

**LESSON PLAN**

**PART I  
COVER SHEET**

**LESSON TITLE:** M17A2 (X-Small) Protective Mask and Accessories

**TRAINING METHOD:** Demonstration - Performance

**REFERENCES:** T.O. 14P4-9-31, Mask, Protective Field M17, M17A2, and Accessories  
T.O. 14P4-1-151, Chemical-Biological Canisters and Filter Elements  
Procedures and Serviceability Lists  
AFMAN 32-4006, Mask Confidence and Liquid Hazard Simulant Training

**AIDS AND HANDOUTS:**

- One M17A2 (X-Small) with carrier, M6/M6A2 Protective Hood, M1 Canteen Cap, M1 Waterproofing Bag, M4 Winterization kit if applicable, and spectacle inserts if needed.
- PIN 606041DF (B Block) B-1, M17 Series Mask and Accessories

**LESSON OBJECTIVE:** Given an M17A2 Protective Mask, its accessories, and a demonstration on the use of the mask, correctly perform all of the task steps listed below. Additionally, given lecture on the mask, the student, during the final course exam, must correctly answer questions relating to at least seven samples of behavior listed below:

**TASK STEPS:**

1. Inspect and determine serviceability of the mask.
2. Remove and reinstall filter elements.
3. Size and fit the mask.
4. Inspect hood for serviceability.
5. Install hood onto mask and configure for moderate and extreme weather conditions.
6. Adjust and wear mask carrier and properly stow mask in carrier.
7. Don, clear, and seal mask (with hood attached) within 15 seconds.
8. Doff mask and hood.

9. Demonstrate procedures for drinking from a canteen while wearing the mask.
10. Properly install the M4 winterization kit on the mask (if applicable).

**SAMPLES OF BEHAVIOR:**

1. State the purpose of the M17A2 mask.
2. Identify the limitations of the M17A2 mask.
3. Identify the basic theory of how the M17A2 mask operates.
4. State the inspection frequencies for the M17A2 mask.
5. State when the M13A2 filter must be replaced.
6. Identify the proper adjustments while wearing the protective hood.
7. Identify the proper steps for donning the mask with hood attached.
8. State the purpose of the M4 winterization kit.
9. State the purpose of the M1 waterproofing bag.
10. State the procedures used to drink from a canteen using the M1 canteen cap.

**ORGANIZATIONAL PATTERN:** Topical**SUGGESTED COURSE(S) OF INSTRUCTION:** NBC defense training

**STRATEGY:** Ensure each student is proficient and confident with their mask. Stress the importance of the mask as their single most important piece of protective equipment. Evaluate the student on all task steps listed. When teaching the canteen cap, the use of water is not mandatory. Use the procedures in AFMAN 32-4006 (Manual for Mask Confidence and Liquid Hazard Simulant Training) to conduct a mask confidence exercise. The mask confidence training helps instill student confidence in the mask as well as in their own ability to properly don and seal the mask.

**LESSON OUTLINE:**

- MAIN POINT 1.       M17A2 PROTECTIVE MASK
- A. Purpose
  - B. Limitations

- MAIN POINT 2.       INSPECTION AND THEORY OF OPERATION
- A. Familiarization and Inspection of Components
  - B. Theory of Operation
  - C. Inspection Frequency
  - D. Documentation
  - E. Cleaning
- MAIN POINT 3.       FILTER ELEMENTS
- A. Warning
  - B. M13A2
  - C. Serviceability
  - D. Removal and Installation
- MAIN POINT 4.       SIZE AND FIT
- A. Sizing
  - B. Fitting
  - C. Sealing
- MAIN POINT 5.       PROTECTIVE HOOD
- A. Installing the Hood
  - B. Weather Adjustment
- MAIN POINT 6.       MASK CARRIER
- A. Shoulder Carry
  - B. Leg Carry
  - C. Stowing the Mask
- MAIN POINT 7.       DONING AND DOFFING
- A. Donning
  - B. Doffing
- MAIN POINT 8.       ACCESSORIES
- A. M4 Winterization Kit
  - B. Waterproofing Bag
  - C. Drinking System
- MAIN POINT 9.       OPERATIONAL SAFETY TIPS
- A. Proper Fit
  - B. Check For Leaks
  - C. Don the Mask Quickly
  - D. Remember the Limitations
  - E. Wear the Hood Properly
  - F. Extreme Weather Conditions
  - G. Have Serviceable Filters



## **PART II**

### **TEACHING PLAN**

### **INTRODUCTION**

**ATTENTION:** Chemical agents have been used in the past, and it's very likely they will be used in the future.

**MOTIVATION:** The M17A2 is the first line of defense for your face, eyes, and respiratory tract. Knowing how to use will allow you to survive and operate in a contaminated environment.

**OVERVIEW:** This lesson will cover:

- ⇒ purpose and limitations of the M17A2 mask
- ⇒ components, inspection, operation, inspection, and cleaning the mask
- ⇒ filter elements: limitations, how to install them, and when they need to be changed
- ⇒ how to size, fit, and seal the mask
- ⇒ installation and adjustments for the protective hood
- ⇒ how to wear and stow the mask in the carrier
- ⇒ donning and doffing procedures
- ⇒ different mask accessories
- ⇒ and finally, operational safety tips

**TRANSITION:** We'll begin by covering the purpose of the mask.

**BODY**MAIN POINT 1.  
M17A2  
PROTECTIVE  
MASK

## A. PURPOSE

A. The M17A2, with serviceable M13A2 filters installed, protects your face, eyes, and respiratory tract from chemical and biological warfare agents and radioactive dust particles. It will also protect against riot control agents such as tear gas.

