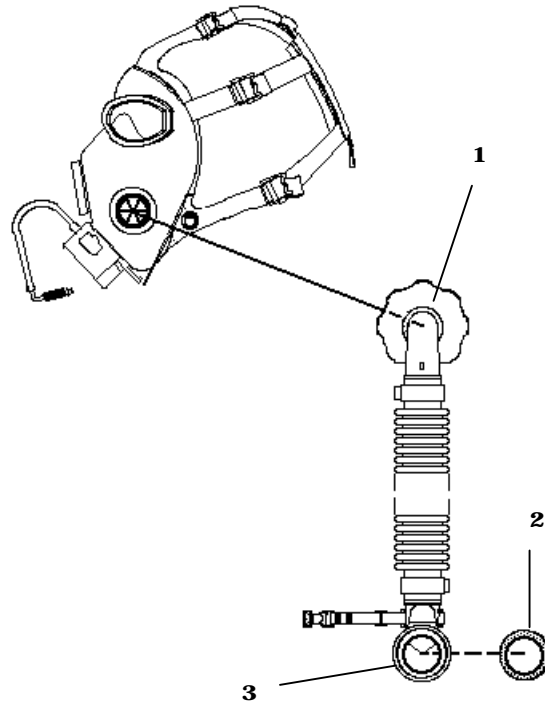
Materials/Parts  
None

Equipment Condition  
Canister removed (para 2.17.1.1.)

---

**2.17.3.1. Removal.**

- a. Remove hose assembly from facepiece by rotating star knob (1) counterclockwise.
- b. Remove port gasket (2) from canister port (3).



**2.17.3.2. Installation.**

- a. Install port gasket (2) in canister port (3). Make sure gasket is fully seated.
- b. Reattach hose assembly to facepiece by alining star knob (1) with port and turning clockwise until hand tight.
- c. Install canister and baffle on hose (para 2.17.1.2.).

**2.18. HOOD ASSEMBLY REPLACEMENT.**

---

**Initial Setup.**

Materials/Parts  
None

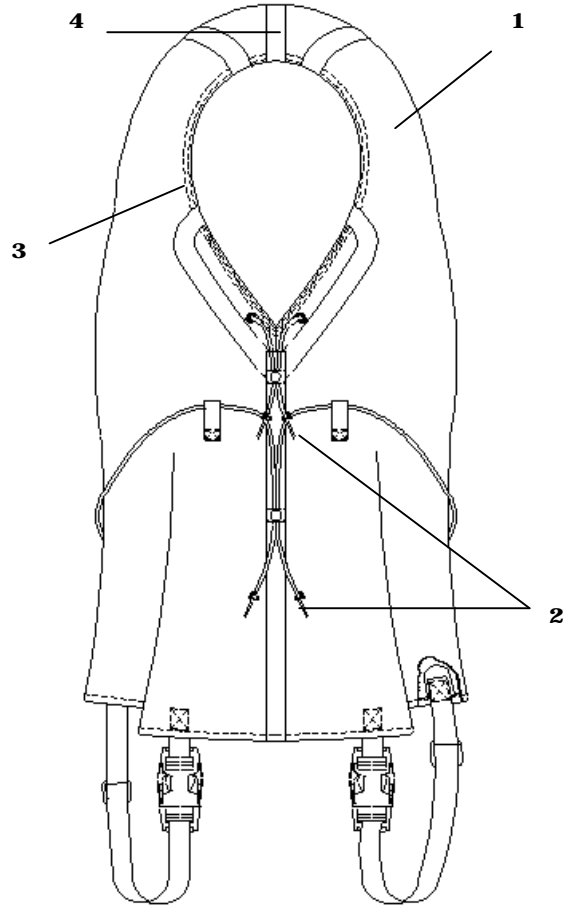
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**2.18.1. Removal.**

- a. Remove hood (1) by loosening drawstrings (2).
- b. Expand the opening (3) of the hood over the eyelenses and outserts and remove from facepiece.

**2.18.2. Installation.**

- a. Lay hood (1) on a flat surface and loosen drawstrings (2).
- b. Place facepiece in hood opening (3) and align hood seam (4) with center of facepiece.
- c. Work hood opening around and under flat end of eyelens and over the lip on bottom of second skin.
- d. Tighten upper drawstring to hold hood in place on facepiece.



**2.19. MASK CLEANING.**

This task covers:

- 2.19.1 Facepiece, Hood, Second Skin and Hose Assembly Cleaning
- 2.19.2 Carrier Cleaning

**2.19.1. Facepiece, Hood, Second Skin and Hose Assembly Cleaning.**

---

**Initial Setup.**

Materials/Parts

- Brush, Lens Dusting (Item 5, App E)
  - Cleaning Compound (Item 9, App E)
  - Cheesecloth (Item 10, App E)
  - Pail (Item 17, App E)
  - Soap (Item 20, App E)
- 

**2.19.1.1. Disassembly.**

**NOTE**

Use only potable water to clean a mask.

Mask must be clean and sanitized before transferring to another soldier.

- a. Remove facepiece from carrier.
- b. Remove canister and baffle assembly from hose (para 2.17.1.1.).
- c. Remove baffle assembly from canister (para 2.17.2.1.). Set aside canister.
- d. Remove hose assembly, outserts, and hood from facepiece (para 2.17.3.1., PMCS Item 7 and para 2.18.1.).
- d. Disassemble facepiece (para 2.14.9.1.).

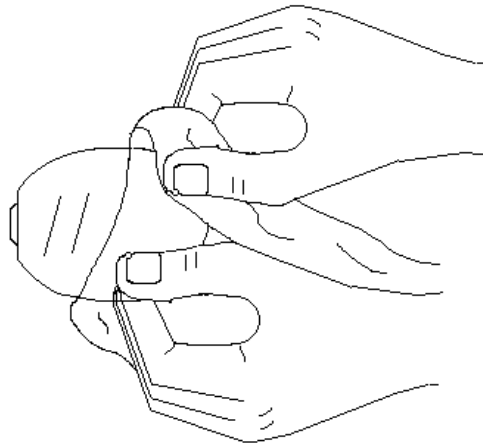
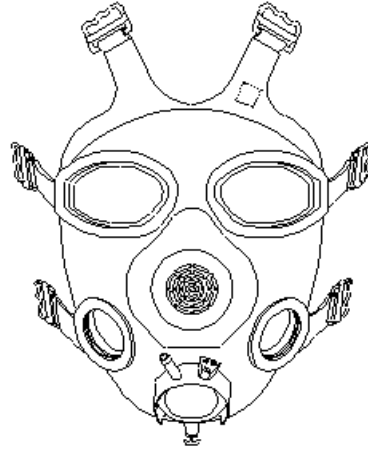
2.19. MASK CLEANING (CONT).

2.19.1.2. Cleaning.



CLEANING COMPOUND, SOLVENT

- a. Remove greasy or oily substances from faceblank assembly with cleaning compound and a clean cloth.
- b. Dip cloth in warm soapy water and wring almost dry (a lens brush may also be used). Clean faceblank assembly, second skin, outlet valve cover, nosecup assembly, head harness, internal drink tube, external drink tube, hood, baffle assembly, microphone cable, voicemitter and gasket inside and out with clean cloth and soap.
- c. Fill canteen with soapy water, and attach to external drink tube. Squeeze canteen to force soapy water through the drinking system. Rinse by repeating procedure with clean water.
- d. Wipe with clean cloth that has been dipped in warm water and wrung almost dry.
- e. Dry faceblank, outserts, second skin, outlet valve cover, nosecup assembly and hood with clean cloth or air dry.
- f. Wipe inside and outside of eyelenses and outserts, and outside of hose assembly and microphone assembly with cleaning compound on a clean cloth.



2.19.1.3. Assembly.

CAUTION

Ensure that all mask components are completely dry before replacing.

Assemble mask (para 2.14.9.2.).



2.19. MASK CLEANING (CONT).

2.19.2. Carrier Cleaning.

---

Initial Setup.

