DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DEPARTMENT OF THE AIR FORCE TECHNICAL ORDER

TM 3-4240-202-15

TO 14P4-9-1

OPERATOR, ORGANIZATIONAL, FIELD, AND DEPOT MAINTENANCE MANUAL

MASK PROTECTIVE FIELD M17

DEPARTMENTS OF THE ARMY AND THE AIR FORCE

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DEPARTMENTS OF THE ARMY
AND THE AIR FORCE
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OPERATOR, ORGANIZATIONAL, FIELD, AND DEPOT MAINTENANCE MANUAL

MASK, PROTECTIVE, FIELD, M17

(End Item Code 309)

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*This manual supersedes TM 3–4240–202–15, 12 October 1959, including C 1, 11 August 1961.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

This manual describes the M17 field protective mask and explains its use and method of functioning. It also provides instructions for the fitting, care and inspection, shipment and storage, and demolition of the masks to prevent enemy use.

2. Appendixes

Appendix I contains a list of current references. Appendix II contains the maintenance allocation chart. Appendix III contains the basic issue item list.

3. Record and Report Forms

a. The appropriate record and report forms prescribed by TM 38–750 will be used in conjunction with the equipment.

b. Use Form DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manual 7, 8, or 9) to forward comments on errors or omissions in this manual to Commanding Officer, U.S. Army Chemical-Biological-Radiological Engineering Group, ATTN: SMUCE–EDM–2, Army Chemical Center, Md.

Section II. USE AND FUNCTIONING

4. Use

The M17 field protective mask (fig. 1) is a combat mask which protects the face, eyes, and respiratory tract of the wearer from field concentrations of CBR agents. The mask does not afford protection against ammonia or carbon monoxide, nor is it effective in confined spaces where the oxygen content of the atmosphere is too low to sustain life (below 16%).

5. Functioning of Mask

When the wearer of an M17 mask inhales, air is drawn into the facepiece (fig. 2) through inlet valves and passes through filter elements (adsorptive pads) contained in pouches molded in the cheeks of the facepiece. The incoming filtered air passes from the cheek pouches through deflector tubes which direct the air across the eyelenses to keep them clear of fog. The filtered air then passes through two one-way valves, one in each side of the nosecup. Exhaled air is discharged through an outlet valve at the chin position.

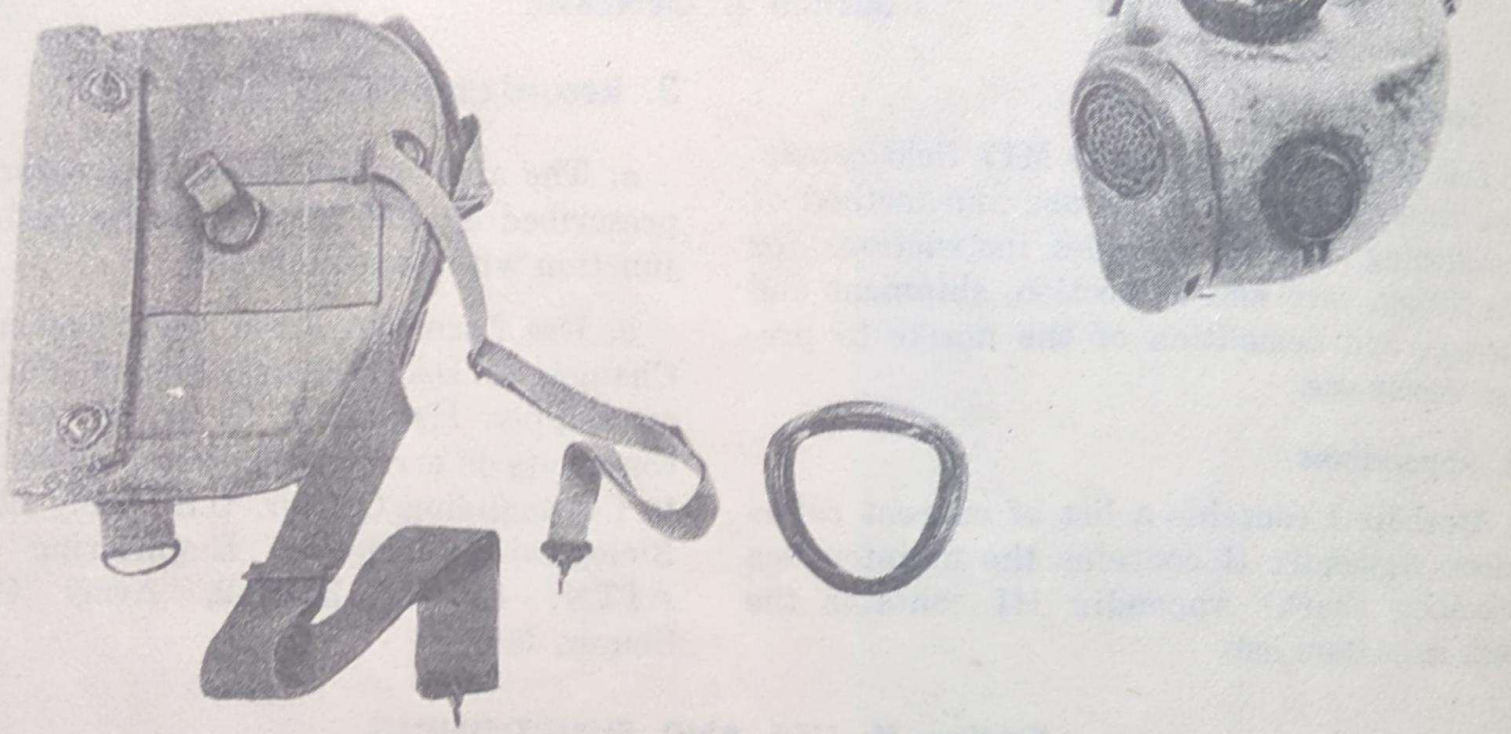


Figure 1. M17 field protective mask, outsert detached.

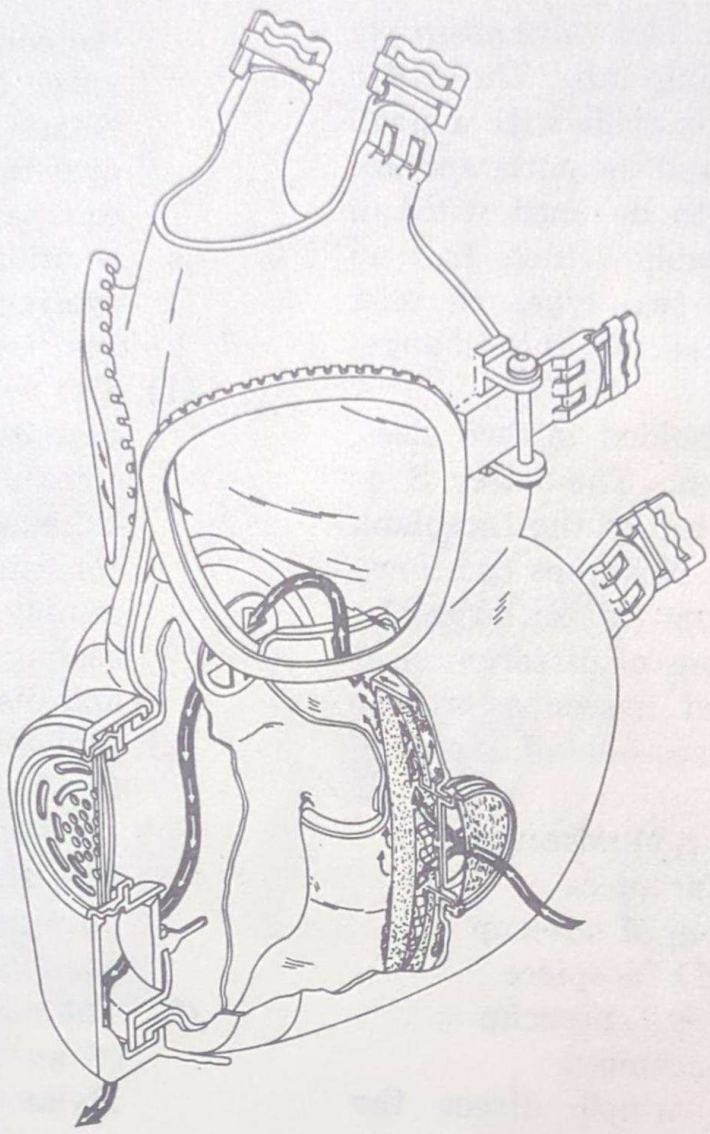


Figure 2. Airflow through mask.

Section III. DESCRIPTION

6. General

a. The facepiece of the M17 mask fits the wearer's face snugly, making close and continuous contact with the wearer's forehead and cheeks and beneath his chin. Air enters the mask through two filter elements, one contained in each of two cheek pouches. The two eyelenses are made of plastic, and each is provided with a lens outsert which functions in the manner of a storm window outside a house window: the resulting dead-air space minimizes fogging of the eyelenses. A further purpose of the outserts is to prevent the scratching of the eyelenses by flying sand and to protect them from damage by flying debris. The mask is also equipped with a voicemitter which permits the wearer to converse though masked.

b. Components of the M17 mask include the facepiece assembly, two eyelens outserts, and a carrier.

7. Facepiece Assembly

There are two types of facepiece assembly for the M17 field protective mask. Differences in the faceblank (*a* below) require the use of a different inlet valve assembly (inlet valve cap) with each type of facepiece. A facepiece assembly is comprised of the components described below.

a. Faceblank.

(1) The faceblank (11, fig. 3) is made of rubber. Pouches molded in the cheeks of the faceblank hold filter elements (16) which purify the air breathed by the wearer. Collars molded in the outer surface of the faceblank directly over the pouches receive inlet valve assemblies (par. 9). The collar in one type of facepiece is made with a smooth outer surface and is designed

to be used with an inlet valve assembly which has a lifting tab. The collar in the other type is made with a small bead (fig. 4) around the outer surface and is designed to be used with an inlet valve assembly which has no lifting tab. The two types of inlet valve assembly are not interchangeable.

(2) Faceblanks are molded in two sizes, small and medium. The letter S or M molded in the top of the faceblank indicates the size. Nosecups (*g* below) are made in medium (M) or large (L) sizes. Combinations of different sizes of faceblanks and nosecups provide three facepiece sizes—small, medium, or large:

S faceblank + M nosecup = small (S) facepiece
M faceblank + M nosecup = medium (M) facepiece
M faceblank + L nosecup = large (L) facepiece

(3) Deflector tubes, which direct the purified air across the eyelenses, are molded into the faceblank. The outlet of a deflector tube (15) is shown in figure 3.

b. Eyelenses and Eyerings. Two optically clear plastic lenses (13) are held in place by aluminum alloy eyerings (10) over openings molded in the faceblank. Lenses, eyerings, and outserts (*c* below) are shaped and contoured to give the wearer of the mask a wide unobstructed field of vision.

c. Eyelens Outserts (fig. 5).

(1) Eyelens outserts are one size and shape: each of the two supplied with an M17 mask can be used over either eyelens.

(2) Each outsert consists of a curved plastic lens seated in a soft rubber apron that fits closely over the eyering (*b* above). A metal rim is crimped around the apron to hold the lens in place.

(3) Figure 5B shows how the rubber apron of an outsert is folded back over the rim preparatory to attaching the outsert to the facepiece. With the apron folded back in this manner, the outsert is seated in correct position over the eyelens and the rubber apron can be snapped back into its normal position, thus grasping the mask eyering to hold the outsert.

d. Voicemitter-Outlet Valve Assembly.

(1) The voicemitter-outlet valve assembly permits the wearer of the mask to communicate understandably and to exhaust exhaled air. The assembly consists of a frame, a diaphragm assembly, a rubber gasket, an aluminum sealing ring, and an outlet valve seat and disk.

(2) The voicemitter-outlet valve frame (5, fig. 3) is an aluminum alloy stamping. An opening in the upper portion of the frame accommodates the diaphragm assembly. A well in the lower portion houses the outlet valve disk.

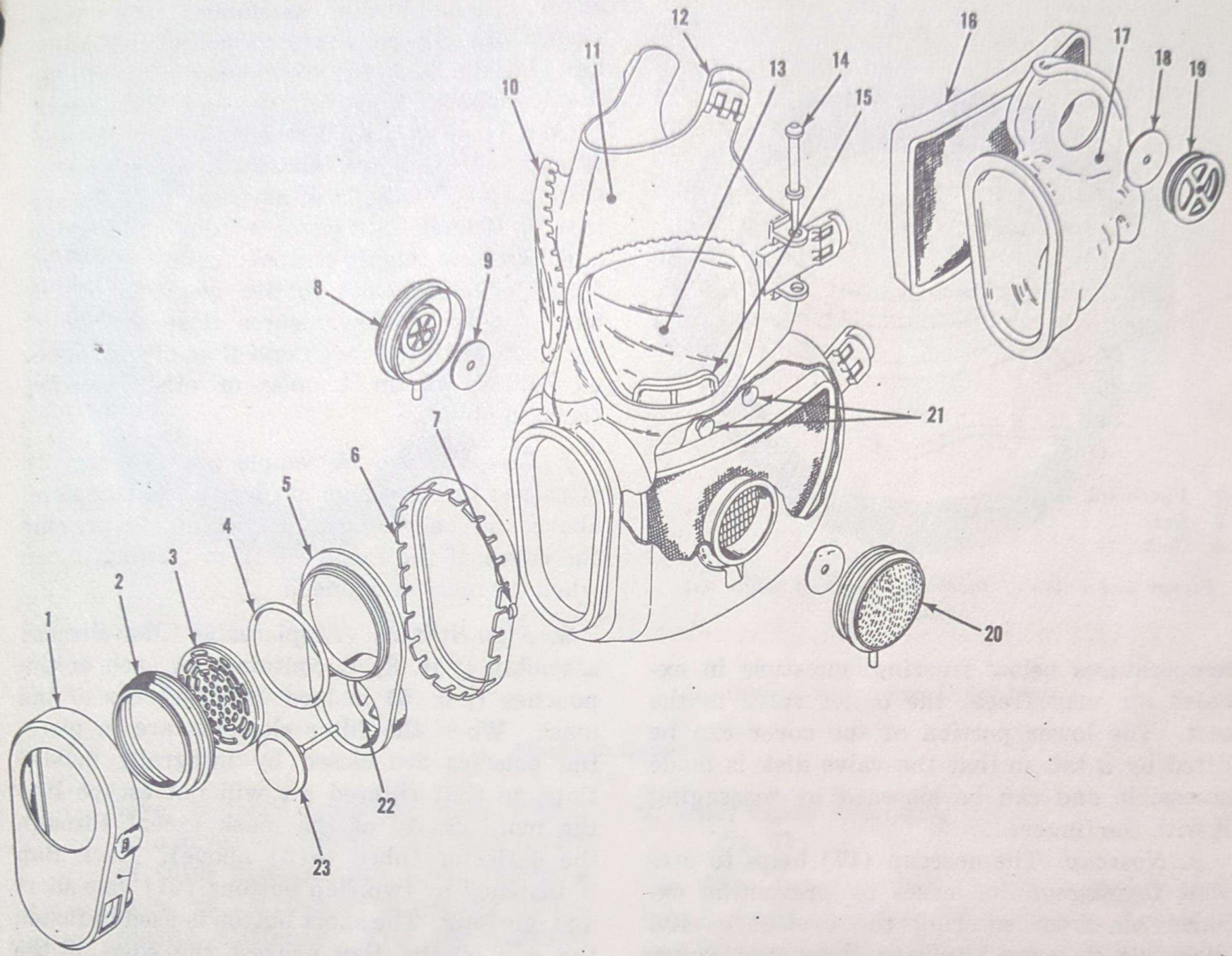
(3) The diaphragm assembly (3) consists of an outer baffle, an inner baffle, Mylar (plastic) film, and a perforated cup. These components are fastened together as a unit in an aluminum retainer.

(4) The rubber gasket (4) rests on a shoulder in the voicemitter-outlet valve frame and seals the diaphragm assembly to the frame.

(5) The aluminum sealing ring (2) snaps onto the voicemitter-outlet valve frame over the diaphragm assembly and holds it firmly against the gasket (4).