Materials/Parts

Brush, Scrub (Item 6, App E)

Pail (Item 17, App E)

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NOTE

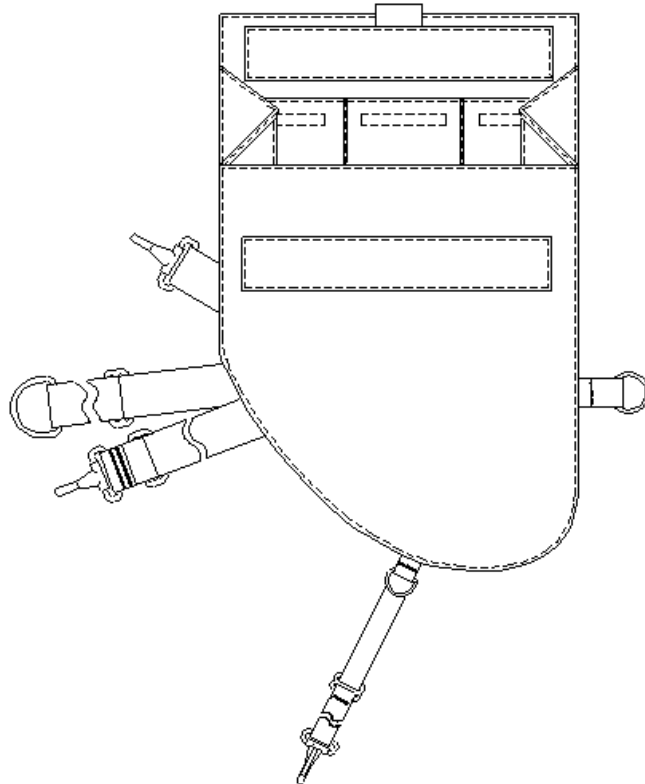
Use only potable water to clean a mask.

CAUTION

Do not use hot water, bleach, or detergents.

Do not soak or immerse carrier to clean it.

- a. Remove contents from carrier.
- b. Shake carrier upside down to remove dirt and foreign matter.
- c. Soak brush in pail of cool water.
- d. Shake brush to remove excess water.
- e. Clean carrier (1) with brush and cool water.
- f. Ensure carrier (1) and mask components are completely dry before repacking mask.



2.20. MASK SANITIZING.

2.20.1. Disassembly.

---

Initial Setup.

Materials/Parts  
None

---

- a. Remove all mask components (para 2.14.9.1.) except internal and external drink tubes.
- b. Remove canister from hose assembly (para 2.17.1.1.).
- c. Remove head harness (para 2.14.1.1.) and discard.

2.20. MASK SANITIZING (CONT).

2.20.2. Sanitizing.

---

Initial Setup.

Materials/Parts

Calcium Hypochlorite (Item 7, App E)  
Cheesecloth (Item 10, App E)  
Chemical Gloves (Item 14, App E)  
Pail (Item 17, App E)  
Soap (Item 20, App E)

---

WARNING

Wear gloves to protect hands.

CAUTION

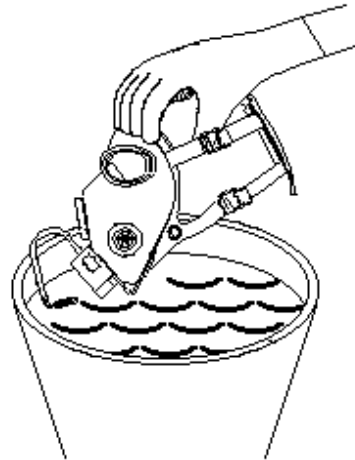
Set canister, microphone assembly and microphone cable aside so they will not get wet or damaged.

NOTE

When you sanitize a mask, use only potable water.  
Sanitizing required only before transfer to another soldier.

a. Immerse all mask components except canister, carrier, microphone cable and microphone assembly in pail filled with warm, soapy water. Agitate for 2 or 3 minutes.

b. Rinse components twice in clear, warm water agitating 2 or 3 minutes each time and set aside to dry.



2.20. MASK SANITIZING (CONT).

NOTE

Prepare enough solution to cover facepiece.



CALCIUM HYPOCHLORITE

c. Add a level 1/2 teaspoon of calcium hypochlorite to each gallon of clean water in the pail.

d. Mix thoroughly for thirty seconds to dissolve the calcium hypochlorite.

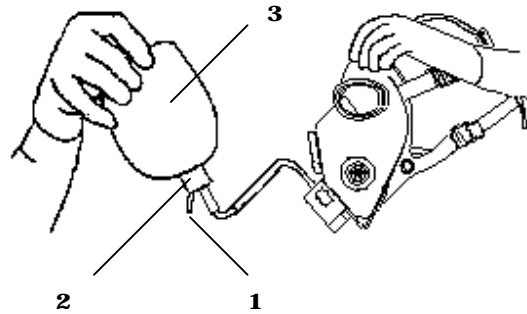
e. Remove cap, fill canteen with this solution and put cap on canteen.

f. Save the rest of the solution for sanitizing the facepiece.

g. Open protective cover (1) on canteen cap (2). Position facepiece face up.

h. Attach quick disconnect to cap.

i. Invert canteen (3) above facepiece. Squeeze canteen to force sanitizing solution through quick disconnect coupling.



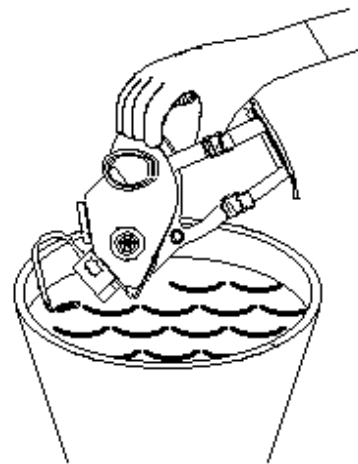
j. Lower canteen to upright position or squeeze sides to vent canteen. Use entire contents and rinse twice with clear water in same way.

k. Immerse mask components (except carrier, canister, microphone cable and microphone assembly) in sanitizing solution and agitate for 5 minutes.

l. Connect canteen cap to the quick disconnect coupling to allow drainage.

m. Rinse components twice in clear, warm water, agitating 2 or 3 minutes each time.

n. Dry all parts with clean cloth or allow to air dry.



2.20. MASK SANITIZING (CONT).

2.20.3. Assembly.

---

Initial Setup.

Materials/Parts  
None

---

CAUTION

Ensure all mask components are  
completely dry before replacing.

Assemble facepiece and mask (PMCS Items 13 and 14).

2.21. DELIBERATE DECONTAMINATION.

---

Initial Setup.

Materials/Parts

Can, Ash and Garbage (Item 8, App E)  
Cheesecloth (Item 10, App E)  
Cover, Can, Ash and Garbage (Item 11, App E)  
Heater, Immersion, Liquid Fuel Fired (App D)

---

WARNING

Use caution when performing the following steps. Excess liquid agent may be present on the threaded parts of the swivel and voicemitter.

Use caution when using the immersion heater. Observe the caution and warning statements in TM 5-4540-202-12&P.

- a. Assemble and start immersion heater per the instructions in TM 5-4540-202-12&P.
- b. Fill the ash and garbage can with clean water to within 6 inches of the can top.
- c. Disconnect canister from hose assembly or facepiece assembly and discard.
- d. Remove port gasket and discard, if present.
- e. When water starts to boil, immerse five masks (facepiece assemblies, hose assemblies and hoods), into the can and partially cover can with ash and garbage can cover.

NOTE

When immersing masks into boiling water, stir components to prevent air entrapment and to prevent hoses from floating to the top.

During the four-hour boiling period, check the water periodically to ensure it is boiling. The flame on the immersion heater may have to be adjusted periodically.

During the four-hour boiling period, periodically add water to keep all components submerged.

- f. Boil masks for four hours, while keeping can partially covered.

2.21. DELIBERATE DECONTAMINATION (CONT).

g. After four hours of boiling, turn off the immersion heater per the instructions in TM 5-4540-202-12&P and remove the mask components from the water.

NOTE

Do not reuse water after masks have been boiled. Place clean water in the ash and garbage can after every boiling operation.

h. Shake each mask component to remove excess water, and wipe dry with a cheesecloth.

i. Disassemble the mask (para 2.14.9.1.) and discard microphone element.

j. Clean the mask (para 2.19.1.2.).

k. Obtain a new canister, port gasket and microphone element.

l. Perform PMCS (para 2.10.).

## SECTION VII. PREPARATION FOR STORAGE OR SHIPMENT

### 2.22. PREPARATION FOR STORAGE.

#### CAUTION

Store masks in a cool, dry place, 40°F to 70°F (4°C to 21°C).  
Heat and moisture will damage the mask and the filter material.

#### 2.22.1. Temporary Storage by Using Unit. (LESS THAN 30 DAYS)

- a. Hang the carrier either by the shoulder strap or by the D-ring on the short strap on top of the carrier.
- b. Stow straps as directed by the local commander. Both straps may be hooked to the D-ring by their snap hooks.

#### 2.22.2. Long Term Storage. (MORE THAN 30 DAYS)

- a. Use either the fiberboard boxes or the plywood boxes for unit storage by stacking them on their sides to form a bank of storage cells. Fiberboard boxes should not be stacked more than three high.
- b. Replace interior plastic faceform packaging support if mask will be stowed longer than 30 days.

### 2.23. PREPARATION FOR SHIPMENT.

#### WARNING

##### HEALTH/ENVIRONMENTAL HAZARD

- o There are two mask canisters, the C2 and the C2A1.
- o The C2 canister contains Chromium VI and damaged or unusable canisters are considered Hazardous Waste. Chromium VI is a known carcinogen if inhaled or swallowed.
- o The C2A1 canister is chromium-free, but must continue to be disposed of in accordance with State and Local Environmental Laws.
- o DO NOT throw away damaged or unusable canisters as ordinary trash.
- o DO turn in damaged or unusable canisters to your hazardous waste management office or Defense Reutilization and Marketing Office (DRMO).



**2.21. PREPARATION FOR SHIPMENT (CONT).**

**CAUTION**

Package masks carefully to prevent damage during shipment.

**2.22.1. Prepare Masks.**

- a. Clean masks (para 2.19).
- b. Do not ship canister with mask. Turn canisters in to DRMO, or in accordance with state and local environmental laws, unit SOP, for disposal.
- c. Install clear outserts onto lens of mask facepiece. Place operator's manual into a ziplock bag and close. Stow other outserts and packaged operator's manual in inside pockets of carrier.
- d. Pull hood over the front of the facepiece.
- e. Loosen head harness straps and install packaging faceform into mask facepiece cavity. Tighten the head harness straps evenly around faceform.

**2.22.2. Packing.**

- a. Wrap mask facepiece with one complete turn of cushioning material (Item 13, App E). Overlap and secure ends with tape (Item 21, App E).
- b. Install wrapped mask facepiece in the carrier with lenses facing upward. Close flaps tightly.
- c. Place carriers, packaged above, in one layer (maximum 8 each) into a fiberboard box (Item 3, App E) or equivalent. The voids in the box shall be filled with cushioning material (Item 13, App E).
- d. Pack the fiberboard box into a wooden crate (Item 12, App E). Use six cleated box fasteners to secure box lid, applying two on each side and one on each end.
- e. Packing list shall be applied to shipping container in accordance with Mil-Std-129.

**APPENDIX A**

**REFERENCES**

**A-1. SCOPE.**

This appendix lists all forms, TMs, and miscellaneous publications referenced in this manual.

**A-2. PUBLICATION INDEXES.**

The following publication indexes should be consulted frequently for the latest changes or revisions of references given in this appendix and for any new publications relating to the material covered in this manual:

Consolidated Index of Army Publications and Blank Forms.....DA Pam 25-30  
The Army Maintenance Management System (TAMMS).....DA PAM 738-750

**A-3. FORMS.**

Recommended Changes to Publications and Blank Forms.....DA Form 2028  
Recommended Changes to Equipment Technical Publications...DA Form 2028-2  
Equipment Inspection and Maintenance Worksheet.....DA Form 2404  
Preventative Maintenance Schedule and Record.....DD Form 314  
Transportation Discrepancy Report.....SF 361  
Quality Deficiency Report.....SF 368

**A-3. FIELD MANUALS.**

Nuclear, Biological and Chemical Protection.....FM 3-4  
First Aid for Soldiers.....FM 21-11

**A-4. TECHNICAL MANUALS.**

Chemical Biological Mask: Aircrew, M45.....TM 3-4240-341-10  
Destruction of Chemical Weapons and Defense Equipment  
to Prevent Enemy Use.....TM 43-0002-31  
Operator and Unit Maintenance Manual for Protection Assessment Test  
System, M41.....TM 3-4240-349-12&P  
Operator's and Organizational Maintenance Manual for Heater, Immersion,  
Liquid Fuel Fired.....TM 5-4540-202-12&P

**A-5. MISCELLANEOUS.**

Issue and Sale of Personal Clothing.....AR 700-84  
Army Logistics, Maintenance and Sustainability.....AR 700-138  
Army Medical Department Expendable/Durable Items.....CTA 8-100  
Expendable/Durable Items .....CTA 50-970  
Chemical-Biological Canisters and Filter Elements:.....SB 3-30-2  
Serviceability Lists  
Marking For Shipment and Storage.....Mil-Std-129

## APPENDIX B

### MAINTENANCE ALLOCATION CHART (MAC)

#### SECTION I. INTRODUCTION

##### **B-1 THE ARMY MAINTENANCE SYSTEM MAC.**

a. This introduction (Section I) provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

b. The Maintenance Allocation Chart (MAC) in Section II designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component will be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

**Unit** - includes two subcolumns, C (operator/crew) and O (unit) maintenance.

**Direct Support** - includes an F subcolumn.

**General Support** - includes an H subcolumn.

**Depot** - includes a D subcolumn.

c. Section III lists the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from section II.

d. Section IV contains supplemental instructions and explanatory notes for a particular maintenance function.

##### **B-2 MAINTENANCE FUNCTIONS.**

Maintenance functions are limited to and defined as follows:

**a. Inspect.** To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

**b. Test.** To verify the serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

**B-2 MAINTENANCE FUNCTIONS (CONT).**

**c. Service.** Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.

**d. Adjust.** To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

**e. Aline.** 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 of test, measuring, and diagnostic equipment used in precision measurement. 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. Remove/Install.** To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

**h. Replace.** To remove an unserviceable item and install a serviceable counterpart in its place. "Replace" is authorized by the MAC and assigned maintenance level is shown as the 3rd position code of the SMR code.

**B-2 MAINTENANCE FUNCTIONS (CONT).**

i. **Repair**. The application of maintenance services<sup>1</sup> including fault location/troubleshooting<sup>2</sup>, removal/installation, disassembly/assembly<sup>3</sup> procedures, and maintenance actions<sup>4</sup> to identify trouble and 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/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards 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.

---

<sup>1</sup>Services - Inspect, test service, adjust, aline, calibrate, and/or replace.

<sup>2</sup>Fault location/troubleshooting - The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or unit under test (UUT).

<sup>3</sup>Disassembly/assembly - The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

<sup>4</sup>Actions - Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

k. **Rebuild**. Consists of those service/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 rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

**B-3 EXPLANATION OF COLUMNS IN THE MAC, SECTION II.**

a. **Column 1, Group Number**. Column 1 lists functional group code numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the next higher assembly.

b. **Column 2, Component/Assembly**. Column 2 contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. **Column 3, Maintenance Function**. 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.)

**B-3 EXPLANATION OF COLUMNS IN THE MAC, SECTION II (CONT).**

**d. Column 4, Maintenance Level.** Column 4 specifies each level of maintenance authorized to perform each function listed in column 3, by indicating work time required (expressed as man-hours in whole hours or decimals) in the appropriate subcolumn. This work-time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work-time figures are to be shown for each level. 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 (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance 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 designations for the various maintenance levels are as follows:

- C.....Operator or crew maintenance
- O.....Unit maintenance
- F.....Direct support maintenance
- L.....Specialized repair activity (SRA)<sup>5</sup>
- H.....General support maintenance
- D.....Depot maintenance

---

<sup>5</sup>This maintenance level is not included in Section II, Column (4) of the Maintenance Allocation Chart. Functions to this level of maintenance are identified by a work-time figure in the "H" Column of Section II, Column (4), and an associated reference code is used in the remarks column (6). This code is keyed to Section IV, Remarks, and the SRA complete repair application is explained there.

**e. Column 5, Tools and Equipment Reference Code.** Column 5 specifies, by code, those common tool sets (not individual tools), common TMDE, and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to tools and test equipment in Section III.