(6) The outlet valve disk (23) is a thin disk of soft rubber with a rubber stem which passes through a hole in the bottom of the outlet valve seat (22). The disk covers the raised bead which forms the outlet valve seat. A shoulder molded on the stem of the disk holds the disk in position on the seat. The disk permits exhaled air to leave the facepiece but prevents outside air from entering.

e. Crimping Ring. An aluminum crimping ring (6) seals together the faceblank, voicemitter-outlet valve assembly, and the nosecup

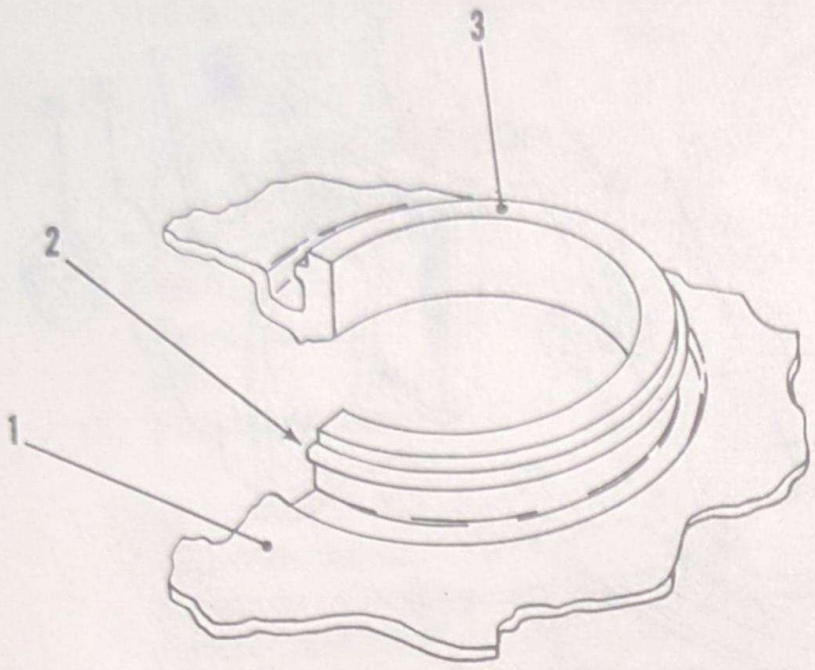


1 Voicemitter-outlet valve cover
2 Sealing ring
3 Diaphragm assembly
4 Rubber gasket
5 Voicemitter-outlet valve frame
6 Crimping ring
7 Stud
8 Inlet valve assembly (inside view)
9 Inlet valve disk
10 Eyering
11 Faceblank
12 Tab for clip-and-buckle assembly
13 Eyelens
14 Temple pin (untrimmed)
15 Deflector tube
16 Filter element
17 Nosecup
18 Nosecup valve disk
19 Nosecup valve seat
20 Inlet valve assembly (outside view)
21 Flap buttons
22 Outlet valve seat
23 Outlet valve disk

Figure 3. Facepiece of M17 mask without head harness—exploded view.

(*g* below). Two studs (7) on the ring help to hold the voicemitter-outlet valve cover in place.

f. Voicemitter-Outlet Valve Assembly Cover. A rubber cover (1) surrounds the voicemitter-outlet valve frame in which the outlet valve disk is seated. The purpose of the cover is to provide a dead-air space around the outlet valve and to protect the valve seat and disk. The cover is held against the frame by studs (7). Exhaled air passes through four holes molded in the lower edge of the cover. At



1 Faceblank
2 Bead
3 Collar

Figure 4. Portion of faceblank showing collar with bead.

temperatures below freezing, moisture in exhaled air may freeze the outlet valve to the seat. The lower portion of the cover can be lifted by a tab so that the valve disk is made accessible and can be loosened by massaging it with the fingers.

g. Nosecup. The nosecup (17) helps to prevent fogging of the lenses by preventing exhaled air from entering the eyelens cavity, diverting it instead toward the outlet valve. The nosecup, made of soft rubber, fits over the nose and mouth of the wearer. The front portion of the nosecup is crimped in place by the crimping ring (6). The nosecup is fastened to the inside of the facepiece by plastic buttons (*k* below). Two nosecup valve assemblies, consisting of soft rubber valve disks (18) and metal valve seats (19), permit filtered air to enter the nosecup but prevent exhaled air from coming in contact with the lenses.

h. Head Harness. The head harness consists of a rectangular head pad (6, fig. 6) made of two thicknesses of canvas webbing, to which are stitched six adjustable elastic webbing straps (5) for attachment to buckles (4) on the faceblank. The head harness has no neck strap.

i. Clip and-Buckle Assemblies. The head harness is attached to the faceblank by six metal clip-and-buckle assemblies (4). Two fingers of a clip pass through holes in a rubber tab (12, fig. 3, 3, fig. 6) molded integrally in the faceblank. The bent ends of the fingers form a positive bond between the clip and the facepiece to hold the buckle in position to receive a strap of the head harness. Six tabs are located around the facepiece, four at the edge and two (the temple straps) about 2 inches in from the edge, close to the eyepieces of the mask. This location ensures close contact of the mask with the face regardless of pronounced hollows at the temples or other unusual facial contours.

j. Temple Pins. A temple pin (14, fig. 3) is passed through lugs molded in the facepiece, above and below each temple tab, to prevent the edges of the facepiece from turning under when the mask is donned.

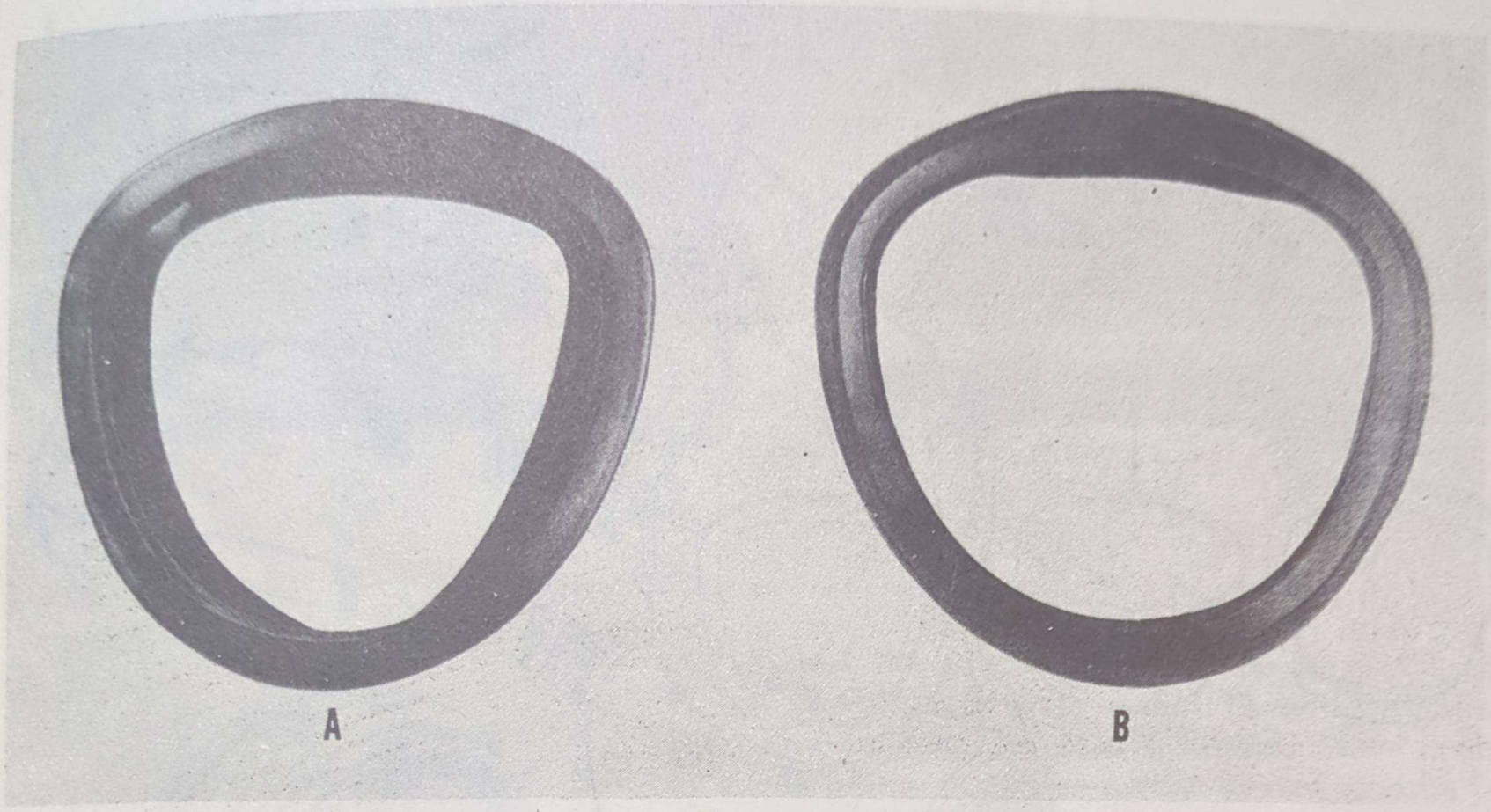
k. Flap Buttons. A replaceable filter element assembly (par. 8) is contained in each of the pouches (par. 5) molded in the cheeks of the mask. When the filter elements are in place, the pouches are closed by integrally molded flaps so that filtered air will not escape into the main cavity of the mask except through the deflector tubes (*a*(3) above). Each flap is fastened by two flap buttons (21), one short and one long. The short button is used to fasten the end of the flap nearest the edge of the mask. The long button is used to fasten the end of the flap nearest the nosecup and also to engage a small hole in the lower portion of the nosecup (*g* above), holding the nosecup firmly against the inside of the facepiece.

8. Filter Element Assembly
(fig. 7)

a. A filter element assembly, shaped to conform to the contours of the mask, is contained in each cheek pouch. The filter elements are made specifically for either the right side of the mask or for the left.

b. Each filter element assembly consists of a filter element and a connector.

(1) A filter element consists of two layers of mineral fiber and charcoal. Each



A. Outserts

B. Outsert with apron folded back

Figure 5. Outserts.

layer is faced front and back with a thin layer of fabric. The two layers of filter material are separated by a layer of corrugated screening and a plastic stiffener. The corrugations permit incoming air to disperse inside the filter element and to pass through all filtering areas of the element. The outer surfaces of the filter element are overlaid with plastic mesh screening. The two layers of filtering material are bonded together along their edges with vinyl plastic.

(2) An aluminum connector passes through the outer layer of filtering material. A flange at the external end of the connector projects through the side of the facepiece and makes close contact with the collar (par. 7*a*) molded in the faceblank. The portion of the connector which extends through the side of the mask also serves as housing for the air inlet valve in the inlet valve assembly (par. 9).

9. Inlet Valve Assembly (fig. 8)

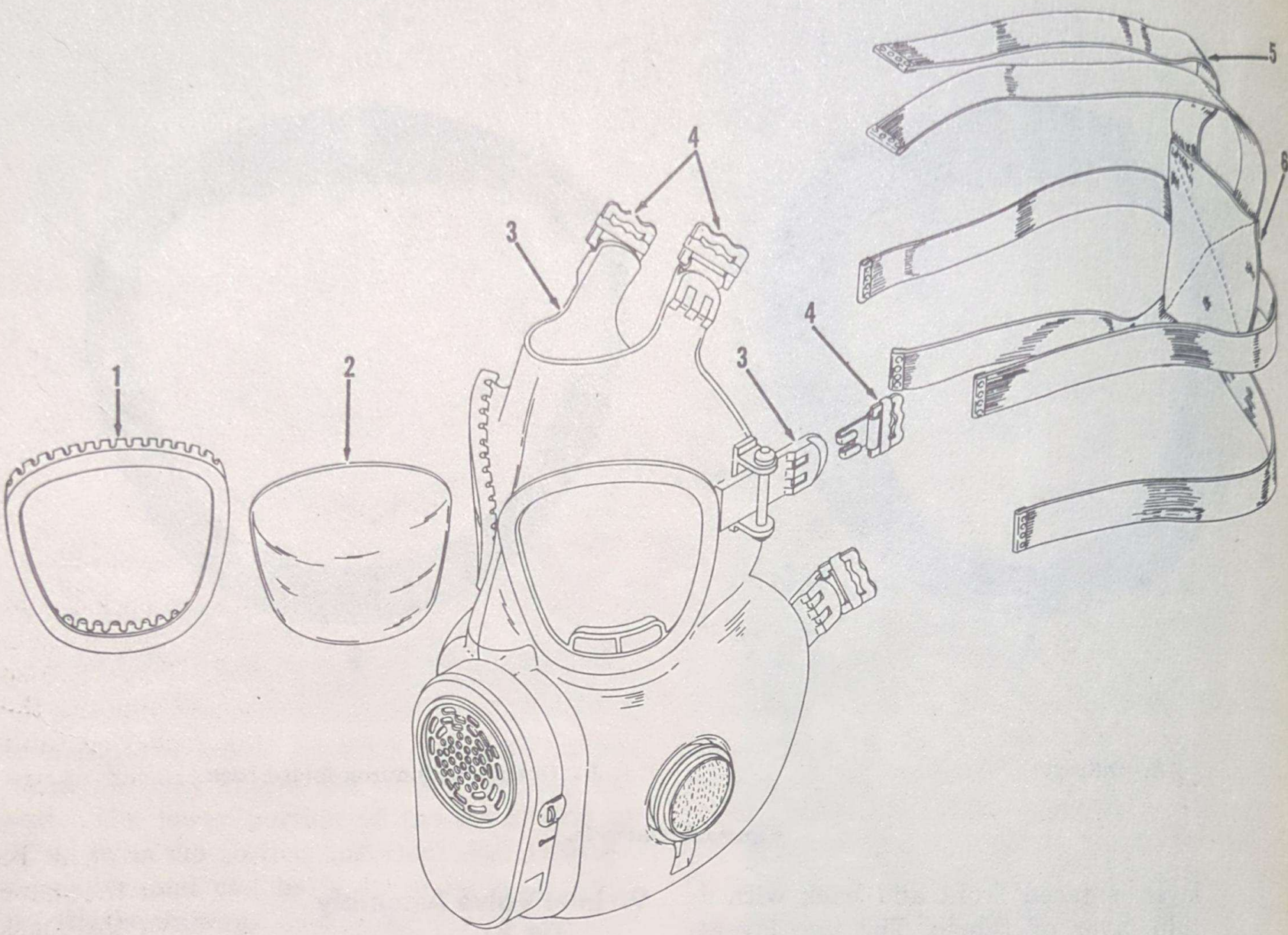
a. Two types of inlet valve assembly are issued (par. 7): that illustrated in figure 8 and an earlier type which has a lifting tab. The inlet valve assembly with a lifting tab (20, fig. 3) is designed for use with a facepiece that has a collar with a smooth outer surface (par. 7*a*). The inlet valve assembly with no lifting tab (fig. 8) is designed for use with a facepiece that has a collar with a bead on the outer surface (fig. 4). Use only inlet valve assembly FSN 4240–893–3697 with the facepiece having a bead around the collar.

b. The inlet valve assembly is a circular aluminum fitting which incorporates a rain-repelling outer surface and an inner valve seat and disk. It serves the following purposes:

(1) Permits air to enter the filter element.

(2) Prevents filtered air and exhaled air from flowing out through the filter element.

(3) Prevents physical damage to the filter element.



1 Eyering
2 Eyelens
3 Tab
4 Clip-and-buckle assembly
5 Strap
6 Head pad

Figure 6. Facepiece with disassembled eyelens and head harness.

(4) Protects the filter element from rain, snow, and coarse particles.

c. The inlet valve assembly fits over the connector of the filter element assembly. Its convex outer surface (20, fig. 3) is made of rain-repellent flocked mesh. The middle portion of the assembly (8) is raised to form the inlet valve seat. At the center of the middle portion is a stud which holds a soft rubber valve disk (9) in place. The disk permits air to enter the filter element but prevents filtered air and exhaled air from flowing out of the mask through the filter element.