**f. Column 6, Remarks Code.** When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks contained in Section IV.

**B-4 EXPLANATION OF COLUMNS IN TOOLS AND TEST EQUIPMENT REQUIREMENTS, SECTION III.**

a. **Column 1, Tool or Test Equipment Reference Code.** The tool or test equipment reference code correlates with a code used in the MAC, Section II, Column 5.

b. **Column 2, Maintenance Level.** The lowest level of maintenance authorized to use the tool or test equipment.

c. **Column 3, Nomenclature.** Name or identification of the tool or test equipment.

d. **Column 4, National Stock Number.** The National Stock Number of the tool or test equipment.

e. **Column 5, Tool Number.** The manufacturer's part number, model number, or type number.

**B-5 EXPLANATION OF COLUMNS IN REMARKS, SECTION IV.**

a. **Column 1, Remarks Code.** The code recorded in Column 6, Section II.

b. **Column 2, Remarks.** This column lists information pertinent to the maintenance function being performed as indicated in the MAC, Section II.

**SECTION II. MAINTENANCE ALLOCATION CHART  
FOR  
MASK, CHEMICAL-BIOLOGICAL: M45**

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIPMENT REF CODE	(6) REMARK'S CODE
			UNIT		DIRECT SUPPORT	GENERAL SUPPORT	DEPOT		
			C	O	F	H	D		
00	CHEMICAL- BIOLOGICAL MASK: M45	Inspect Test Adjust Service Replace Repair	.3 .1  .1	.5 .1 .1 .4 .1 .1				1	
01	FACEPIECE ASSEMBLY	Inspect Service Repair	.2 .1	.3 .3 .1				1	
0101	MICROPHONE ASSEMBLY	Inspect Service Repair	.1 .1	.1 .1 .1					
0102	DRINK TUBE ASSEMBLY	Inspect Service Repair	.1 .1	.1 .1 .1					
02	HOSE ASSEMBLY	Inspect Service Repair	.1 .1	.1 .1 .1					



**SECTION III. TOOL AND TEST EQUIPMENT  
FOR  
MASK, CHEMICAL-BIOLOGICAL: M45**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	0	MULTIMETER, DIGITAL	6625-01-139-2512	T00377

**SECTION IV. REMARKS  
FOR  
MASK, CHEMICAL-BIOLOGICAL: M45**

Not applicable.

APPENDIX C

UNIT MAINTENANCE REPAIR PARTS  
AND SPECIAL TOOLS LIST

SECTION 1. INTRODUCTION

C-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 unit maintenance (or other applicable maintenance requisition, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

C-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. This 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. Sending units, brackets, filters, and bolts shall be listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the section. Repair parts kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in Section II. Items listed are shown on the associated illustration.

**b. Section III - Special Tools List.** A list of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE CODE (UOC) column). Tools that are components of common tool sets and/or Class VII shall not be listed.

**c. Section IV - Cross-Reference Indexes.** There are two cross-reference indexes in this RPSTL: the National Stock Number Index and the Part Number Index. The National Stock Number Index refers you to the figure and item number. The Part Number Index refers you to the figure and item number.

**C-3 EXPLANATION OF COLUMNS (SECTIONS II AND III).**

**a. ITEM NO. (Column (1)).** Indicates the number used to identify items called out in the illustration.

**b. SMR CODE (Column (2)).** The source, maintenance and recoverability (SMR) code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

Source Code	Maintenance Code	Recoverability Code
<u>XX</u>	<u>XX</u>	<u>X</u>
1st two positions How to get an item	3rd position Who can in- stall, re- place, or use the item	4th position Who can do complete re- pair* on the item
		5th position Who determines disposition ac- tion on unser- viceable items

\*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 you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Source Code	Application/explanation
PA	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code.
PB	
PC	
PD	
PE	
PF	
PG	<b><u>NOTE</u></b> Items coded PC are subject to deterioration.
KD	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
KF	
KB	

**C-3 EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).**

MO-Made at unit/ AVUM level	Items with these codes are not to be requisitioned/requested 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 of the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
MF-Made at DS/ AVIM level	
MH-Made at GS level	
ML-Made at SRA	
MD-Made at depot	

AO-Assembled by unit/AVUM level	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 3rd position 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.
AF-Assembled by DS/AVIM level	
AH-Assembled by GS level	
AL-Assembled by SRA	
AD-Assembled by depot	

XA - Do not requisition an "XA" coded item. Order the next higher assembly. (Refer to NOTE below.)

XB - If an item is not available from salvage, order it using the CAGEC and part number.

XC - Installation drawing, diagrams, instruction sheet, field service drawing; identified by manufacturer's part number.

XD - Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and part number given, if no NSN is available.

**NOTE**

Cannibalization or controlled exchanged, 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 750-1.

**(2) Maintenance Code.** Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes

C-3 EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

are entered in the third position 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 the following levels of maintenance:

**Maintenance**

Code	Application/Explanation
C	Crew or operator maintenance done within unit/AVUM maintenance.
O	Unit level/AVUM maintenance can remove, replace, and use the item.
F	Direct support/AVIM maintenance can remove, replace, and use the item.
H	General support maintenance can remove, replace, and use the item.
L	Specialized repair activity can remove, replace, and use the item.
D	Depot can remove, replace, and use the item.

(b) The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (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 MAC and SMR codes.

**Maintenance**

Code	Application/Explanation
O	Unit/AVUM is the lowest level that can do complete repair of the item.
F	Direct support/AVIM 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.

C-3 EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

- 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 - Nonreparable. No repair is authorized.
- B - No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubrication, 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 shown in the fifth position of the SMR code as follows:

**Recoverability**

Code	Application/Explanation
Z -	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the 3rd position of the SMR code.
O -	Reparable item. When uneconomically repairable, condemn and dispose of the item at the unit level.
F -	Reparable item. When uneconomically repairable, condemn and dispose of the item at the direct support level.
H -	Reparable item. When uneconomically repairable, 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 are not authorized below depot level.
L -	Reparable item. Condemnation and disposal not authorize below specialized repair activity (SRA).
A -	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

C-3 EXPLANATION OF COLUMNS (SECTIONS II AND III) (CONT).

c. NSN (Column (3)). The National stock number for the item is listed in this column.

d. CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a 5-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

e. PART NUMBER (Column (5)). 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, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different part number from the number listed.

f. DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

(1) The federal item name, and when required, a minimum description to identify the item.

(2) Part numbers of bulk materials are referenced in this column in the line entry to be manufactured/fabricated.

(3) The statement "END OF FIGURE" appears just below the last item description in column (5) for a given figure in both Sections II and III.

g. QTY (Column (7)). 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 instead of a quantity indicates that the quantity is variable and the quantity may vary from application to application.

C-4 EXPLANATION OF INDEX FORMAT AND COLUMNS (SECTION IV).

a. National Stock Number (NSN) Index.

(1) STOCK NUMBER Column. This column lists the NSN in national item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

C-4 EXPLANATION OF INDEX FORMAT AND COLUMNS (SECTION IV) (CONT).

<p>NSN  <u>5385-01-574-1476</u>          NIIN</p>	<p>When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.</p>
---	---

(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 II and Section III.

(3) **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 in ascending alphanumeric sequence (vertical arrangement of letter and number combinations 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) **PART NUMBER Column.** Indicates the part number assigned to the item.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located in Sections II and III.

(3) **ITEM Column.** The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

**c. REFERENCE DESIGNATION INDEX.** (Include as applicable.) Reference designators in this index are listed in ascending alphanumeric sequence (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) **REFERENCE DESIGNATOR Column.** Indicates the reference designator assigned to the item.

(2) **FIG. Column.** This column lists the number of the figure where the item is identified/located in Section II or III.

(3) **ITEM Column.** The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.



**C-5 SPECIAL INFORMATION.**

**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 under the applicable item/nomenclature. Uncoded items are applicable to all models. Identification of the usable on codes used in the RPSTL are:

Code	Used On
123	M45 Mask - Extra Small
23S	M45 Mask - Small
23M	M45 Mask - Medium
23L	M45 Mask - Large

**b. Fabrication Instructions.** Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufacture/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in (enter applicable TM number).

**c. 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.

**C-6 HOW TO LOCATE REPAIR PARTS.**

**a. When National Stock Numbers or Part Numbers Are Not Known.**

(1) **First.** Using the table of contents, determine the assembly 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 functional group or the subfunctional group to which the item belongs.

(3) **Third.** Identify the item on the figure and note the number(s).

(4) **Fourth.** Look in the repair parts list for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

C-6 HOW TO LOCATE REPAIR PARTS (CONT).

b. When National Stock Number or Part Number Is Known.

(1) **First**. If you have the National Stock Number, look in the STOCK NUMBER column of the National Stock Number Index. The NSN is arranged in National Item Identification Number (NIIN) sequence. (See paragraph 4a.) Note the figure and item number next to the NSN.

(2) **Second**. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

NOTE

If you have the part number, look in the PART NUMBER column of the part number index. Identify the figure and item number, look up the item on the figure in Section II.

c. When Reference Designator Is Known.

(1) **First**. If you know the reference designator, look in the REFERENCE DESIGNATOR column of the reference designator index. Note the figure and item number.

(2) **Second**. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

C-7. ABBREVIATIONS.

Not applicable.

SECTION II. REPAIR PARTS LIST

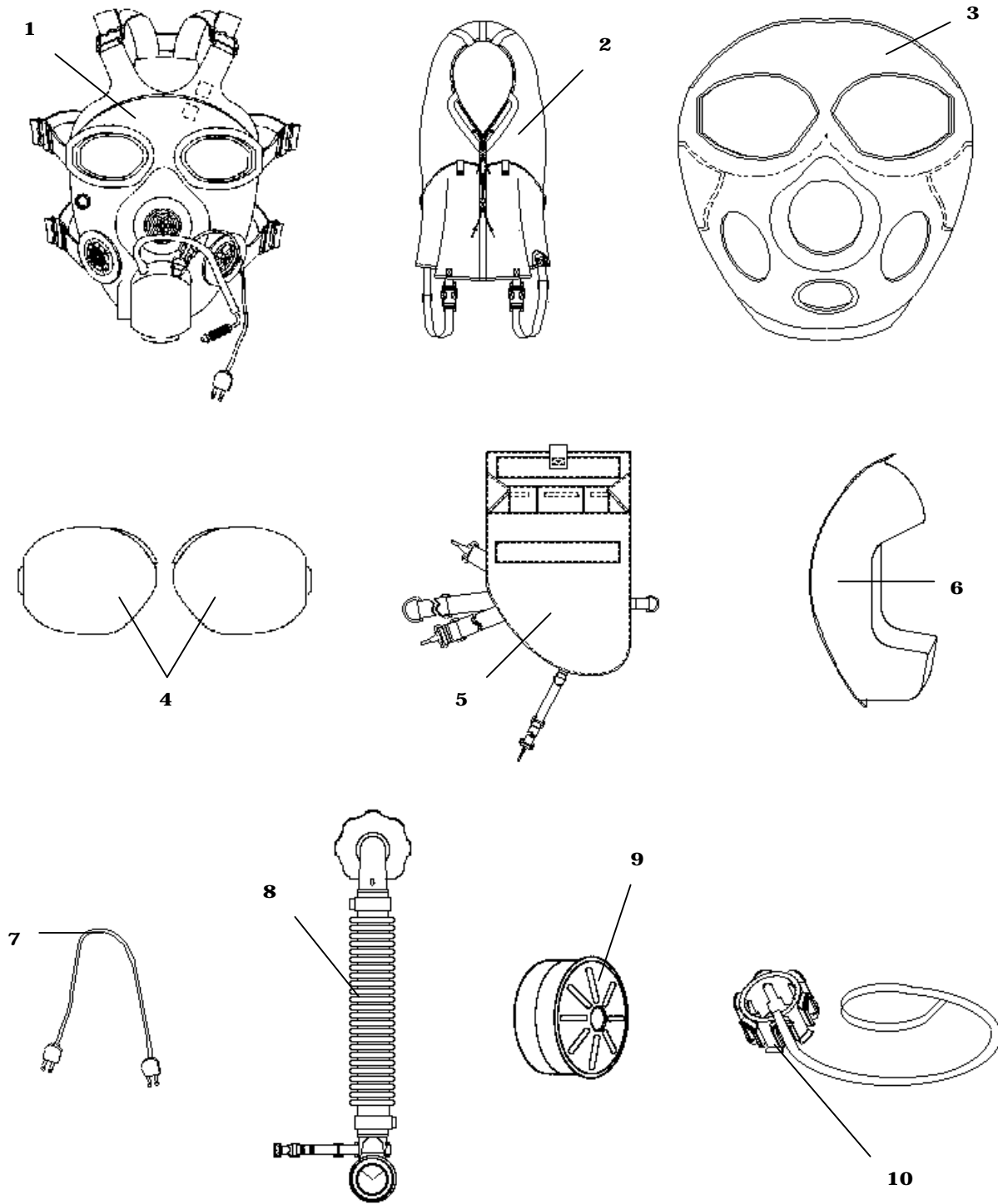


Figure C-1. Mask, Chemical-Biological: M45

TM 3-4240-341-20&P

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 00 MASK, CHEMICAL-BIOLOGICAL: M45	
					FIG. C-1 MASK, CHEMICAL- BIOLOGICAL: M45	
1	A0000		81361	5-1-2801-10	FACEPIECE ASSEMBLY, EXTRA SMALL UOC: 123.....	1
1	A0000		81361	5-1-2801-20	FACEPIECE ASSEMBLY, SMALL UOC: 23S.....	1
1	A0000		81361	5-1-2801-30	FACEPIECE ASSEMBLY, MEDIUM UOC: 23M.....	1
1	A0000		81361	5-1-2801-40	FACEPIECE ASSEMBLY, LARGE UOC: 23L.....	1
2	PCOZZ	4240-01-441-0553	81361	5-1-2802	HOOD.....	1
3	PCOZZ	4240-01-440-0638	81361	5-1-2980-1	SECOND SKIN UOC: 123,23S.....	1
3	PCOZZ	4240-01-440-0639	81361	5-1-2980-2	SECOND SKIN UOC: 23M.....	1
3	PCOZZ	4240-01-441-0555	81361	5-1-2980-3	SECOND SKIN UOC: 23L.....	1
4	PAOZZ	4240-01-441-0568	81361	5-1-2841-10	OUTSERTS, CLEAR.....	1
4	PAOZZ	4240-01-446-8851	81361	5-1-2841-20	OUTSERTS, NUETRAL GRAY.....	1
5	PAOZZ	4240-01-399-3350	81361	5-1-2774	CARRIER ASSEMBLY.....	1
6	PAOZZ	8145-01-443-5484	81361	5-1-2832	SUPPORT, SHIPPING INTERIOR.....	1
7	PAOZZ	5965-01-443-5490	59364	4510	CABLE, MICROPHONE.....	1
8	A0000		81361	5-1-2756-10	HOSE ASSEMBLY: W/PORT GASKET.....	1
9	PCOZA	4240-01-361-1319	81361	5-3-1520	CANISTER, CML-BIO MASK.....	1
10	PAOZZ	4240-01-443-2476	81361	5-1-2857	CANISTER BAFFLE.....	1