10. M15 Field Protective Mask Carrier (fig. 9)

a. General. The M15 carrier is made of olive drab cotton duck and is lined with olive drab cotton cloth. The carrier is stiffened at critical locations by strips of fiberboard or plastic material between carrier fabric and liner. The carrier is provided with a shoulder strap, a waist strap, and pockets. In later lots, the chape strap (which secures a D-ring to which the soulder strap snap fastens) is attached to the carrier at an angle opposite to that shown in figure 9. The carrier is closed with a flap which is fastened with snap fasteners. The fastened flap of the carrier is positioned vertically against the wearer's body.

b. Dimensions. The M15 carrier is irregular in shape. Its greatest dimension is approximately 10 inches. From the top of the closed flap to the opposite side, the carrier dimensions vary from 7 to 8 1/2 inches, exclusive of the

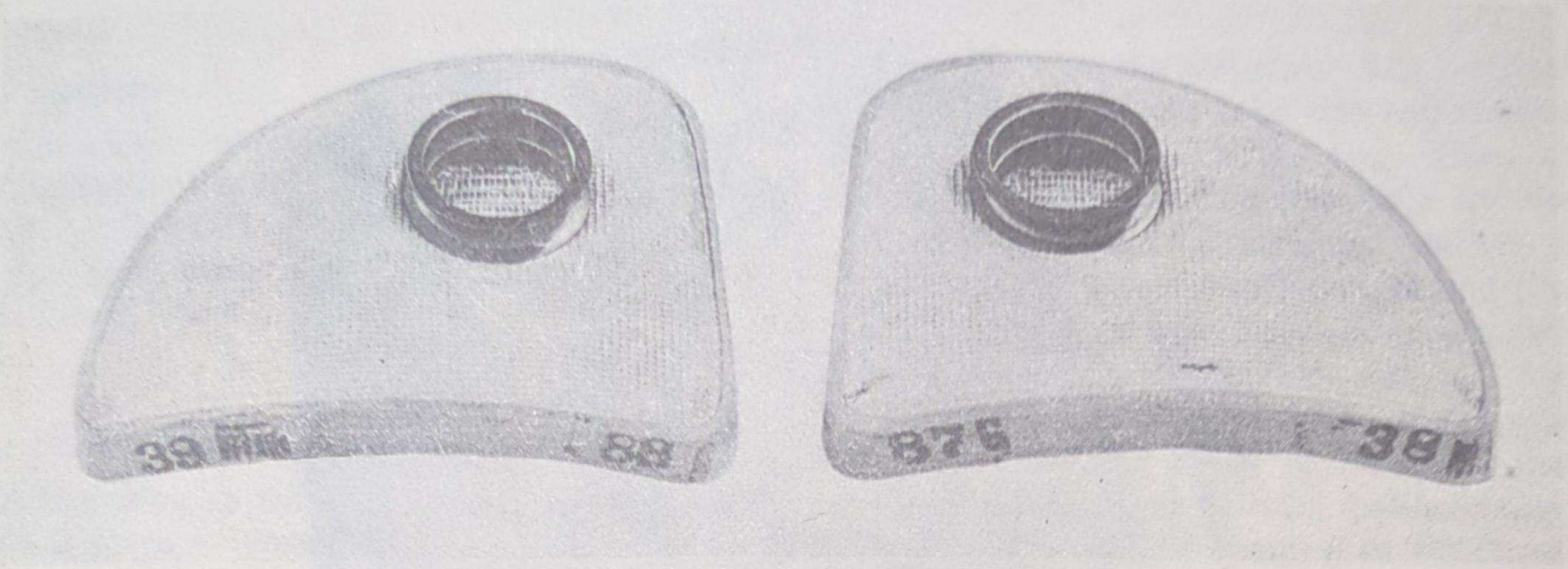


Figure 7. Filter element assemblies.

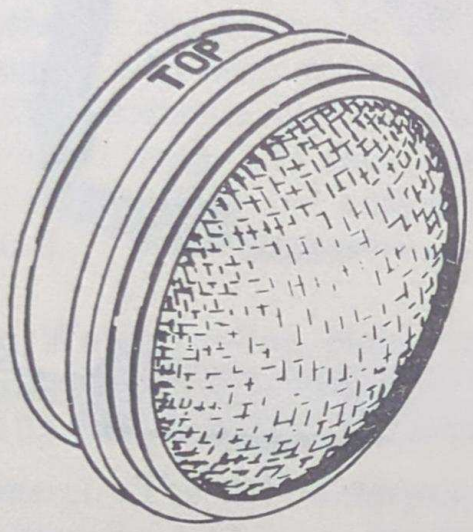


Figure 8. Inlet valve assembly.

pockets, which are sewed to the rear (opposite the flap side) and bottom of the carrier.

c. Pockets. The pocket at the rear nearest the top contains the shoulder strap when the mask is carried at the belt (*e*(3) below). Beneath this pocket is another pocket designed to contain a chemical warfare agents protection and treatment set and an M1 protective mask waterproofing bag (par. 14).

Note. A chemical agents protection and treatment set is issued as an accessory only on the decision of the commanding officer of an organization (par. 15).

A third pocket, sewed to the bottom of the carrier, is designed to contain the waist strap when the strap is not being used by the wearer. One end of the waist strap is sewed on the carrier close to this pocket. The waist strap is rolled around the snaphook attached to its free end, the rolled strap is put into the pocket, and the pocket is snapped shut. These three pockets are closed with snap fasteners. There is also a pocket inside the carrier located opposite the open end of the carrier. This pocket contains the eyelens outserts when they are not in use.

d. Marking.

(1) Neither mask nor carrier will be marked (AR 746–10) with the name of the individual to whom the mask is assigned. However, it is important that a mask be used only by the individual to whom it is issued and fitted. For this reason, it is suggested that a code mark be assigned to each individual in a unit for use by him during his association with the unit. On transfer of the individual, the mark is retained by the unit and is reassigned to a new member of the unit when the mask is reissued. If the unit's masks are stored in a permanent shipping-storage box (par. 55*a*(4)), these marks should be used to label compartments in the storage box in which personnel will keep their masks.

(2) Each unit will devise its own code, taking care not to include any designations which may in any way identify the parent organization. Also, a code should not be similar to the code of a neighboring unit.

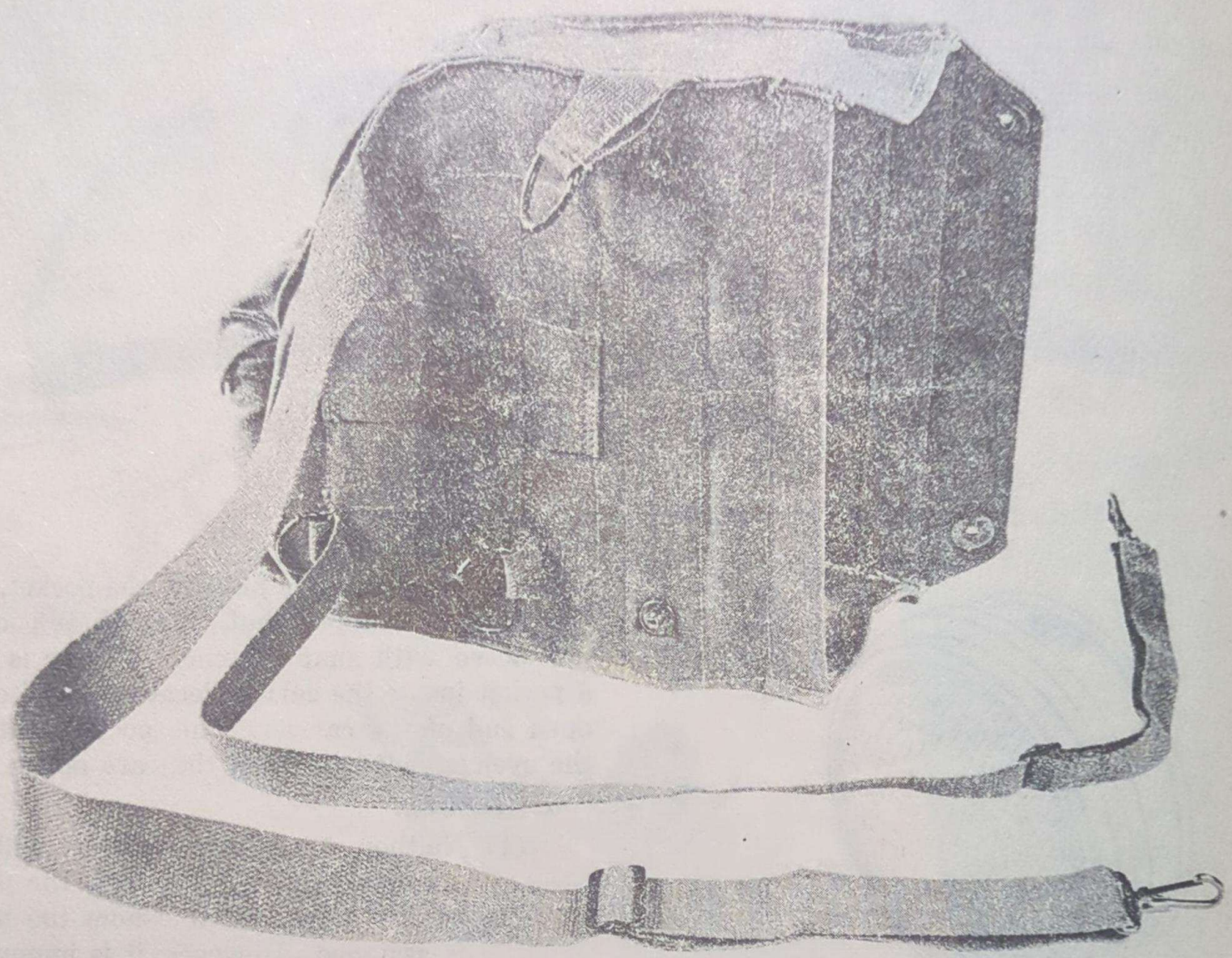


Figure 9. M15 field protective mask carrier.

e. Carrying Strap Assemblies.

(1) *Shoulder strap assembly.* The shoulder strap consists basically of a cotton webbing strap 1 1/2 inches wide, one end of which is sewed to the upper rear portion of the carrier. A metal buckle, sewed to the free end of the strap, permits adjustment. A metal snaphook is held in the adjustable loop formed by the buckle at the end of the strap. The snap fastens to a D-ring sewed to the back of the carrier.

(2) *Waist strap assembly.* The waist strap assembly consists basically of a cotton webbing strap 3/4 inch wide, one end of which is sewed to the lower rear portion of the carrier. A metal buckle sewed to the free end of the strap permits adjustment. A metal snaphook in the adjustable loop fastens to a D-ring sewed to the back of the carrier.

(3) *Belt-carry strap.* The belt-carry strap is a 5-inch strip of 2-inch cotton webbing sewed horizontally across the back of the carrier in such a manner that two loops are formed. These loops hold two metal keepers which can be opened to permit them to be hooked over the wearer's belt.

Section IV. ACCESSORIES

11. General

Accessories described in this section are authorized for use with the M17 field protective mask. Authorized accessories are the M6 protective hood, protective mask spectacles (eyelens inserts), and the M1 mask waterproofing bag.

12. Hood, Field Protective Mask, M6

Information on the M6 field protective mask hood is given in paragraphs 16 through 22.

13. Protective Mask Spectacles

Protective mask spectacles are available, by prescription of the medical officer in charge, for personnel who must wear glasses with the mask. The spectacles are designed to fit as inserts which snap into the eyepiece of the mask. For procedure and authorization, refer to AR 40–3.

14. Bag, Waterproofing, Field Protective Mask, M1
(fig. 10)

a. General. The M1 waterproofing bag is used to keep the M17 mask dry when required by climatic and operational conditions. A bag is issued with each mask in the combat zone, and in the zone of interior as required. When not in use, the bag is carried in the carrier pocket described in paragraph 10*c*.

b. Description. M1 waterproofing bag, 19 inches long and 13 inches wide, is made of flexible plastic material; instructions for use are printed on the bag. A small plastic envelope containing three rubber bands is contained in the bag. The bag folds to 4 1/2 inches by 2 1/2 inches for packaging in a plastic pouch. The pouch is closed by a flap which is sealed to a metal strip, the ends of which protrude on either side of the pouch so that they can be bent inward to secure the flap when it is rolled down.

c. Use. Remove the waterproofing bag from the carrying pouch and take one rubber band from the envelope inside the bag. Place the mask in the waterproofing bag with the nose toward the open end of the bag. Gather the open end of the bag close to the mask and press the bag against the body to remove air; twist the open end of the bag tightly and fold over. Loop a rubber band around the twisted portion of the bag as many times as possible. Place the mask in the carrier with the twisted portion of the bag toward the opening of the carrier and the bottom of the mask on the bottom of the carrier. To open the waterproofing bag, grasp the end that has been folded over and pull hard. After taking the mask from the bag, fold and return the bag to the pouch and return the pouch to the carrier. Do not store the mask in the waterproofing bag for more than 24 consecutive hours.

Warning: **Do not permit the bag to come into contact with foodstuffs; possible toxic effects may result.**

15. Chemical Agents Protection and Treatment Set

a. General. On decision of the commanding officer, a chemical agents protection and treatment set is issued to personnel of an orgainzation to provide first aid for the individual and to protect him from certain chemical agents. When issued to the wearer of an M17 mask, the protection and treatment set is carried in a pocket (par. 10*c*) of the carrier especially designed for it. Brief instructions for use of the set are printed on the container (*b* below). Detailed instructions for use are given in FM 21–41 and TM 8–285.

b. Components of Set. The protection and treatment set consists of a hinged-top metal can containing one injection of atropine, three collapsible metal tubes each containing two-thirds of an ounce of M5 vesicant agent protective ointment, and absorbent blotting cloth.

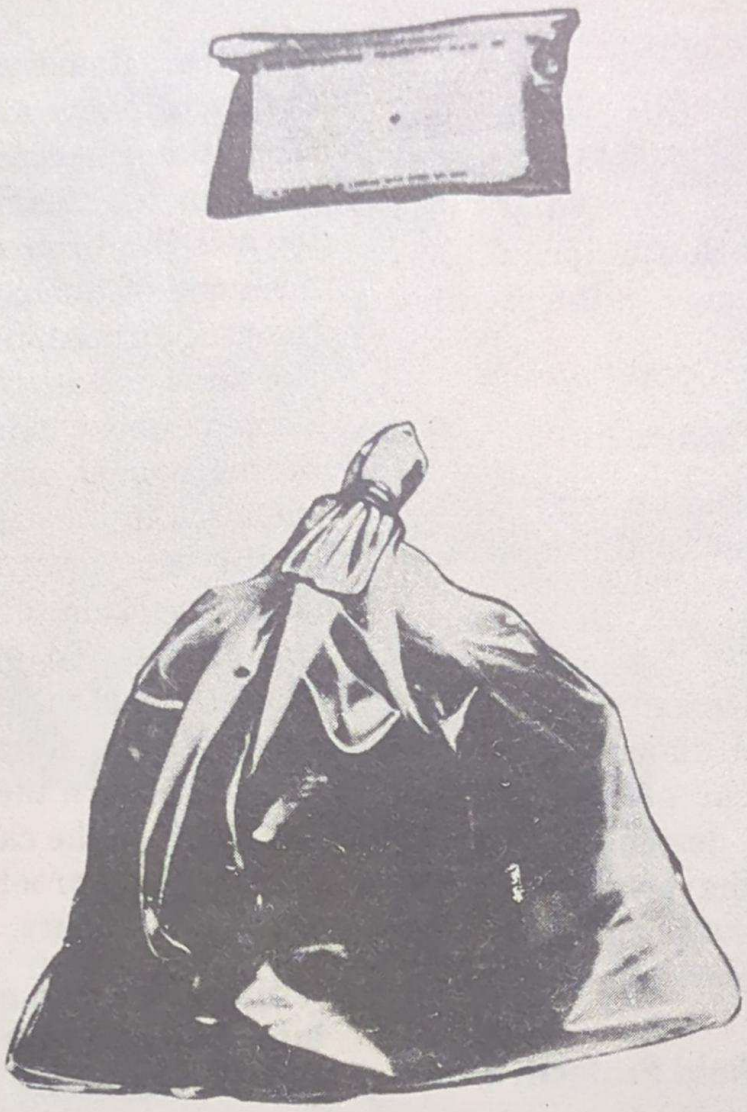


Figure 10. M1 field protective mask waterproofing bag.

Section V. HOOD, FIELD PROTECTIVE MASK, M6

16. Purpose

The Hood, Field Protective Mask, M6 is a special accessory of the M17 mask which covers the head and neck of the wearer of an M17 mask to provide protection against vapors, aerosols, and droplets of CBR agents. The hood covers the head without interfering with the combat helmet; in very cold climates, the hood can be worn over a pile cap or knitted cap. When the hood is authorized for use, it is attached to the facepiece of the M17 mask and is stowed in the carrier attached to the mask, so that it is always ready for use.