END OF FIGURE

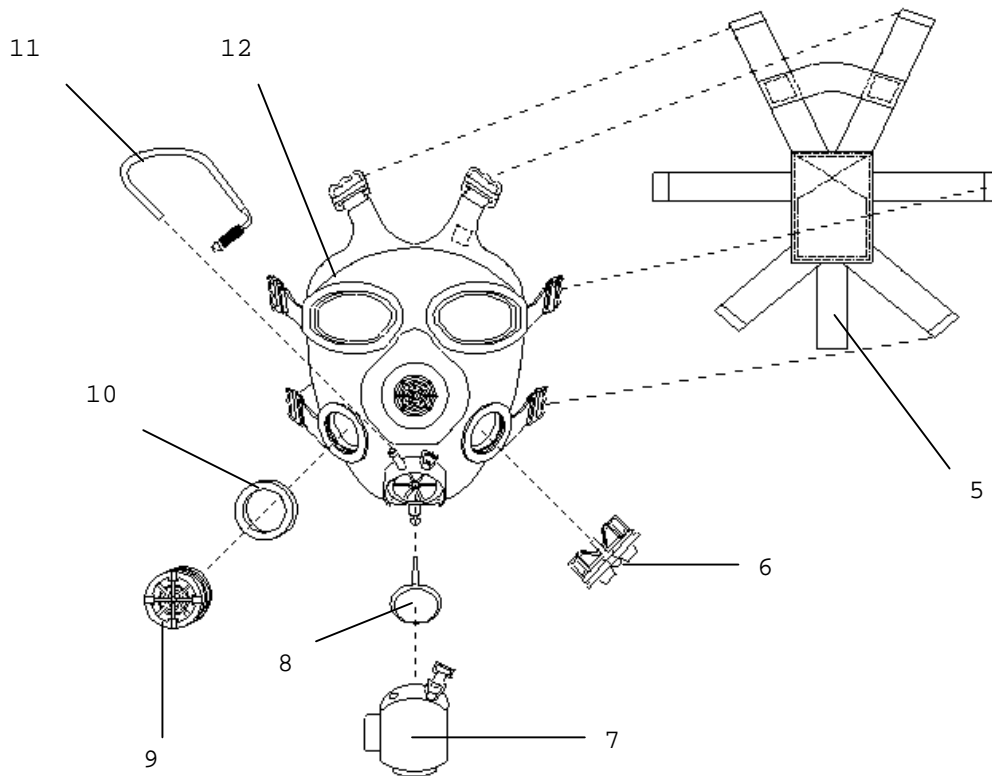
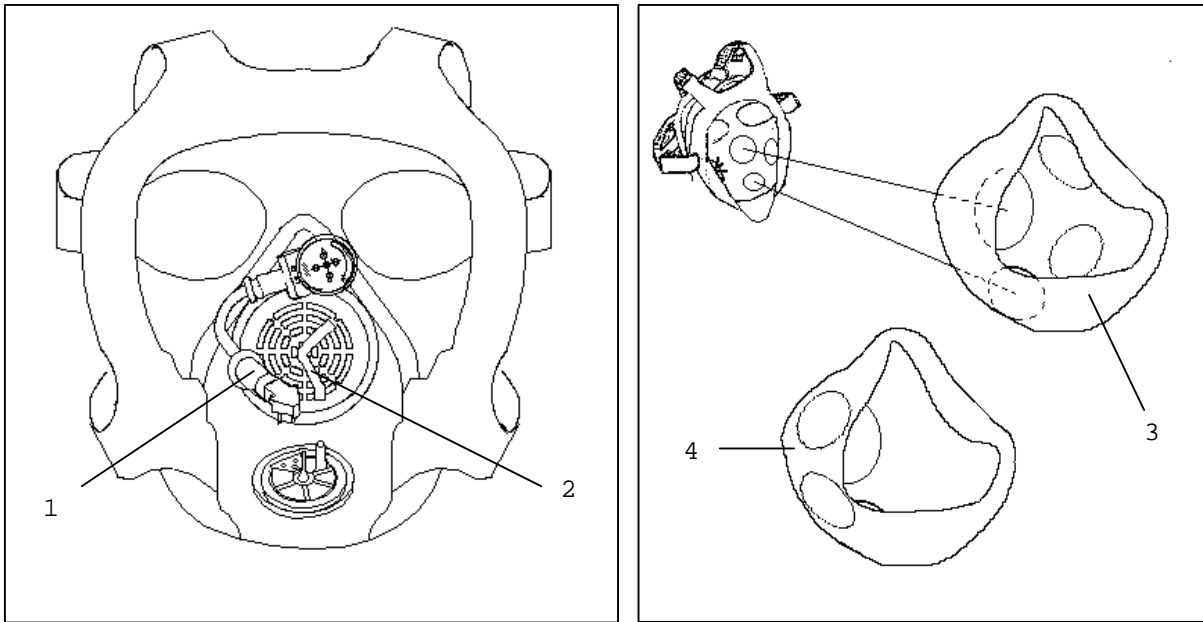


Figure C-2. Facepiece Assembly

TM 3-4240-341-20&P

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 01 FACEPIECE ASSEMBLY	
					FIG. C-2 FACEPIECE ASSEMBLY	
1	A0000		81361	5-1-2824	MICROPHONE ASSEMBLY.....	1
2	PCOZZ	4240-01-441-0557	81361	5-1-2959	TUBE, DRINKING INTERNAL.....	1
3	PCOZZ	4240-01-441-0561	81361	5-1-2809-10	NOSECUP ASSEMBLY, RIGHT UOC: 123.....	1
3	PCOZZ	4240-01-441-0560	81361	5-1-2809-20	NOSECUP ASSEMBLY, RIGHT UOC: 123,23S.....	1
3	PCOZZ	4240-01-441-0566	81361	5-1-2809-30	NOSECUP ASSEMBLY, RIGHT UOC: 123,23S,23M.....	1
3	PCOZZ	4240-01-441-0567	81361	5-1-2809-40	NOSECUP ASSEMBLY, RIGHT UOC: 23S,23M,23L.....	1
3	PCOZZ	4240-01-443-5485	81361	5-1-2809-50	NOSECUP ASSEMBLY, RIGHT UOC: 23M,23L.....	1
4	PCOZZ	4240-01-441-0556	81361	5-1-2809-60	NOSECUP ASSEMBLY, LEFT UOC: 123.....	1
4	PCOZZ	4240-01-441-0554	81361	5-1-2809-70	NOSECUP ASSEMBLY, LEFT UOC: 123,23S.....	1
4	PCOZZ	4240-01-441-0559	81361	5-1-2809-80	NOSECUP ASSEMBLY, LEFT UOC: 123,23S,23M.....	1
4	PCOZZ	4240-01-441-0558	81361	5-1-2809-90	NOSECUP ASSEMBLY, LEFT UOC: 23S,23M,23L.....	1
4	PCOZZ	4240-01-441-0563	81361	5-1-2809-100	NOSECUP ASSEMBLY, LEFT UOC: 23M,23L.....	1
5	PCOZZ	4240-01-441-0562	81361	5-1-3306	HEAD HARNESS.....	1
6	PCOZZ	4240-01-441-0565	81361	5-1-2803	INLET VALVE ASSEMBLY.....	1
7	PCOZZ	4240-01-443-5487	81361	5-1-2941	COVER, OUTLET VALVE HOUSING.....	1
8	PCOZZ	4820-01-447-5635	81361	5-1-2816	DISK, VALVE.....	1
9	PAOZZ	5965-01-441-0564	81361	5-1-2917	SIDE VOICEMITTER.....	1
10	PCOZZ	5330-01-441-5499	81361	5-1-2918	GASKET, PORT.....	1
11	A0000		81361	5-1-2815	DRINK TUBE, EXTERNAL.....	1
12	PCOZZ	4240-01-440-9593	81361	5-1-2810-10	FACEBLANK ASSEMBLY UOC: 123.....	1
12	PCOZZ	4240-01-440-9592	81361	5-1-2810-20	FACEBLANK ASSEMBLY UOC: 23S.....	1
12	PCOZZ	4240-01-440-9594	81361	5-1-2810-30	FACEBLANK ASSEMBLY UOC: 23M.....	1
12	PCOZZ	4240-01-440-9591	81361	5-1-2810-40	FACEBLANK ASSEMBLY UOC: 23L.....	1

END OF FIGURE

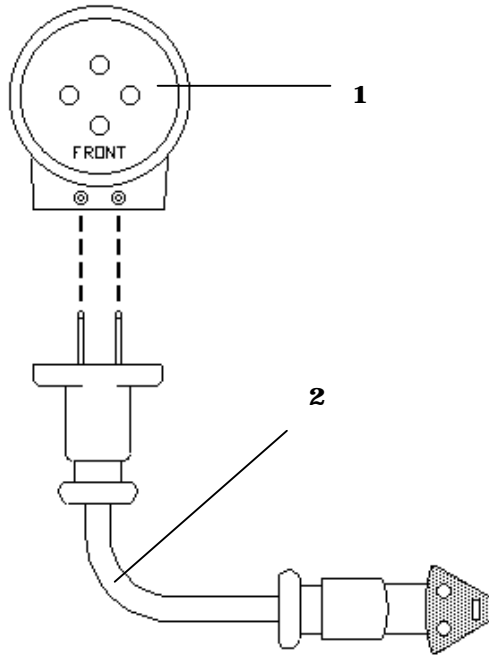


Figure C-3. Microphone Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0101 MICROPHONE ASSEMBLY	
					FIG. C-3 MICROPHONE ASSEMBLY	
1	PAOZZ	5965-01-441-8697	59369	4500-CA	MICROPHONE, ELEMENT.....	1
2	PCOZZ	5965-01-443-5488	81361	5-1-3359	POSITIONER MICROPHONE.....	1