17. Description

The M6 hood (fig. 11) is made of butyl-rubber-coated nylon cloth. Four reinforced openings in the front of the hood fit tightly around the eyerings (1) and the inlet valve assemblies (3) of the M17 mask. A fifth opening, which has a spring sewed in its lower edge, holds the hood to the voicemitter-outlet valve assembly (2) of the mask. Two outlet valve cords are sewed inside the hood, one at each side of the opening for the voicemitter-outlet valve assembly. The cords are passed around the bottom of the voicemitter-outlet valve assembly and the ends tied together (par. 19). The bottom of the hood forms a cape (4). Two adjustable underarm straps (5) are stitched to the back edge of the cape, one at each side, to hold the cape on the wearer's shoulders. Each strap is attached to the front of the cape by a fastening device (6) made of

nylon pile tape. One part of the fastener is stitched to the front of the cape; the other part is attached to the underside of a tab at the free end of the strap. A neck cord (7) passes through five loops sewed around the neck of the hood. A neck cord fastener (8) is used to secure the neck cord, which draws the hood snugly around the neck.

18. Adjusting for Climatic Conditions

a. Moderate Weather. In moderate weather (between 30° and 90° F.), the hood is worn with the outlet valve of the mask inside the hood (fig. 12). With the outlet valve in this position, exhaled air passes into the hood and tends to inflate it. The neck cord restricts passage of air from the hood and helps to maintain a slight pressure inside the hood. This pressure prevents the leakage of CBR agents into the hood and thus makes less likely penetration of toxic agents into the facepiece.

b. Cold or Hot Weather. In cold (below 30° F.) or hot (above 90° F.) weather, the hood is worn with the outlet valve outside the hood (fig. 13). In cold weather, this arrangement prevents condensed moisture in the breath from freezing inside the hood or from dripping onto the clothing. In hot weather, it prevents extreme heat and humidity inside the hood, which would cause the wearer severe discomfort.



1 Eyering
2 Voicemitter-outlet valve assembly
3 Inlet valve assembly
4 Cape
5 Underarm strap
6 Fastening device
7 Neck cord
8 Neck cord fastener

Figure 11. M6 field protective mask hood.

19. Attaching Hood to Mask

a. General. The hood must be carried in the carrier attached to the mask so that the mask will be ready for instant use at all times.

b. Procedure.

(1) Unfold the hood and spread it flat with the five openings up.

(2) Loosen the neck cord (7, fig. 11) by sliding the neck cord fastener (8) to the end of the cord.

(3) Place the M17 mask inside the hood with the eyerings, the inlet valve assemblies, and the voicemitter-outlet valve assembly alined with their respective openings in the hood.

(4) Aline the knot (which can be felt through the hood fabric) in the cord around the eyering opening with the dot impressed in the top of the eyering.

(5) Starting at the bottom of an eyering opening, push the opening in the hood over the mask eyering. First slip the hood over the eyering at the nose area and complete the operation at the temple area. Stretch the hood around the second eyering in the same manner.

(6) Stretch each air inlet opening of the hood around the corresponding inlet valve assembly of the mask.

(7) Fit the upper part of the voicemitter-outlet valve opening in the hood around the voicemitter-outlet valve



Figure 12. Wearing hood in moderate weather (outlet valve inside hood).

assembly. Make sure that the edge of the opening lies continuously beneath the edge of the rubber cover over the voicemitter-outlet valve assembly from a point below the stud (par. 7*f*) on one side of the metal frame to a corresponding point on the other side of the voicemitter-outlet valve assembly frame. The lower edge of the hood opening now stretches across the voicemitter-outlet valve cover as shown in figure 12. If the hood is to be worn in cold or hot weather (par. 18*b*), stretch the spring in the lower part of the opening over the outlet valve portion of the assembly

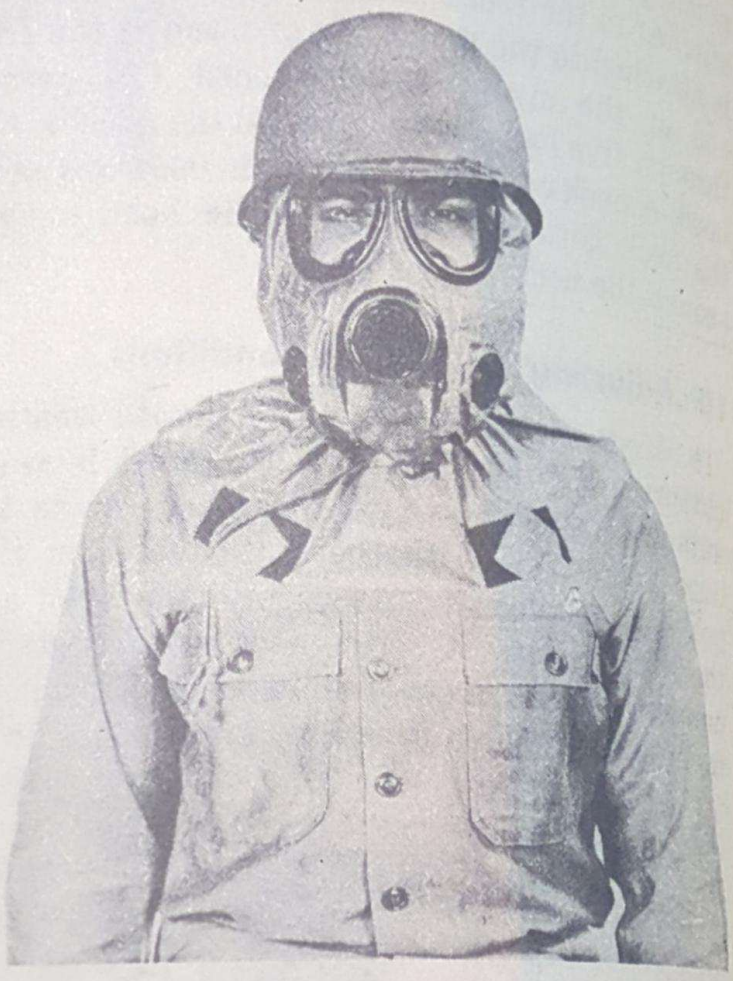


Figure 13. Wearing hood in cold or hot weather (outlet valve outside hood).

so that the outlet valve is outside the hood (fig. 13).

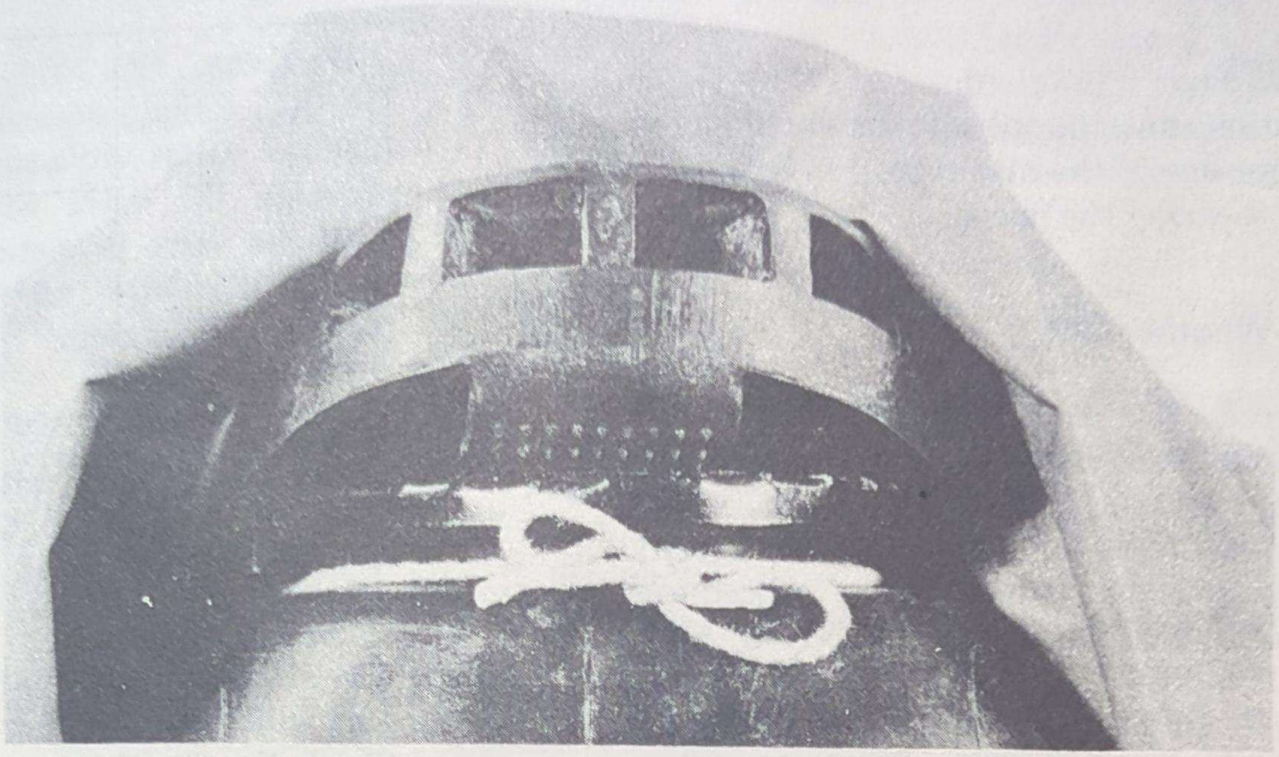
(8) Raise the outlet valve cover (1, fig. 14,) tie the outlet valve cords (3) around the voicemitter-outlet valve assembly (2), and replace the cover over the outlet valve.

(9) Raise the back of the hood up and over the face of the mask. Lift the mask by the head harness and allow the hood to hang inside out from the face of the mask.

(10) Gather the cape of the hood to one side of the facepiece and stow the mask and hood in the carrier.

20. Donning

a. Remove the mask and hood from the carrier and hold the mask by the head harness so that the hood is suspended from the face of the mask.



1 Outlet valve cover
2 Voicemitter-outlet valve assembly
3 Outlet valve cord

Figure 14. Outlet valve cords tied around the voicemitter-outlet valve assembly.

b. Don and adjust mask (par. 31).

c. Pull the back of the hood over the head so that the hood covers the head. Drape the cape over the shoulders.

Note. In very cold weather, don a pile cap or knitted cap over the mask head harness before pulling the hood back over the head.

d. Pass the straps under the arms and fasten the ends to the front of the cape by pressing the two parts of the fastening device (6, fig. 11) together. Adjust the straps as necessary to obtain a comfortable fit.

e. Use the neck cord fastener (8) to tighten the neck cord (7) until the hood is held snugly around the neck.

21. Removing Assembled Hood and Mask

a. Unfasten the underarm straps by raising one edge of the fastening device on each strap to separate the two parts of the device.

b. Loosen the neck cord by sliding the fastener to the end of the cord.

c. Pull the back of the cape forward over the head and leave the hood suspended from the front of the mask.

d. Remove the mask.

e. Shake or wipe moisture or frost accumulations from the inside of the hood.

f. Reattach the end of each cape strap to its mating fastener.

g. Gather the cape of the hood to one side of the facepiece and replace the mask and hood in the carrier.

22. Care

a. Preventive Maintenance. Wash the hood with water when cleaning the mask on which it is used. At the same time, inspect for damage which would allow CBR agents to enter the hood. If the hood is damaged, do not repair it; obtain a new one.

b. Decontamination. To decontaminate the hood, follow procedures described in TM 3–220 for decontaminating rubber articles.

c. Limited Storage. Store the hood in a cool place out of direct sunlight. Treat the hoods with the same care as that specified (par. 28) for the masks. Do not expose them to a heated surface or to flame.

Section VI. SPECIAL INSTRUCTIONS

23. General

This section contains specific instructions for cold-weather use of the mask and for firing the rifle when wearing the mask.

24. Cold-Weather Use

a. General. For cold-weather use (in artic and subarctic regions), it is especially important that certain normal procedures, which are repeated here for emphasis, be rigidly adhered to and that other unique procedures be followed. PROPER FUNCTIONING AND OPERATION OF THE MASK CANNOT BE OBTAINED UNLESS THESE INSTRUCTIONS ARE FOLLOWED. Check to determine that the following conditions exist.

(1) *Buttons.* Both the flaps of the filter element pouches and both sides of the nosecup are buttoned down (par. 36*e* (3)).

(2) *Nosecup.* The chin portion of the nosecup is above the chin stop of the facepiece.

(3) *Nosecup valves.* The nosecup valves (par. 7*g*) are in place and lie flat (not wrinkled) and are free on the valve seats.

(4) *Outserts.* The apron of each outsert assembly makes complete and continuous contact with the eyering (is not twisted or displaced).

(5) *Outlet valve cover.* The outlet valve is in place and lies flat on outlet valve seat in the voicemitter-outlet valve assembly. The outlet valve cover is seated on the voicemitter-outlet valve assembly and is fitted over (behind) the voicemitter ring.

b. Donning Procedures. When the mask is donned properly, no fogging or frosting of the eyelens will occur.

(1) Bare the head by removing parka hood, helmet, or cap.

(2) Open the carrier.

(3) Remove arctic mittens.

(4) Don and adjust the mask.

Warning: **DO NOT CLEAR THE MASK. Exhale normally but firmly. Lift the outlet valve cover and gently massage the valve with one finger until the valve is operating normally. Reseat the outlet valve cover behind the voicemitter ring.**

(5) Test the mask for leaks (par. 27).

(6) Replace the arctic mittens, readjust headgear, and close the carrier by securing snap fasteners.

c. Wear and Use.

(1) Any slight leakage of air past the face seal will cause fogging of the lenses. Check the fit of the mask (par. 26). Correct any leakage due to improper fitting to the face by adjusting the head harness (par. 26*d*).

(2) Bear in mind that it is normal to experience increased resistance to breathing in extremely cold weather. This resistance will increase during work and will appear especially high when the wearer is fatigued. Breathing resistance becomes less apparent as the wearer becomes accustomed to wearing the mask.

(3) It is expected that frost may accumulate on the inlet cap assemblies during subzero operations.

(4) During intervals between repeated use of the mask in the field, remove the mask from the carrier and flex it sufficiently to remove ice and snow from all components, including the outlet valve. Replace the mask in the carrier.

d. Care.

(1) Exercise continual care to maintain the mask in a usable condition at all times. Be especially careful to remove snow, ice, and water from all mask components. Warm the mask whenever opportunity presents.

Caution: **Do not rub the inlet valve assemblies to remove ice and snow. To do so will force ice crystals into the valve and will cause the valve to freeze up. Instead, remove ice and snow by jarring the mask.**

(2) When indoors or in a warm location, remove the mask from its carrier and wipe it dry. Do not use paper for wiping and drying. Be sure no foreign matter is retained in the mask due to the wiping and drying process. Before replacing the mask in the carrier, inspect it as directed in *a* above.

25. Sighting Rifle While Wearing M17 Mask

Special procedures are recommended for sighting a rifle while wearing the M17 mask. Speed and accuracy in obtaining a sight picture will be achieved by adequate training and repeated sighting of the rifle using the procedures given below.

a. Aim the rifle in the same manner as when unmasked except that the mask should slide *up* the stock of the rifle to the sighting position.

b. If a sight picture is not readily obtained, slide the rifle butt downward on the shoulder and resight the rifle as in *a* above.

c. If a sight picture is still not readily obtained (*b* above), move the rifle butt slightly outward while it is low on the shoulder.

CHAPTER 2

FIRST ECHELON INSTRUCTIONS

26. Fitting

a. General. Fitting of a field protective mask should be superivsed by a qualified noncommissioned officer. Proper fitting prevents leakage between the facepiece and the wearer's face and allows the mask to be worn comfortably. Figure 15 illustrates (A), a mask that fits well; (B), one that is too small; and (C), one that is too large. In figure 15, dotted lines are drawn across the eyelenses to indicate the area in which the pupils of the eyes will appear if the mask is correctly fitted. If the pupils are above or below this area, the mask is too large or too small.

(1) In A, the pupils of the eyes are more than 1/2 inch from the tops of the lenses and more than 1 inch from the bottoms; the top of the mask is just slightly below the hairline; the nosecup does not obstruct the wearer's vision; the head harness straps do not cut the ears; and the bottom portion of the mask does not cut into the throat.

(2) In B, the pupils of the eyes are less than one-half inch from the tops of the lenses; the top of the mask is considerably below the hairline; the nosecup is barely visible; the head harness straps cut the ears; and, in general, the mask sits far forward on the face.

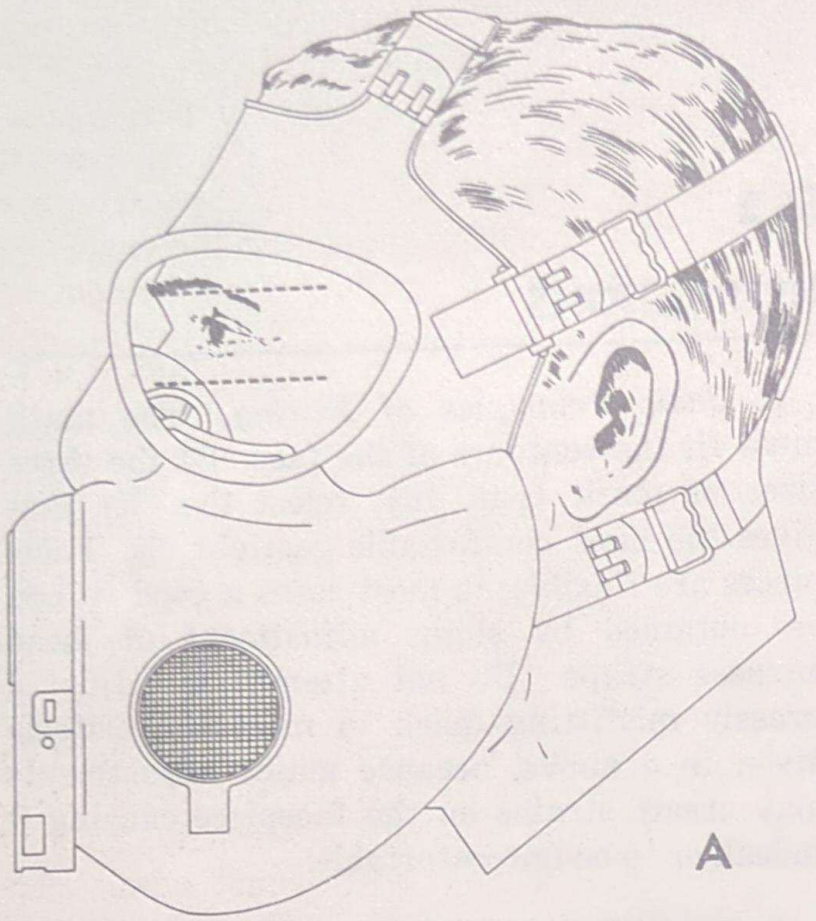
(3) In C, the pupils of the eyes are less than 1 inch from the bottoms of the lenses; the top of the mask covers the hairline; the nosecup obstructs the wearer's vision; edges of the facepiece cut the ears; and the bottom portion of the mask cuts into the throat.

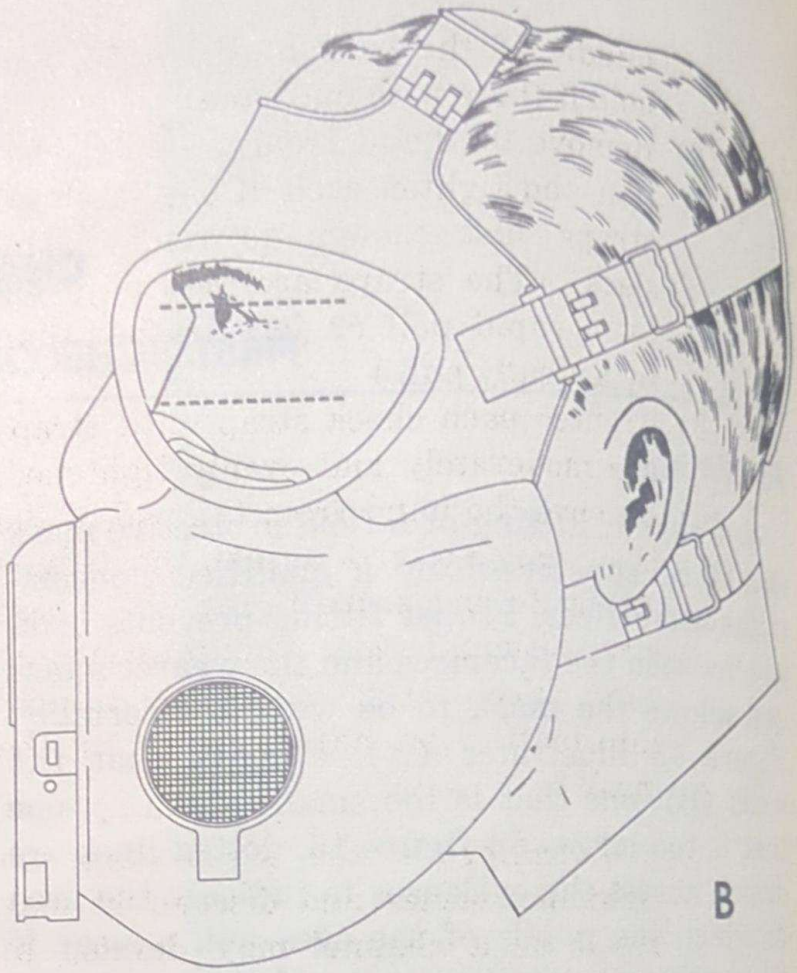
b. Basic Principles of Fitting. The mask must fit the contours of the face. Of the three sizes of mask (par. 7*a*), select the size that gives the most comfortable gastight fit. Facepieces are flexible; in most cases a good fit can be obtained by slight adjustment of head harness straps. Do not attempt to adjust a grossly misfitting mask to meet the criteria given in *a* above, because major adjustments may create strains on the facepiece causing it to leak or to be uncomfortable.

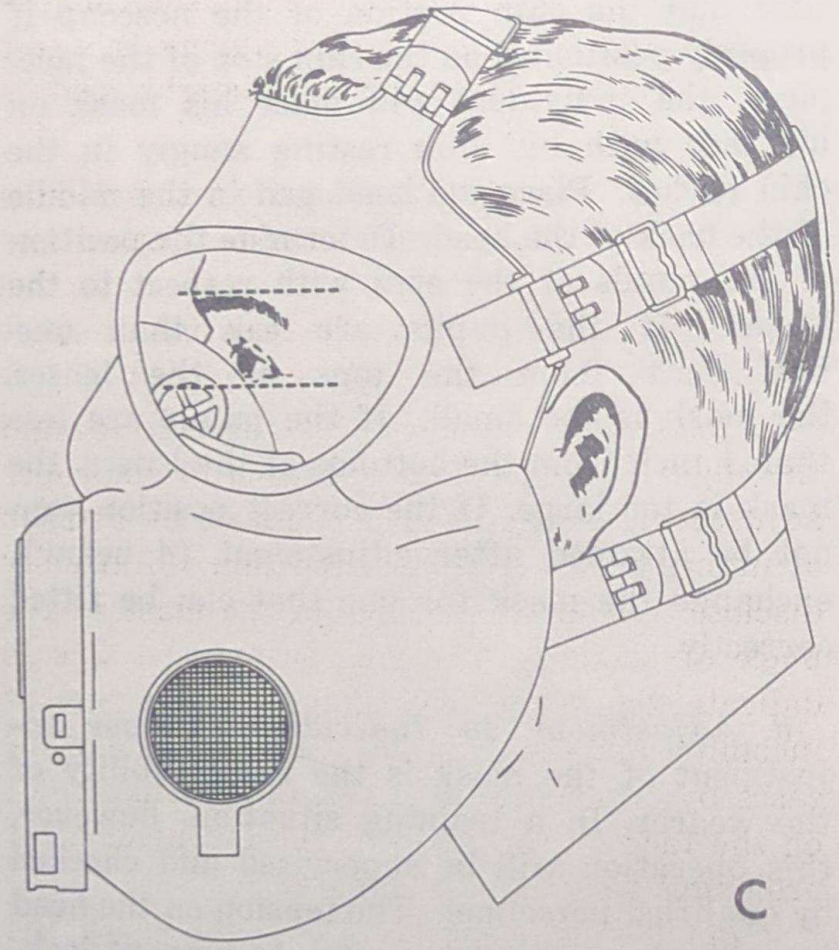
c. Preliminary Procedure. After making sure that the chin portion of the nosecup if properly positioned on the chin stop of the facepiece, the individual will place his mask on his face with his chin resting snugly in the chin pocket. Place the head pad in the middle of the back of the head. Determine the position of the pupils of the eyes with respect to the lenses. If the pupils are less than one-half inch from the tops of the lenses, the mask is too small. If the pupils are less than 1 inch from the bottoms of the lenses, the mask is too large. If the correct position cannot be attained after adjustment (*d* below), exchange the mask for one that can be fitted correctly.

d. Adjustment to Individual. Proper adjustment of the mask is the responsibility of the wearer. In a training situation, however, this operation will be supervised and checked by qualified personnel. The tension on the head harness straps must be equal, to prevent leakage and to avoid pressure at the temples and general discomfort to the wearer. Adjust the straps as directed below.

(1) Hold the mask firmly against the chin and center the head harness pad in the







A-GOOD FIT

B-MASK TOO SMALL

C-MASK TOO LARGE

FIGURE 15 FITTING CRITERIA

Figure 15. Fitting criteria (par. 26a).

middle of the back of the head, and hold it there with one hand.

(2) Remove the hand from the chin position and tighten each of the forehead straps just enough to remove any slack. (The straps are best adjusted by a rapid pull or jerk, rather than by a steady pull.)

(3) Tighten each cheek strap until straps are moderately and evenly tightened.

(4) Remove the hand from the pad of the head harness and adjust the temple straps to moderate tightness. These straps should clear the tops of the ears. (See FM 21–40 for additional information on adjusting fit of the mask.)

Warning: **If the straps are too tight, headaches and discomfort may result or a channel may develop at the edge of the facepiece, allowing gas to enter.**

e. Checking Fit (fig. 15). Check fit of the mask as follows:

(1) Examine eye positions to see that the pupils of the eyes are near the centers of the lenses.

(2) Check the mask to see that it does not fit so tightly that pressure is exerted on the flesh around the eyes, causing the eyes to be partly closed.

(3) Check to see that the nosecup does not press painfully on the nose or the edge of the mask cut into the flesh at the wearer's throat.

(4) Check to be sure that the edge of the mask does not touch the ears or cut into the throat. Proper fit is attained when the mask comes well up on the forehead and the edge of the facepiece is within 1 inch of the ears.

(5) If slight gaps or channels are noted, carefully readjust the head harness.

(6) If proper fit cannot be obtained, try a larger or smaller size mask.

27. Tests for Leaks

a. General. For the wearer's protection, the facepiece of the mask must be checked for leaks at the time it is fitted to him. Before testing the facepiece for leakage, make sure that both filter element assemblies are properly positioned in their pouches, that inlet valve assemblies (par. 9) are in place on the connectors of the filter assemblies, and that the mask has been properly fitted by correct adjustment of the head harness assembly. A heavy growth of stiff beard will usually make it difficult to obtain a leakproof fit.

(1) *Tests.* Press the palms of the hands firmly over the inlet valve assemblies. Do not press so hard that the facepiece will be distorted to the extent that leakage will occur around the edges of the mask. With the inlet valves thus closed, inhale *normally* and hold the breath for 10 seconds. (If one inhales too strongly, he may close a hole that would admit contaminated air when breathing is normal.) If the facepiece tends to collapse and remain collapsed during this test period, an effective airtight seal is indicated.

(2) *Correction.* If the above test indicates leakage, the leak *must* be located and the cause eliminated. If it is not possible to locate the leak or to correct it, the mask must be replaced.

b. Leakage Around Edges. Leakage around the edges of a facepiece is caused by improper adjustment of the head harness or by a mask of improper size. Visual inspection will usually disclose a bulge at the edge of the mask at the place of leakage. The wearer may be able to indicate the point of leakage by the feel of incoming air. Leakage can be detected in some cases by observing breaks in the red mark left on the face by the edges of the facepiece after prolonged wearing of the mask.

(1) To overcome leakage at the cheek, lift the head harness pad higher on the head and tighten the forehead straps.

(2) To overcome leakage at the temple, tighten both forehead and temple straps.

(3) When leakage occurs at the forehead, tighten the temple straps.

(4) When leakage occurs at the throat or under the chin, readjust the mask on the face by grasping the eyerings and lifting the mask slightly higher on the face, so that the chin is seated firmly in the chin pocket. Tightening the cheek straps may also help correct leakage at the throat or under the chin.

(5) If leakage still continues around the edges of the mask, fit a mask of another size.

c. Outlet Valve Leakage. Leakage of air into the mask may be caused by an outlet valve which is faulty or which is held open by foreign matter. Any debris present usually can be cleared by several rapid and powerful exhalations. Sticking disks can usually be released by massaging the disk with the finger after lifting the lower portion of the rubber voicemitter-outlet valve cover. Masks with defective valves must be replaced.

d. Defects in Faceblank. When other possible sources of leakage have been investigated and eliminated, all portions of the faceblank should be examined closely for breaks, tears, or holes. Such defects are likely to occur around the eyepieces. If defects are found in the faceblank, replace the mask.

28. Care of Mask

a. General. With reasonable care and attention, the M17 mask will have long life because it is designed to withstand the wear and tear of field service. There is, however, always danger of mechanical damage to rubber, metal, or plastic parts resulting from rough handling. Rubber portions of the mask may deteriorate when subjected to extreme heat; water will damage the mask if it wets the filter elements; and dampness will cause mildew to attack the fabric of the carrier and the head harness. Whenever the mask is not being worn, it should be kept in the carrier in the position shown in figure 16. Fold the head harness into the mask cavity. Place the mask in the carrier with the lower portion of the mask resting on the wider edge of the carrier, the nose toward the carrier flap.

b. Care of Rubber Parts. Aging of rubber starts slowly but proceeds at an increasing rate: it is greatly accelerated by exposure to light and heat and contact with oil or organic solvents. These conditions must be avoided wherever masks are kept. The first indication of progressive deterioration is noted when the rubber begins to set. It then becomes tacky and, finally, dry and brittle. When rubber parts begin to set, the mask must be replaced.

c. Care in Cold Climate. In extremely cold climate, keep the mask under outer clothing prior to its anticipated use. This precaution is necessary to prevent cold shock (localized frostbite). If the mask is kept at temperatures below –25° F. for 5 days or more, the facepiece will stiffen but will not become brittle. If the mask is then warmed to 32° F. or higher, even for a short time, it will regain its original flexibility. Special instructions for cold-weather use of the mask are given in paragraph 24.

d. Care in Hot Climate. In hot climates, little can be done to protect the mask against the aging of rubber except to keep the mask out of direct sunlight whenever possible. When the mask is not being worn, always keep it in a cool and dark a storage place as is available. Do not store a wet mask in a closed container, such as a waterproofing bag.

e. Cleaning and Conditioning. Masks must be cleaned and conditioned at least twice a year and before they are turned in or exchanged. Cleaning and conditioning procedures are described in paragraph 35.

29. Care of Carrier

a. Except in pockets (par. 10*c*) especially designed for carrying specific equipment, the carrier must never be used as a receptacle for anything other than the protective mask and the accessories designed for use with it.

b. The carrier should be cleaned and reconditioned at least twice a year. Any sand or grit must be removed as soon as it is discovered in the carrier. Such abrasive material will scratch the mask lenses and may prevent proper functioning of the valves. Clean the carrier in the manner prescribed for individual

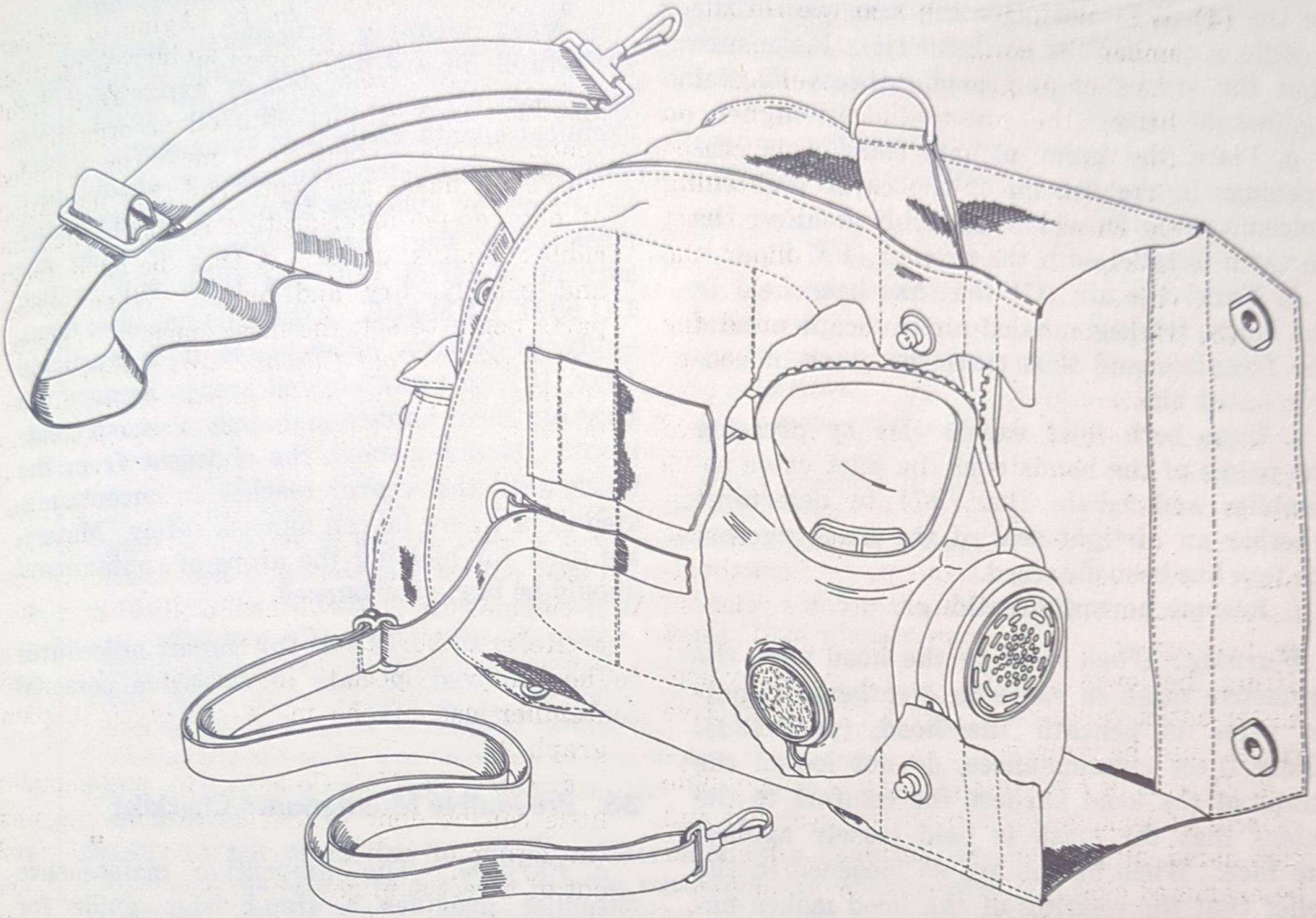


Figure 16. M17 mask in carrier, cutaway view.

web equipment (FM 21–15). Do not recolor the carrier.