END OF FIGURE

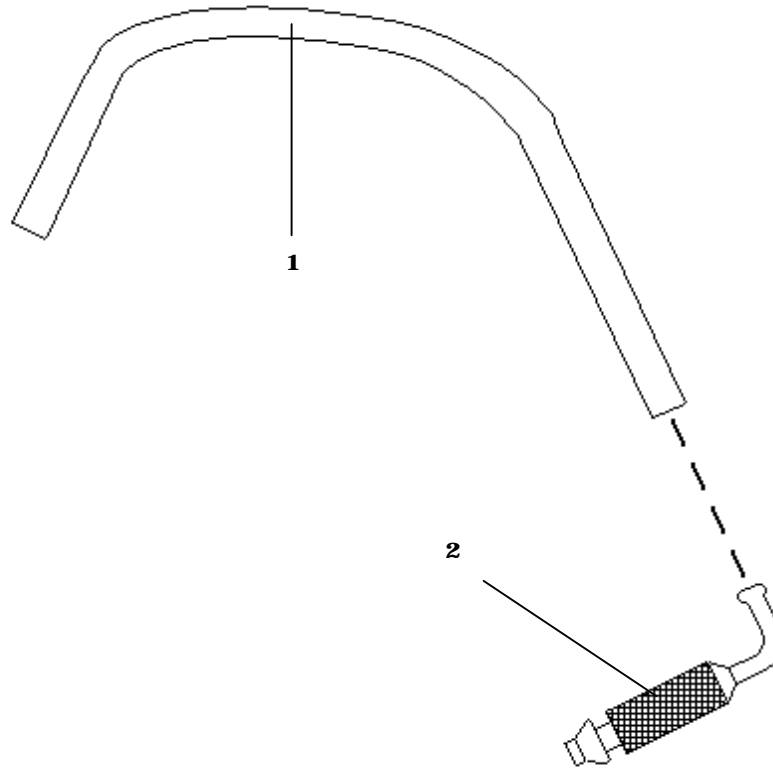


Figure C-4. Drink Tube Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 0102 DRINK TUBE ASSEMBLY	
					FIG. C-4 DRINK TUBE ASSEMBLY	
1	PCOZZ	4240-01-443-9347	81361	5-1-2828	TUBE, EXTERNAL DRINKING.....	1
2	PAOZZ	4730-01-391-8461	81361	5-1-1086	COUPLING HALF, QUICK DISCONNECT.....	1

END OF FIGURE



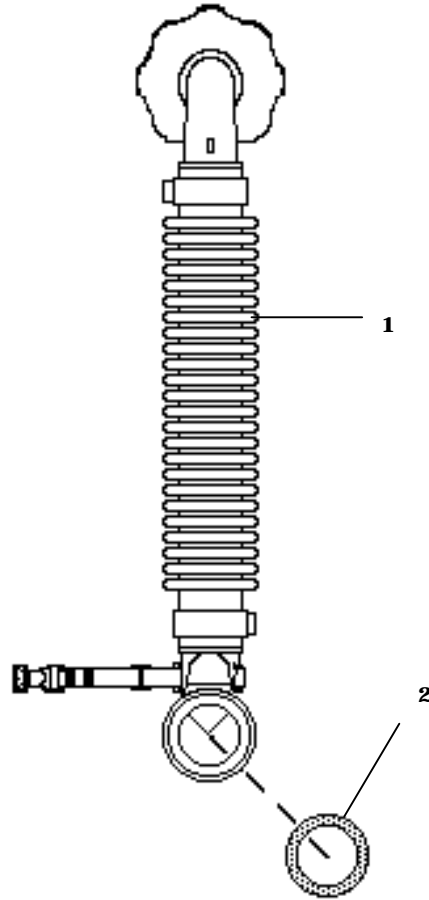


Figure C-5. Hose Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 02 HOSE ASSEMBLY	
					FIG. C-5 HOSE ASSEMBLY	
1	PAOZZ	4720-01-445-3691	81361	5-1-2756-20	HOSE NONMETALLIC: W/O GASKET.....	1
2	PAOZZ	5330-01-231-3877	81361	5-1-1522	GASKET.....	1

END OF FIGURE

TM 3-4240-341-20&P

**SECTION III. SPECIAL TOOLS LIST**

Not Applicable.

SECTION IV. CROSS-REFERENCE LIST

NATIONAL STOCK NUMBER INDEX

Stock Number	Fig.	Item
5330-01-231-3877	C-5	2
4240-01-361-1319	C-1	9
4730-01-391-8461	C-4	2
4240-01-399-3350	C-1	5
4240-01-440-0638	C-1	3
4240-01-440-0639	C-1	3
4240-01-440-9591	C-2	12
4240-01-440-9592	C-2	12
4240-01-440-9593	C-2	12
4240-01-440-9594	C-2	12
4240-01-441-0553	C-1	2
4240-01-441-0554	C-2	4
4240-01-441-0555	C-1	3
4240-01-441-0556	C-2	4
4240-01-441-0557	C-2	2
4240-01-441-0558	C-2	4
4240-01-441-0559	C-2	4
4240-01-441-0560	C-2	3
4240-01-441-0561	C-2	3
4240-01-441-0562	C-2	5
4240-01-441-0563	C-2	4
5965-01-441-0564	C-2	9
4240-01-441-0565	C-2	6
4240-01-441-0566	C-2	3
4240-01-441-0567	C-2	3
4240-01-441-0568	C-1	4
5330-01-441-5499	C-2	10
5965-01-441-8697	C-3	1
4240-01-443-2476	C-1	10
8145-01-443-5484	C-1	6
4240-01-443-5485	C-2	3
4240-01-443-5487	C-2	7
5965-01-443-5488	C-3	2
5965-01-443-5490	C-1	7
4240-01-443-9347	C-4	1
4720-01-445-3691	C-5	1
4240-01-446-8851	C-1	4
4820-01-447-5635	C-2	8

SECTION IV. CROSS-REFERENCE LIST

PART NUMBER INDEX

CAGEC	Part Number	Stock Number	Fig.	Item
59369	4500-CA	5965-01-441-8697	C-3	1
59364	4510	5965-01-443-5490	C-1	7
81361	5-1-1086	4730-01-391-8461	C-4	2
81361	5-1-1522	5330-01-231-3877	C-5	2
81361	5-1-2756-10		C-1	8
81361	5-1-2756-20	4720-01-445-3691	C-5	1
81361	5-1-2774	4240-01-399-3350	C-1	5
81361	5-1-2801-10		C-1	1
81361	5-1-2801-20		C-1	1
81361	5-1-2801-30		C-1	1
81361	5-1-2801-40		C-1	1
81361	5-1-2802	4240-01-441-0553	C-1	2
81361	5-1-2803	4240-01-441-0565	C-2	6
81361	5-1-2809-10	4240-01-441-0561	C-2	3
81361	5-1-2809-20	4240-01-441-0560	C-2	3
81361	5-1-2809-30	4240-01-441-0566	C-2	3
81361	5-1-2809-40	4240-01-441-0567	C-2	3
81361	5-1-2809-50	4240-01-443-5485	C-2	3
81361	5-1-2809-60	4240-01-441-0556	C-2	4
81361	5-1-2809-70	4240-01-441-0554	C-2	4
81361	5-1-2809-80	4240-01-441-0559	C-2	4
81361	5-1-2809-90	4240-01-441-0558	C-2	4
81361	5-1-2809-100	4240-01-441-0563	C-2	4
81361	5-1-2810-10	4240-01-440-9593	C-2	12
81361	5-1-2810-20	4240-01-440-9592	C-2	12
81361	5-1-2810-30	4240-01-440-9594	C-2	12
81361	5-1-2810-40	4240-01-440-9591	C-2	12
81361	5-1-2815		C-2	11
81361	5-1-2816	4820-01-447-5635	C-2	8
81361	5-1-2824		C-2	1
81361	5-1-2828	4240-01-443-9347	C-4	1
81361	5-1-2832	8145-01-443-5484	C-1	6
81361	5-1-2841-10	4240-01-441-0568	C-1	4
81361	5-1-2841-20	4240-01-446-8851	C-1	4
81361	5-1-2857	4240-01-443-2476	C-1	10
81361	5-1-2917	5965-01-441-0564	C-2	9
81361	5-1-2918	5330-01-441-5499	C-2	10
81361	5-1-2941	4240-01-443-5487	C-2	7
81361	5-1-2959	4240-01-441-0557	C-2	2
81361	5-1-2980-1	4240-01-440-0638	C-1	3
81361	5-1-2980-2	4240-01-440-0639	C-1	3
81361	5-1-2980-3	4240-01-441-0555	C-1	3
81361	5-1-3306	4240-01-441-0562	C-2	5
81361	5-1-3359	5965-01-443-5488	C-3	2
81361	5-3-1520	4240-01-361-1319	C-1	9