30. Individual Inspection

Each individual is responsible for the condition of his own mask. He must make a minute visual inspection (FM 21–40). This inspection must include examination of facepiece assembly, filter elements, carrier, and accessories. Defects in masks must be reported to organizational maintenance personnel.

31. Field Use of Mask

The mask will be donned for protection against toxic agents when the command is given by the unit commander or when conditions are such (FM 21–41) that an attack by toxic agent is indicated. Don the mask (fig. 17), which has previously been fitted (par. 26) to the wearer, in the steps outlined in FM 21–40 and restated below.

a Stop breathing

b. Remove headgear.

c. With the right hand, pull open the carrier flap, reach into the carrier, and withdraw the mask from the carrier grasping the mask by the front portion of the facepiece in the area of the voicemitter-outlet valve assembly.

d. Grasp the left side of the facepiece with the left hand. Then move the right hand to grasp the right side of the facepiece. (This step not illustrated.)

e. Separate the hands sufficiently to seat the chin in the chin pocket. Then let the hands slip to the head harness straps to pull the mask up onto the face (A). (Do not slip the head harness over the head and then pull the mask *down* over the face.)

f. Settle the chin snugly in the chin pocket of the facepiece and place the head pad in the middle of the back of the head (B). Make sure that the straps of the head harness lie flat against the head.

g. Place the palm of one hand over the openings in the bottom of the cover over the voicemitter-outlet valve assembly holding the forearm parallel with the ground (FM 21–41).

h. Expel the air (C) that has been held in the lungs, forcing exhaled air to escape around the facepiece and thus clear the mask of contaminated air.

i. Close both inlet valves (D) by pressing the palms of the hands over the inlet valve assemblies and inhale (par. 27) to determine whether an airtight seal of the mask against the face has been obtained.

j. Resume normal breathing.

Warning: **When wearing the hood with the protective mask in moderate weather, the outlet valve is beneath the hood (par. 18*a*). Under these circumstances, do not loosen the straps of the head harness for comfort to the extent that the mask is held loosely against the face. When straps are so loosened in the belief that the wearing of the hood makes unnecessary the close fit of the mask facepiece, the wearer is in danger of suffocation by carbon dioxide as well as being unprotected against toxic agent if it is present. This condition arises because the outlet valve of the mask exhausts exhaled air into the hood; if the facepiece is loose, carbon dioxide is drawn into the facepiece around the edges of the mask rather than fresh air being drawn in through the inlet valves. The result is a constantly increasing concentration of carbon dioxide inside the hood and a constant decrease of oxygen entering the mask. Under such circumstances, the mask and hood become dangerous to the wearer.**

32. Emergency Decontamination of Mask

a. Mask cleaning procedures specified in paragraph 35 are not applicable in the event the mask is contaminated with liquid toxic chemical agents while it is being worn. Under such circumstances, the wearer should blot the drops or splashes from the contaminated mask using rags, paper, leaves, or other absorbent material and then flush with water. DO NOT UNMASK. After this has been done, apply protective ointment, if it is available (par. 15), to contaminated areas. Remove the first ointment applied and apply a second treatment. Do not remove the ointment from the mask until the wearer reaches an uncontaminated area where he can unmask safely. Materials used for blotting the drops of contaminant should be buried or burned.

b. Refer to FM 21–41 for correct procedures to be followed in case of extensive personal contamination.

33. Preventive Maintenance Checklist

a. Purpose. The preventive maintenance checklist provides a step-by-step guide for making weekly inspections and performing required preventive maintenance.

b. Explanation of Columns. The item number column indicates the sequence in which the preventive maintenance service or inspection procedures appearing in the second column must be performed. The last column lists references to paragraphs in this manual which contain a detailed description of the procedures.

c. Procedures. Perform the inspections listed below weekly. Correct the deficiencies as authorized. Report others to organizational personnel.

Item	Procedure	Paragraph references
1	FACEPIECE. Examine rubber of faceblank for tears, breaks, or holes; for permanent set affecting fit; for tackiness, hardness, or brittleness; for dry rot (fine cracks appear when rubber is stretched or folded); or for discoloration, dirt, or mold. Check for constricted or obstructed deflector tubes; for torn pouch flaps; for broken or missing flap buttons; for broken or missing temple pins; or broken temple pin lugs.	28, 30

Item	Procedure	Paragraph references
2	NOSECUP. Check whether nosecup is missing, distorted to affect fit, or is insecurely fastened to faceblank. See whether buttonholes in nosecup are torn, whether nosecup valves are missing or insecurely mounted, whether valve disks or seats are warped or damaged, or whether valve disks are missing or deteriorated.	7*g*
3	EYEPIECE ASSEMBLY. Determine whether lenses are cracked or broken or are scratched, distorted, or discolored to the extent that vision is affected. See whether eyepiece assembly is insecure or whether there is visual evidence of eyepiece leakage.	7*b*
4	HEAD HARNESS. Check the head harness for tears or loss of elasticity.	7*h*
5	HEAD HARNESS. See whether head harness is frayed or mildewed.	7*h*
6	VOICEMITTER-OUTLET VALVE ASSEMBLY. See whether the outlet valve disk or seat is warped, damaged, or inoperable. Check for damage to the diaphragm assembly and determine whether the assembly is loose or insecure. Note whether the voicemitter-outlet valve frame is out of shape or insecure or whether there is visual evidence of assembly leakage. Check whether the voicemitter-outlet valve cover is missing.	7*d*
7	VOICEMITTER-OUTLET VALVE ASSEMBLY. Check whether the stud on voicemitter-outlet valve crimping ring is missing. Note whether voicemitter-outlet valve cover is torn, damaged, or deteriorated.	7*d*
8	TABS AND CLIP-AND-BUCKLE ASSEMBLIES. Note whether tabs are torn or are deteriorated or damaged so that they have lost strength. Check whether clip-and-buckle assemblies are missing, broken, or inoperable.	7*i*
9	TABS AND CLIP-AND-BUCKLE ASSEMBLIES. Note whether metal parts are corroded.	7*i*
10	INLET VALVE ASSEMBLIES. Check whether inlet valve assemblies are missing or fit loosely on the filter element connectors. See whether inlet valve seats are distorted or damaged and whether valve disks are missing, damaged, or deteriorated.	7*a*, 9
11	INLET VALVE ASSEMBLIES. Check whether inlet valve screens are loose or torn and whether flocking is worn off the inlet valve screen. If older type of inlet valve assembly, check whether handle is missing or whether support for inlet valve handle is corroded.	7*a*, 9
12	FILTER ELEMENT. Determine whether filter element connector is loose, missing, or damaged; whether mesh screening of element is worn; or whether edge seal of element is broken or cut. Check whether filter element is damaged or deteriorated and whether it shows evidence of submersion.	8
13	CARRIER. Check carrier for missing or inoperable fastener or strap hardware and determine whether straps are missing, torn, or not usable. Note whether carrier is mildewed, torn, or stained. Check whether lenses of outserts are missing, broken, scratched, discolored, or distorted. See whether eyelenses of outserts are loose from their rubber aprons.	10
14	ACCESSORIES. Check whether accessories (hook, spectacles, waterproofing bag) are present and in good condition. Replace missing or damaged accessories as authorized.	11

34. Preventive Maintenance Services

The individual to whom a mask is assigned must:

a. Clean his mask at least twice a year, more frequently when the condition of the mask requires it (par. 35).

b. At scheduled intervals, inspect his mask for tears, holes, and splits (par. 27*d*).

c. Check mask for signs of deterioration of rubber parts (par. 27).

d. Replace filter elements (par. 36).



A



B



C



D

Figure 17. Donning mask: A, donning; B, adjusting head pad; C, clearing; D, testing for leaks.

e. Notify organizational maintenance personnel of any damage that calls for repair or replacement of parts.

35. Cleaning and Conditioning Mask

Remove the mask from the carrier. Remove the filter element assemblies (par. 36) and the voicemitter-outlet valve assembly cover. Wash the mask thoroughly, inside and outside, with hot soapy water using a cloth or a brush. Rinse the facepiece thoroughly with clear water and allow the excess water to drain. Shake the facepiece to remove all water possible from the voicemitter-outlet valve assembly, the deflector

tubes, and the filter element pouches in the cheeks. When the facepiece appears to be dry, make sure that it is dry by using a soft dry cloth to absorb any moisture still clinging to the surfaces of the voicemitter-outlet valve assembly and remaining inside the cheek pouches. If the disk in the nosecup valves become detached while the facepiece is being cleaned, they must be replaced.

36. Replacing Filter Element Assemblies

a. Removing Inlet Valve Assembly (fig. 18). Both types of inlet valve assembly (par. 9) are removed from filter element connectors in the same manner. Use the large snaphook at the end of the carrier strap as a tool. Engage the end of the hook beneath the flange around the top of the inlet valve assembly and pull the assembly from the mask. Place both inlet valve assemblies together at a clean spot and check to make sure that the valve disks are in place inside the caps and are in good condition.



Figure 18. Removing inlet valve assembly.

b. Reversing Head Harness (fig. 19). Loosen the buckles holding the ends of the head harness straps and lengthen the straps as much as possible. Grasp the head harness with both hands and place it over the front of the mask. To avoid distorting the facepiece, do not pull the head harness below the lenses.

c. Unbuttoning Nosecup and Flaps. Grasp the nosecup near the button and lift it off the button (fig. 20). Unbutton the flaps of the pouches by lifting the flap off the buttons. Be sure that both buttons on each side of the mark are unbuttoned before beginning the next step.

d. Remove Filter Element Assemblies (fig. 21). Grasp the upper portion of one of the filter elements by placing four fingers on the upper portion of one of the filter element and the thumb on the opposite side. With the other hand, grasp the outside of the facepiece between the voicemitter-outlet valve assembly and the connector. Pull each filter from the mask.

e. Replacing Filter Element Assemblies.

(1) Determine the correct filter element assembly for each pouch by placing an element against the outside of the mask to line up the element with the



Figure 19. Reversing head harness.

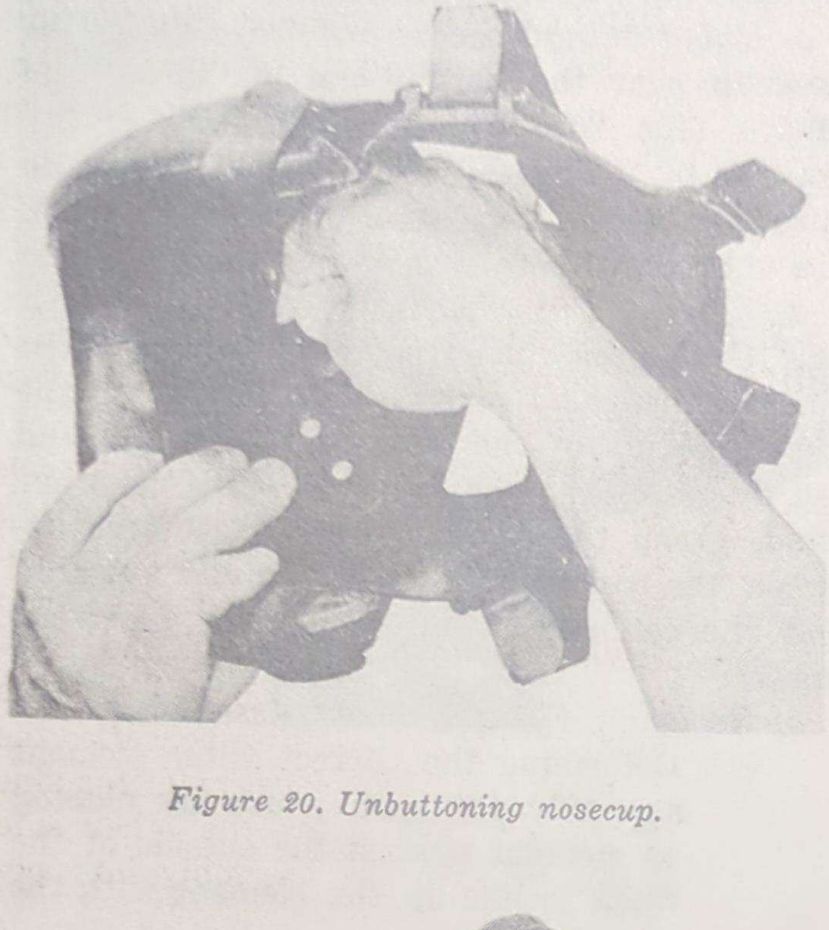


Figure 20. Unbuttoning nosecup.



Figure 21. Removing filter element assembly.

contour of the facepiece. This preliminary step is necessary to avoid attempts to place a right filter element in a left pouch, and vice versa.

(2) Spread the opening of the cheek pouch by pulling the lower edge of the facepiece (chin stop) outward. Grasp the element by the square corner with the fingers on the connector side and the thumb on the opposite side. Insert the curved edge of the element in the pouch opening. With a slight turning motion, push the element up into the cheek area of the pouch (fig. 22). Grasp the corner of the element which is nearest the ear by pinching it through the facepiece and work the element into approximately its correct location with the connector projecting through the facepiece. Insert the second element in the same manner. Allow the nosecup and the pouch flaps to fall back into their normal positions.

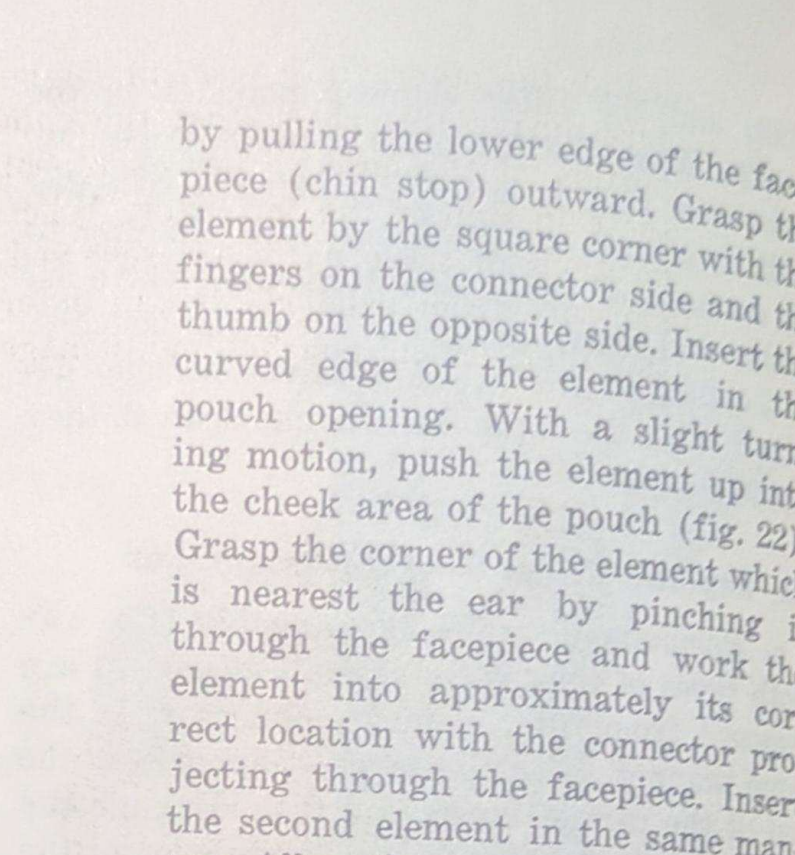


Figure 22. Inserting filter element assembly.

(3) Work the molded rubber neck under the flange of the connector attached to a filter element (fig. 23). After the rubber neck is properly seated under the connector flange, recheck the position of the filter element in the pouch and make any necessary adjustments. Repeat the operation to

install the other filter element. Make sure during this check that the chin portion of the nosecup lies *on top* of the chin stop of the faceblank. When positions of these parts are reversed, moisture from exhaled air can enter the filter element pouches and damage the elements.

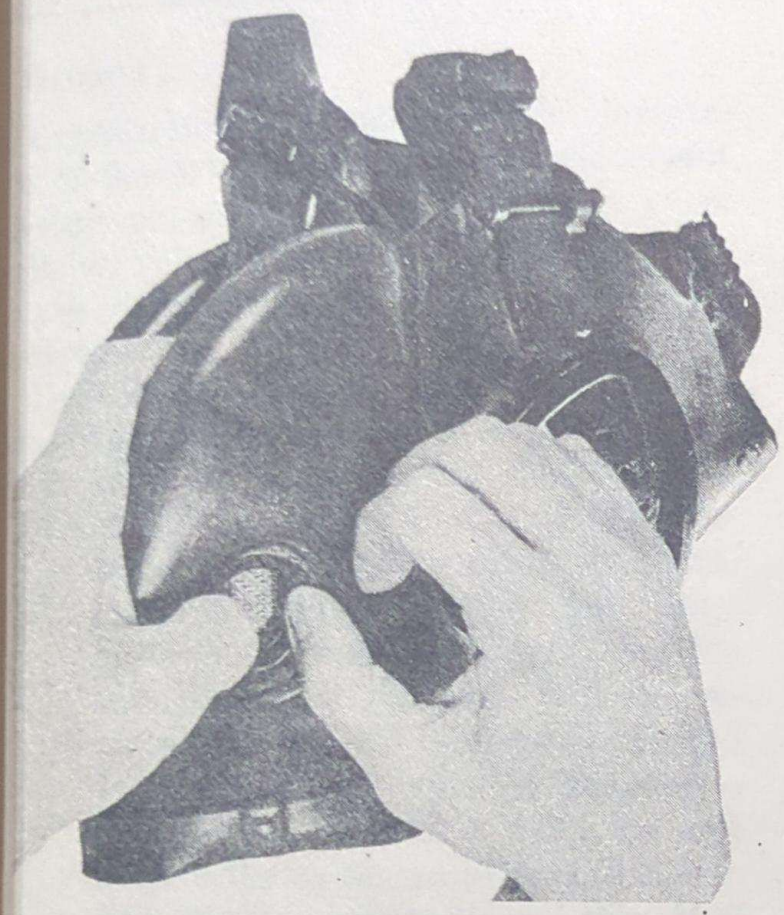


Figure 23. Adjusting rubber neck under connector flange.

(4) After both filter elements are in place, button the flaps and the nosecup. Place a finger of one hand under the base of the button closest to the edge of the mask and with the other hand, slip the head of the button through the corresponding hole in the flap. Fasten the second button in the same flap in the same manner. Slip the hole in the nosecup over the inner button. Repeat the operation for the flap on the other side of the mask.

(5) Return the head harness to its correct position. Adjust straps to approximately their correct lengths.

f. Reseating Inlet Valve Assemblies. Slightly different procedures are used to reseat the two types of inlet valve assembly (par. 9*a*).

(1) When reseating an inlet valve assembly with a lifting tab, orient the cap above the connector of the filter element assembly so that the tab is alined with the notch molded in the faceblank to receive it. Engage the tab side of the assembly beneath the flange of the connector, hold this side depressed, and press the other side down to snap the assembly into position.

(2) When reseating an inlet valve assembly that has no lifting tab, first moisten all around the bead of the molded rubber collar with water. Then position the inlet valve assembly on the connector with the word TOP up. Engage one side of the inlet valve assembly beneath the flange of the connector and snap the assembly into place.

Warning: **The two inlet valve assemblies are not interchangeable because of differences in design. Using the wrong inlet valve assembly may result in the mask leaking.**

CHAPTER 3
ORGANIZATIONAL INSTRUCTIONS—SECOND ECHELON

37. General

a. Organizational (second echelon) maintenance of the M17 mask includes replacement of eyelens outserts, flap buttons, inlet valve assemblies, voicemitter cover, nosecup and inlet valve disks, head harness, carrier, and accessories.

b. Second echelon responsibilities may also include bulk decontamination of masks:

(1) When it is determined that a group or all the masks of a unit are contaminated with toxic agent, the commanding officer of the unit may order bulk decontamination. In this case, the filter elements will be removed for disposal, and contaminated facepieces will be boiled in soapy water for 8 hours (TM 3–220). Do not remove the eyelenses prior to boiling. The plastic eyelenses of the M17 mask will not be distorted by boiling. After boiling, rinse the facepieces and air-dry them (TM 3–220).

(2) When the unit commander determines that his organization lacks facilities for bulk decontamination of masks, it may be necessary to forward the masks for decontamination by higher echelon decontamination personnel.

(3) Masks which have been exposed to mycobacterium tuberculosis, spore-forming organisms, or other pathogenic organisms can be rendered safe for use by proper decontamination as specified below:

(*a*) Remove and destroy filter elements.

(*b*) Submerge in boiling water for a minimum of 30 minutes.

(*c*) Dry masks and replace filter elements.

38. Combat Materiel Readiness Inspection

Use the operator's preventive maintenance checklist (par. 33) when performing combat materiel readiness inspections. Items 1, 2, 3, 4, 6, 8, 10, and 12 are deficiencies. Items 5, 7, 9, 11, 13, and 14 are shortcomings.

39. Eyelens Outserts

a. Removal. To remove an outsert from mask facepiece, use the fingers on both hands to fold back (outward) the rubber apron of the outsert so that it does not bear on the facepiece eyering. Lift the outsert from the eyelens.

b. Replacement. To install a replacement outsert over an eyelens, fold back the rubber apron all around the outsert (fig. 5B). Lay the outsert over the eyelens so that the reference marks at top and bottom of the outsert coincide exactly with reference marks on the eyering. Holding the outsert in this position, turn the rubber apron so that it bears against the eyering at all points.

40. Flap Buttons

Replace flap buttons if they are damaged or missing.

a. If the buttons are damaged, remove them from the mask by lifting the nosecup and the flap off the buttons. Then grasp the bottom of each button and pull it through the hole in the lip of the pouch. Always pull a button through the hole *into* the pouch; never attempt to pull a button from the hole in the opposite direction because the base of a button is larger than the head.

b. When the damaged buttons have been removed, first replace the short button in the hole nearest the outer edge of the mask. Using the finger to support the bottom of the button,

force the head of the button through the hole so that the base of the button is inside the pouch and the head protrudes into the cavity of the mask. In like manner, replace the long button in the hole nearest the voicemitter.

c. Button the flap of the pouch and fasten down the nosecup as instructed in paragraph 36*e*(3).

41. Voicemitter-Outlet Valve Assembly Cover

a. Remove the cover from the voicemitter-outlet valve assembly by grasping the tab at the bottom of the cover and raising the tab to lift the bottom portion of the cover from over the outlet valve. Then pull the sides of the cover away from the crimping ring until the cover is detached from the studs (par. 7*e*) in the crimping ring which hold the cover in place. Then pull out the upper portion of the cover from beneath the flange around the voicemitter of the voicemitter-outlet valve assembly.

b. To replace the voicemitter-outlet valve assembly cover, first moisten with water (not oil) that portion of the cover which encircles the voicemitter. Lay the cover above the voicemitter-outlet valve assembly to make sure that the holes in the sides of the cover are directly in line with their respective studs in the crimping ring. Then stretch the upper portion of the cover over the crimping ring. With the upper portion of the cover in position, press the moistened edge of the cover beneath the flange around the voicemitter. Be sure that the rubber is confined beneath the flange at all points around the voicemitter. Then force the two studs in the crimping ring through their respective holes in the cover. Finally, stretch the bottom of the cover over the outlet valve portion of the assembly.

42. Valve Disks

a. Inlet Valves.

(1) Remove the inlet valve assemblies from their connectors (par. 36*a*). Lay the assemblies on a clean flat surface with the flocked outside surface down. Pass a finger lightly over each disk from the circumference toward the stud on which the disk is held, thus raising the edge of the disk. Grasp the edge of the disk between thumb and finger and pull it from the stud by stretching the disk slightly, thus enlarging the center hole.

(2) With the fingers on both hands, grasp a replacement disk at opposite sides of the circumference and stretch the disk slightly. Lower the disk to the stud and slip it over the stud. Smooth out with a finger any pucker that appears around the stud or at the circumference of the disk. The disk must lie flat on the seat completely covering the holes in the filter element cap.

(3) Repeat the procedure with the other assembly and replace both assemblies on the mask (par. 36*f*).

b. Nosecup Valves.

(1) Reverse the head harness (par. 36*b*) to permit free access to the interior of the mask. Curl back the soft lip of one side of the nosecup, more fully exposing the nosecup valve and facilitating removal of the disk. With a fingernail, raise the edge of the disk from the cup of the valve in which it is seated. Lift the edge of the disk with the thumb and forefinger and gently pull away from the stud, thus enlarging the hole in the disk sufficiently to remove the disk from the stud.

(2) Holding the replacement disk between forefinger and thumb, place the hole in the disk over the stud so that one portion of the circumference of the hole slips over the head of the stud. Gently pull the opposite side of the disk to stretch the hole so that it will pass completely over the head of the stud. Press the disk down over the valve seat so that it lies flat and can function properly.

(3) Repeat the procedure with the other nosecup valve disk.

43. Head Harness

a. Remove the old head harness by releasing the straps from the buckles of the clip-and-buckle assemblies.

b. Place a new harness in the facepiece so that the straps and head pad are in proper position.

c. Thread the ends of the head harness straps through the buckles on the clip-and-buckle assemblies by inserting the clinch tips at an angle. (The tips are wider than the buckle openings.) Pass each strap through the buckle from beneath the buckle and through the opening nearest the facepiece; then pass the strap over the buckle bar and through the other opening.

d. Pull the straps through the buckles so that the ends of the straps extend about 1 inch past the buckles.

e. Refit the mask to the user (par. 26).

44. Carrier

a. Inspect the replacement carrier to be sure that it is clean inside and out. Pass the hand over all inside surfaces to detect any imperfection that might possibly damage the mask.

b. Remove the eyelens outserts, the waterproofing bag, and the protection and treatment set—if one has been issued (par. 15)—from their respective pockets in the old carrier and put them into their pockets in the replacement carrier.

c. Place the mask in the replacement carrier with the lower portion of the mask resting on the wider edge of the carrier, the nose toward the carrier flap.

d. Fasten the flap of the carrier.

45. Accessories

Remove damaged or depleted accessories from the carrier and put in replacement accessories.

CHAPTER 4
FIELD MAINTENANCE INSTRUCTIONS—THIRD ECHELON

46. General

Third echelon maintenance personnel are authorized to replace clip-and-buckle assemblies and temple pins.

47. Clip-and-Buckle Assemblies

Should a clip-and-buckle assembly (4, fig. 6) become damaged to the extent that a strap of the head harness cannot be attached and properly adjusted (par. 26), replace the clip-and-buckle assembly. If the rubber tab (3) is damaged, do not install a new clip-and-buckle assembly; turn the mask in for salvage. Replace the clip-and-buckle assembly as directed below.

a. With a screwdriver or similar edged tool, straighten the fingers of the clip by bending them backwards. It may be found desirable to complete the straightening operation with pliers.

b. Withdraw and discard the defective clip-and-buckle assembly.

c. Moisten the fingers of the replacement clip with water to lubricate them. Then press the fingers of the clip through the holes molded in the faceblank tab until the ends of the bent portions of the clip emerge from the rubber. (Replacement clip-and-buckle assemblies are issued with the fingers of the clip bent in their use positions.)

d. Release pressure and pull back on the clip so that the rubber of the faceblank tab is fully engaged by the fingers of the clip.

48. Temple Pins

a. General. Should either temple pin (par. 7*j*) be lost or damaged, it must be replaced by a specially requisitioned replacement (TM 3–4240–202–25P); a part obtained from salvage will not be satisfactory. As issued, the temple pin has a shaft extending beyond one of the end knobs of the pin. This shaft, slightly smaller in diameter than the shaft between the two knobs, is provided solely as a means of threading the body of the pin through the holes of the retaining lugs.

b. Installation.

(1) If a portion of a damaged temple pin remains in position between the lugs, it must be removed. Cut the shaft of the damaged pin and withdraw the separated sections.

(2) Lubricate the replacement temple pin by wetting it with water. Starting either from above or below the two lugs molded in the faceblank, thread the thin shaft of the pin through the hole in the nearest lug. Grasp the protruding portion of the shaft and pull one knob of the pin through the hole. Then thread the shaft through the second hole and pull the knob through that hole as well.

(3) Cut off the portion of the shaft that extends beyond the lug.

CHAPTER 5
FIELD MAINTENANCE INSTRUCTIONS—FOURTH ECHELON

49. General

Fourth echelon maintenance personnel are authorized to replace eyelenses, the voicemitter-outlet valve assembly, and the nosecup; to test for leaks; and to repair the carrier.

50. Eyelenses

a. Removal.

(1) Insert an eyering hook tool under each tab of the eyering and bend the tab until contact is broken with the rubber of the facepiece (fig. 24).

(2) Lift off the eyering and remove the lens from the molded eyepiece socket.

Note. Two eyering hook tools are contained in every M1A1 Chemical Corps equipment and repair set. This set is available at fourth echelon shops (SM 3–4–4940–A17).

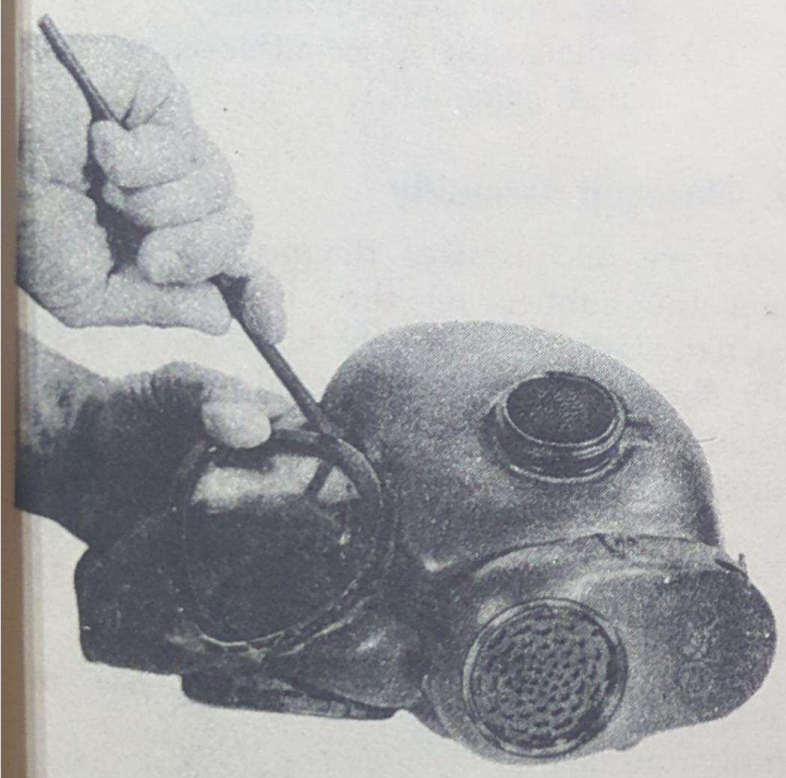


Figure 24. Bending tabs of eyering with eyering hook tool.

b. Replacement.