**SECTION IV. CROSS-REFERENCE LIST**

**FIGURE AND ITEM INDEX**

Fig.	Item	Stock Number	CAGEC	Part Number
C-1	1		81361	5-1-2801-10
C-1	1		81361	5-1-2801-20
C-1	1		81361	5-1-2801-30
C-1	1		81361	5-1-2801-40
C-1	2	4240-01-441-0553	81361	5-1-2802
C-1	3	4240-01-440-0638	81361	5-1-2980-1
C-1	3	4240-01-440-0639	81361	5-1-2980-2
C-1	3	4240-01-441-0555	81361	5-1-2980-3
C-1	4	4240-01-441-0568	81361	5-1-2841-10
C-1	4	4240-01-446-8851	81361	5-1-2841-20
C-1	5	4240-01-399-3350	81361	5-1-2774
C-1	6	8145-01-443-5484	81361	5-1-2832
C-1	7	5965-01-443-5490	59364	4510
C-1	8		81361	5-1-2756-10
C-1	9	4240-01-361-1319	81361	5-3-1520
C-1	10	4240-01-443-2476	81361	5-1-2857
C-2	1		81361	5-1-2824
C-2	2	4240-01-441-0557	81361	5-1-2959
C-2	3	4240-01-441-0561	81361	5-1-2809-10
C-2	3	4240-01-441-0560	81361	5-1-2809-20
C-2	3	4240-01-441-0566	81361	5-1-2809-30
C-2	3	4240-01-441-0567	81361	5-1-2809-40
C-2	3	4240-01-443-5485	81361	5-1-2809-50
C-2	4	4240-01-441-0556	81361	5-1-2809-60
C-2	4	4240-01-441-0554	81361	5-1-2809-70
C-2	4	4240-01-441-0559	81361	5-1-2809-80
C-2	4	4240-01-441-0558	81361	5-1-2809-90
C-2	4	4240-01-441-0563	81361	5-1-2809-100
C-2	5	4240-01-441-0562	81361	5-1-3306
C-2	6	4240-01-441-0565	81361	5-1-2803
C-2	7	4240-01-443-5487	81361	5-1-2941
C-2	8	4820-01-447-5635	81361	5-1-2816
C-2	9	5965-01-441-0564	81361	5-1-2917
C-2	10	5330-01-441-5499	81361	5-1-2918
C-2	11		81361	5-1-2815
C-2	12	4240-01-440-9593	81361	5-1-2810-10
C-2	12	4240-01-440-9592	81361	5-1-2810-20
C-2	12	4240-01-440-9594	81361	5-1-2810-30
C-2	12	4240-01-440-9591	81361	5-1-2810-40
C-3	1	5965-01-441-8697	59369	4500-CA
C-3	2	5965-01-443-5488	81361	5-1-3359
C-4	1	4240-01-443-9347	81361	5-1-2828
C-4	2	4730-01-391-8461	81361	5-1-1086
C-5	1	4720-01-445-3691	81361	5-1-2756-20
C-5	2	5330-01-231-3877	81361	5-1-1522

**APPENDIX D**

**ADDITIONAL AUTHORIZATION LIST**

**SECTION I. INTRODUCTION**

**D-1 SCOPE.**

This appendix lists additional items you are authorized for the support of the M45 Mask.

**D-2 GENERAL.**

This list identifies items that do not have to accompany the M45 and do not have to be turned in with it. These items are authorized to you by CTA, MTOE, TDA, or ITA.

**D-3 EXPLANATION OF LISTING.**

National stock numbers, descriptions, and quantities are provided to help you identify and request the additional items you require to support this equipment. The items are listed in alphabetical sequence by item name.

**SECTION II. ADDITIONAL AUTHORIZATION LIST**

(1) National Stock Number	(2) Description, CAGEC and Part Number	(3) U/M	(4) QTY AUTH
4540-00-469-6593	Heater, Immersion, Liquid Fuel Fired (81349) MILH43540	EA	1

**APPENDIX E**

**EXPENDABLE AND DURABLE ITEMS LIST**

**SECTION I. INTRODUCTION**

**E-1 SCOPE.**

This appendix lists expendable and durable items that you will need to maintain the M45 mask. This listing is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-790, Expendable/Durable Items (except medial, class V repair parts, and heraldic items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

**E-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 item (e.g., "Use cleaning compound item 5, App D).").

**b. Column (2) - Level.** This column identifies the lowest level of maintenance that requires the item.

**c. Column (3) - National Stock Number.** This is the national stock number assigned to the item which you can use to requisition it.

**d. Column (4) - Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number.** This provides the other information you need to identify the item.

**e. Column (5) - Unit of Measure (U/M).** This code shows the physical measurement or count of an item, such as a gallon, dozen, gross, etc.

SECTION II. EXPENDABLE AND DURABLE ITEMS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGEC, PART NUMBER	(5) U/M
1	O	6810-00-123-7047	Amyl Acetate, Reagent: liquid (81349) MIL-C-51130	PT
2	O	6515-00-564-8242	Applicator, Disposable: wood, fiber tipped (22972) 36737	PG
3	O	8115-00-726-0673	Box, Fiberboard (81346) ASTM-05168	EA
4	O	8020-00-053-5727	Brush, Artist's: taper point (06608) A704SIZE4	EA
5	C	7920-00-205-0565	Brush, Dusting, Lens (81348) H-B-1654	EA
6	C	7920-00-061-0037	Brush, Scrub: nylon bristle (81348) H-B-1490-6-P1	EA
7	O	6810-00-242-4770  6810-00-255-0471  6810-00-238-8115	Calcium Hypochlorite, Technical: granular: 45 lb. box, 12 ea 3 3/4 lb. bt (0FWC2) ASTM E 1229 6 oz. bt. (81348) OC114 5 lb. bt. (81348) OC114	LB  OZ  LB
8	C	7240-00-160-0440	Can, Ash and Garbage (58536) A-A-1069	EA
9	C	8305-00-222-2423	Cleaning Compound, Solvent (1Z575) Crystal Simple Green	BX
10	C	8305-00-222-2423	Cloth, Cheesecloth: cotton (81348) CCC-C-440	YD
11	C	7240-00-161-1143	Cover, Can, Ash and Garbage (58536) A-A-1069	EA
12	O	8115-00-222-3715	Crate, Wood (81336) D1152-1	RO



**EXPENDABLE AND DURABLE ITEMS LIST (CONT)**

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) ITEM NAME, DESCRIPTION, CAGEC, PART NUMBER	(5) U/M
13	O	8135-00-116-1443	Cushioning Material (33591) KC22	RO
14	O	8415-00-266-8673	Gloves, Chemical Protective: black rubber (81348) ZZ-G-381	PR
15	O	5110-00-892-5071	Knife, Craftsman's: 5.5 in. (81348) GGG-K-494	EA
16	O	8010-00-085-0559	Lacquer: 4 oz. (19139) 4	OZ
17	C	7240-01-094-4305	Pail, Utility: Plastic, Snap-on lid. 5.0 gal. (58536) A-A-332	EA
18	O	5120-00-180-0730	Screwdriver, Jeweler's, Swivel Knob (81348) GGG-S-1808	EA
19	O	5110-00-293-3444	Shears, Straight Trimmers: 6 in. (81348) GGG-S-00278	PR
20	C	8520-00-228-0598	Soap, Toilet: Non-medicated, Liquid Type 1 (81348) P-S-624	GL
21	O	7510-00-266-5016	Tape, Pressure Sensitive (58536) A-A-1586	RO

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