(1) Insert a new lens in the eyepiece socket alining the checkpoints on the faceblank and the lens.

(2) Place a *new* eyering over the lens and aline the checkpoints on the eyering with those on the faceblank and on the lens.

(3) Use eyepiece crimping pliers to crimp two tabs at opposite sides of the eyering.

(4) Check alinement of checkpoints on the eyering, faceblank, and lens. If all checkpoints are correctly alined, crimp all tabs of the eyering. Take care not to damage the faceblank or the protective coating of the eyering. Be sure that no rubber shows between the eyering and the lens.

(5) Test the mask for leakage using the M2 eyepiece leakage indicator (TM 3–6665–208–12).

51. Voicemitter–Outlet Valve Assembly

a. General. When the voicemitter-outlet valve frame (5, fig. 3) or the diaphragm is damaged, the complete assembly (par. 7*d*) must be replaced. Whenever the voicemitter-outlet valve frame is removed from the facepiece, the crimping ring must be replaced. Never secure a new voicemitter-outlet valve assembly to the facepiece with a used crimping ring.

b. Removal and Replacement of Complete Assembly.

(1) Using an eyering hook tool, bend back each of the tabs of the crimping ring (6) to release the voicemitter-outlet valve frame from the facepiece.

(2) Lift the frame from the mask and discard the entire assembly (*a* above).

Caution: During this operation, do not disturb the relative positions of the flange at the forward end of the nosecup (17) and the flange molded around the opening in the faceblank. (The crimping ring, in addition to fastening the voicemitter-outlet valve assembly to the facepiece, also holds the nosecup in position in the mask.)

Note. It is suggested that fourth echelon personnel fabricate a jig which will maintain the nosecup and facepiece flanges in their correct relative positions. No such device is issued with the mask.

(3) Compress the facepiece in the area of the voicemitter-outlet valve opening to permit removal of the crimping ring, the flange of which is lodged beneath the rubber flange molded in the faceblank. Discard the old crimping ring because the tabs of the ring have probably been weakened in raising them from the voicemitter-outlet valve frame.

(4) Keep the facepiece compressed and position a new crimping ring on the facepiece. Release pressure and make sure that there are no bulges either in the flange or in the nosecup (see *caution* above) as they lie on the flange of the crimping ring.

(5) Move the crimping ring into the exact assembly position on the mask. Correct position is achieved when the eighth notch between tabs, counting from either of the studs on the sides of the crimping ring, is in alinement with the mold mark under the chin of the mask.

(6) Lay a new voicemitter-outlet valve assembly on the rubber flange encircled by the crimping ring. Make sure that the assembly is correctly alined within the crimping ring.

(7) Carefully maintaining the correct relative positions of faceblank, nosecup, voicemitter-outlet valve frame, and crimping ring, crimp tight the tabs of the crimping ring with the bent-nose slip-joint pliers from the M1A1 repair set. Alternately crimp tabs on opposite sides of the crimping ring until all tabs are crimped tight.

(8) Test the mask for leakage.

c. Replacement of Outlet Valve Disk. The outlet valve disk will be replaced without removal of the voicemitter-outlet valve assembly from the mask whenever visual examination or leakage test reveal that the disk is imperfect. Replace the disk in the following steps:

(1) Lift the rubber voicemitter-outlet valve cover from the assembly.

(2) Pinch the outlet valve disk between the thumb and forefinger and pull it from the outlet valve seat. Discard the disk.

(3) From the front of the mask, thread the stem of a new outlet valve disk through the hole in the middle of the outlet valve seat. Hold the disk in this position while reaching inside the mask with the other hand to grasp the end of the stem threaded through the valve seat.

(4) Pull the stem of the disk into the mask until the shoulder of the stem slips through the hole in the valve seat, thus holding the disk in position on the valve seat.

(5) Cut off the excess length of valve stem close to the shoulder.

(6) Replace the voicemitter-outlet valve cover (par. 41*b*).

52. Nosecup Assembly

Remove and replace the nosecup assembly when the rubber of the nosecup becomes cracked, stiff, permanently deformed, or physically damaged; or when the seal between either nosecup valve (19, fig. 3) and the rubber becomes defective.

a. Loosen the crimping ring and remove the voicemitter-outlet valve assembly and the crimping ring (par. 51*b*).

b. Discard the voicemitter-outlet valve assembly and crimping ring.

c. Reach into the mask and pull out the old nosecup assembly.

d. Hold a replacement nosecup assembly in one hand and insert it in the mask in general alinement with its intended position in the mask. Pass the nosecup flange through the voicemitter opening in the faceblank.

e. Adjust the position of the nosecup with relation to the faceblank and smooth the flange of the nosecup on top of the flange molded around the voicemitter opening to remove wrinkles or bulges and to insure uniform contact of the two rubber flanges at all points.

f. Position the crimping ring under the faceblank flange (par. 41*b*(5)).

g. Complete reassembly (par. 51*b*(5)—(7)) using a new voicemitter-outlet valve assembly and crimping ring.

53. Test for Leaks

Whenever replacement is made of a voicemitter-outlet valve assembly or a nosecup assembly (pars. 51 and 52), the mask must be tested for leaks (par. 27).

54. Carrier

Fourth echelon maintenance personnel are authorized to make emergency repairs to the carrier.

CHAPTER 6

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

55. Shipment

a. Complete Mask.

(1) Each M17 field protective mask, complete with filter elements, is individually packaged for shipment. Deformation of the mask in shipment and storage is prevented by a fiberboard faceform which is inserted in the facepiece. The completely assembled mask and supporting faceform is heat-sealed in a protective bag, 12 inches wide by 15 inches deep. The bag is a three-ply vaporproof container, the inner layer of which is heat-sealable plastic material. The middle layer is metal foil, and the outer layer consists of fabric or paper backing. The bag is heat-sealed under controlled atmospheric conditions so that no moisture is sealed in the bag with the mask.

(2) Intermediate packaging is accomplished by placing the mask sealed in its vaporproof bag, in a carrier and sealing the carrier in a waterproof bag, similar to the vaporproof bag but lacking the layer of metal foil.

(3) Standard Army practice is to pack 10 packaged masks for shipment in a strapped compartmented fiberboard box. This box, which contains the masks in two rows of five compartments each, is intended for one-time use, and is to be discarded when the masks are unpacked by the organization to which they are issued.

(4) An alternate method of packing is available for those services which require a box for garrison storage. In this case, the standard fiberboard packing box is used without its lid. The fiberboard box is shipped in a cleated plywood shell to which a cleated plywood lid is attached by six cleated-box fasteners (fig. 25), two on each side and one at each end. The box itself is used for garrison storage of the masks by the using unit (par. 10*d*(1)). An instruction is stenciled on the inside of the lid specifying that the plywood shipping container, lid, and fasteners must be saved for storage purposes and for possible reuse.

b. Replacement Filter Element Assemblies.

(1) Replacement filter element assemblies are packaged for shipment in pairs (one right-cheek and one left-cheek element) in a heat-sealed protective bag of the type described in *a*(1) above. Each bag is approximately 9

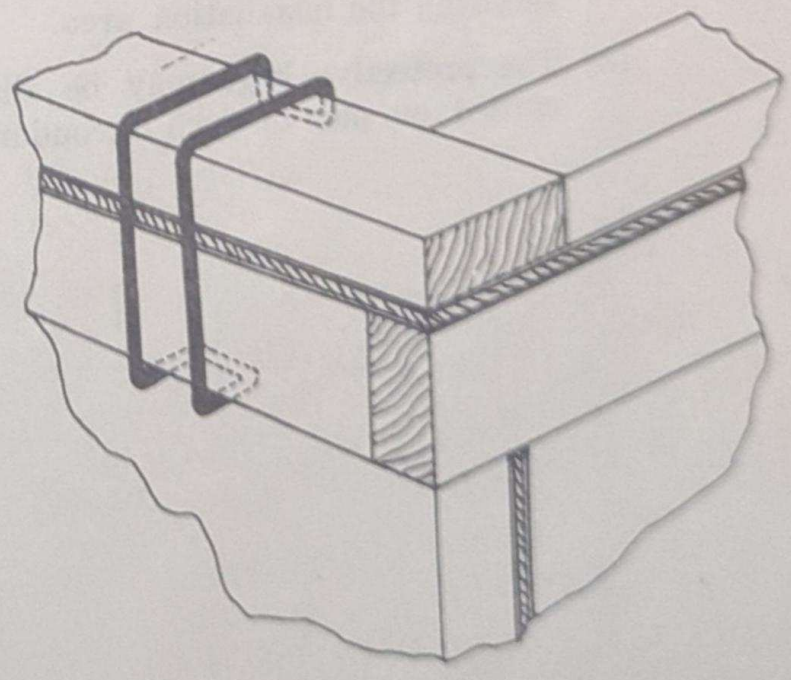


Figure 25. Cleated-box fastener in place.

by 9 inches in size. Bags are sealed under controlled atmospheric conditions to prevent the inclusion of moisture-laden air in the bag.

(2) Ten sealed bags are further packaged in a sealed and taped fiberboard box having inside dimensions of 6 1/2 by 4 3/4 by 18 1/2 inches.

(3) Ten intermediate packages (100 pairs of filter elements) are packed for shipment in a sealed and strapped fiberboard box having inside dimensions of 19 by 13 1/2 by 25 inches.

56. Limited Storage

a. Station Storage. Store stocks of masks and replacement filter element assemblies in the boxes in which they are received, protected from sun, rain, and dampness.

b. Storage by Individual or Using Unit.

(1) When a mask is issued to an individual, he will store it in its carrier and will suspend the carrier by its shoulder strap. Masks must not be stored in piles, one on top of another.

(*a*) Faceforms from new masks will be retained in unit supply rooms and turned in to a central storage area. Accumulations of 300 or more serviceable faceforms will be reported for disposition instructions to the commanding officer of the depot servicing the installation area.

(*b*) The protective bags may be discarded or put to such secondary use as may be approved by the organizational commander concerned.

(2) If masks are shipped in plywood shipping boxes (par. 55*a*(4)), the boxes may be used for unit storage of the masks. For such storage purposes, the lids are removed from the boxes and the boxes are stacked on their sides to form a bank of storage cells. Each storage cell can be marked (par. 10*d*) to designate the individual whose mask is to be stored in it. When the unit displaces, masks may be carried by the individuals to whom they are issued or may be moved to the new location in the storage boxes. It is a command decision as to which course of action is prescribed.

57. Demolition to Prevent Enemy Use

a. General. Masks issued to individuals will not be destroyed. When capture of stocks of masks by the enemy is imminent, the responsible commander makes the decision to destroy the masks or render them ineffective. Orders are then issued which cover the specific method of destruction. All masks will be destroyed by the same method.

b. Destruction by Mechanical Means. Use any tools which may be available, such as picks, axes, or knives, to destroy metal and plastic components and to slash or puncture rubber components and carriers.

c. Destruction by Burning. Gather the masks in a pile, saturate the pile with gasoline or other petroleum fuel, and ignite.

APPENDIX I
REFERENCES

AR 40-3	Medical, Dental, and Veterinary Care.
AR 320-5	Dictionary of United States Army Terms.
AR 320-50	Authorized Abbreviations and Brevity Codes.
AR 746-10	Marking Personal Clothing and Organizational Clothing and Equipment.
FM 21-15	Care and Use of Individual Clothing and Equipment.
FM 21-40	Small Unit Procedures in Nuclear, Biological, and Chemical Warfare.
FM 21-41	Soldier's Handbook for Nuclear, Biological, and Chemical Warfare.
TM 3-220	Chemical, Biological, and Radiological (CBR) Decontamination.
TM 3-4240-202-25P	Organizational, Field, and Depot Maintenance Repair Parts and Special Tool Lists for Mask, Protective, Field, M17. (To be published)
TM 3-6665-208-12	Operator and Organizational Maintenance Manual: Indicator, Eyepiece Leakage, M2.
TM 8-285	Treatment of Chemical Warfare Casualties.
TM 38-750	The Army Equipment Record System and Procedures.
SM 3-4-4940-A17	Maintenance and Repair Set, Chemical Corps Equipment, M1A1.

APPENDIX II
MAINTENANCE ALLOCATION CHART

1. Explanation of Columns

a. Column 1, Index Number. Column 1 lists the number which is assigned to each group, component, assembly, or subassembly to facilitate references. The numbers are identical to and in the same sequence as those assigned to the same group, component, assembly, or subassembly in the repair parts and special tool lists.

b. Column 2, Components and Related Maintenance Operations. Column 2 lists components, assemblies, and subassemblies on which maintenance can be performed; and the maintenance operations which are authorized to be performed on each.

c. Columns 3, 4, 5, 6, and 7, Maintenance Echelons. Columns 3, 4, 5, 6, and 7 indicate by an X the lowest echelon authorized to perform the prescribed maintenance operation.

d. Column 8, Remarks. Column 8 is used for special instructions.

2. Use of Chart

Determine from the chart the echelon that is authorized to perform the required maintenance operation. Refer to the text in the appropriate part of the manual for instructions in performing the authorized maintenance operations defined below.

SERVICE	To clean, to preserve, and to replenish fuel and lubricants.
INSPECT	To verify serviceability and to detect incipient electrical or mechanical failure by scrutiny.
TEST	To verify serviceability and to detect incipient electrical or mechanical failure by use of special equipment such as gages, meters, and the like.
REPLACE	To substitute serviceable assemblies, subassemblies, and parts for unserviceable component parts.
REPAIR	To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to inspecting, cleaning, preserving, adjusting, replacing, welding, riveting, and straightening. (Repair of a group, component, or assembly is allocated to the lowest echelon authorized to replace any of its repair parts.)

Maintenance Allocation Chart

Index No. (1)	Component and related maintenance operations (2)	Maintenance echelon 1st (3)	2d (4)	3d (5)	4th (6)	5th (7)	Remarks (8)
	Outsert, Eyelens, M1						
	Replace	--	X				
	100—Facepiece Group						
	Facepiece						
	Service	X	--	--	--	--	Includes replacement of filter elements.
	Inspect	X					
	Test	--	--	--	X		
	Repair	--	X				

Maintenance Allocation Chart—Continued.

Index No. (1)	Component and related maintenance operations (2)	Maintenance echelon 1st (3)	2d (4)	3d (5)	4th (6)	5th (7)	Remarks (8)
	200—Carrier Group						
	Carrier						
	Inspect	X					
	Replace	--	X				
	Repair	--	--	--	X		

APPENDIX III
BASIC ISSUE ITEMS LIST

1. Purpose and Scope

This appendix furnishes the user of the M17 field protective mask with a list of the major components that comprise the end item.

2. Explanation of Columns

a. Federal Stock Number. Federal Stock numbers are assigned by the Federal Cataloging Program and are to be used in accordance with AR 708–15.

b. Description. The approved Federal item name appears in upper case (capital) letters. Modifiers necessary for proper identification appear in lower case (small) letters.

c. Unit of Issue. The unit of issue for each item is indicated in this column.

d. Expendability. The symbol NX indicates that an item is nonexpendable. When no symbol appears, the item is expendable.

e. Quantity Authorized. Quantities listed represent the assemblies, accessories, and attachments which constitute the end item, and include repair parts, spare assemblies, supplies, and special tools if authorized for first echelon maintenance. The authorized quantities for each end item must be on hand or on order at all times.

3. Abbreviations

The abbreviations used herein are defined as follows:

ea ---------- each
NX ---------- nonexpendable
se ---------- set

4. Suggestions and Recommendations

Notice of discrepancies or suggested changes are requested and encouraged. They should be forwarded through command channels on DA Form 2028 to the Commanding Officer, U.S. Army Chemical-Biological-Radiological Engineering Group, ATTN: SMUCE-EDM–1, Army Chemical Center, Md.

Basic Issue Items List

Federal stock No.	Description	Unit of issue	Expendability	Quantity authorized
4240–542–4450	MASK, PROTECTIVE, FIELD, M17, small	ea	NX	
4240–542–4451	MASK, PROTECTIVE, FIELD, M17, medium	ea	NX	
4240–542–4452	MASK, PROTECTIVE, FIELD, M17, large	ea	NX	
	MAJOR COMPONENTS			
4240–893–3697	FACEPIECE	ea	--	1
4240–678–8474	CAP, INLET VALVE	ea	--	2
4240–678–0731	FILTER ELEMENT, M13, 1-right, 1-left	ea	--	1
4240–591–5151	OUTSERT, EYELENS, M1	ea	--	2
	CARRIER, FIELD, PROTECTIVE MASK, M15	ea	--	1
	REPAIR PARTS—NONE			

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