## B. LIMITATIONS

B. This mask is not authorized for use during industrial chemical spills. Chemicals of this nature normally require a self-contained breathing apparatus. For example, the mask would not be effective against chemicals such as ammonia, chlorine, or even carbon monoxide fumes.

The mask is not effective in confined spaces when there is insufficient oxygen to support life. The M17A2 mask is simply a filter respirator; it does not supply or produce oxygen.

MAIN POINT 2.  
INSPECTION AND  
THEORY OF  
OPERATION

Since it's your responsibility to maintain a serviceable mask, you need to know when and how to inspect it, how to document the inspection, and how the mask is designed to work.

A. FAMILIARIZATION  
AND INSPECTION OF  
COMPONENTS

It's important that you become familiar with the components of your mask. One of the best ways to do this is by inspecting your mask.

A. The M17A2 mask consists of the following components:

**INSTRUCTOR'S NOTE:** Verify procedures in T.O. 14P4-9-31 5 for complete inspection criteria and explain to the students what to do if there are discrepancies.

FACEBLANK

⇒ Faceblank - provides the sealing surface of the mask. Pouches molded in the cheeks hold the filter elements. Deflector tubes direct filtered air across the eyelenses. Inspect it for damage and dryrot and serviceable lot numbers.

NOSECUP

⇒ Nosecup - prevents fogging of the eyelenses by diverting air through the outlet valves. Two nosecup valve assemblies, consisting of valve discs and seats, permit filtered air to enter nosecup, but prevent exhaled air from contacting the eyelenses. Inspect for damage, distortion, proper attachment, and positioning.

EYELENSES AND  
OUTSERTS

⇒ Eyelenses and Outserts - the eyelenses are made of clear glass and are held in place by aluminum alloy eyerings. The outserts protect the glass eyelenses from damage and reduces exterior fogging. Inspect for condition of the lenses, looseness, and leakage.

## HEAD HARNESS

⇒ Head harness - holds the faceblank to the wearer to provide an airtight seal. Inspect for tears and/or lack of elasticity.

VOICEMITTER OUTLET  
VALVE ASSEMBLY

⇒ Voicemitter outlet valve assembly - permits the wearer to communicate and to exhale air while preventing unfiltered air from entering. A cover surrounds the voicemitter outlet valve assembly to protect the valve seat and disk. Exhaled air passes through four holes molded in the lower edge of the cover. Inspect for damage, condition of valve disc, and leakage.

CLIP AND BUCKLE  
ASSEMBLY

⇒ Clip and buckle assembly - provides adjustable mounts for the headharness at six locations. Inspect for condition and operation.

## FLAP BUTTONS

⇒ Flap buttons - fastens the filter pouch flaps so that filtered air will not escape into the main cavity of the mask except through the deflector tubes.

INLET VALVE  
ASSEMBLIES

⇒ Inlet valve assemblies - air enters the filter elements through the inlet caps and discs and prevents air from flowing back out through the filter element. They also protect the filter elements from rain, snow, coarse particles, and physical damage. They fit over the connectors on the filter elements. Inspect for damage to caps and discs, curling, tears, proper functioning.

FILTERS

⇒ Filters - are located in pouches inside the mask. Filters have different capabilities depending on their type. We will cover filters in much more detail later in this lesson.

CARRIER

⇒ Carrier - you may carry the mask in its carrier strapped to your waist or hung over your shoulder. Wear of the carrier will be explained later in this lesson. Inspect for damage, wear, and missing components.

ACCESSORIES

⇒ There are some basics accessories associated with the M17A2: a special canteen cap, a waterproofing bag, spectacles, and a winterization kit.

Spectacle inserts allow individuals who must wear glasses to see while wearing the mask. Contact the base medical facility if you require spectacle inserts.

**CAUTION:** Do not wear contact lenses with the M17A2. We'll cover the other accessories later in this lesson.

## B. THEORY OF OPERATION

B. Air is drawn into the mask through the inlet valve caps which filter out dust and large particles. It then flows in one direction through the filter elements which filter out contamination.

## DEFLECTOR TUBES PREVENT FOGGING

Filtered air is then directed to the eyelens by the deflector tubes to prevent fogging. It enters the nosecup through the nosecup valves and into the wearer's respiratory system.

Exhaled air passes into the nosecup and is directed out the exhalation valve by the nosecup and nosecup valves. It exits the mask through holes in the bottom of the outlet valve cover.

A properly worn mask provides a gas-tight face seal which prevents unfiltered air from reaching the wearer's respiratory system.

C. INSPECTION  
FREQUENCY

C. Inspect the mask upon issue, every six months after removal from the packaging, and at least every seven days during wartime.

D. DOCUMENTATION

D. Document the mask's inspection on a DD Form 1574 (Serviceability Tag) or data automated product.

INCLUDE ALL OF THE  
INFO ON THE MASK  
AND INSPECTION

Whichever system you use, annotate the national stock number, type, and size of the mask. Also include the mask lot number, your organizational address, and your signature. Indicate the date you inspected the mask and the date due for the next inspection.

**INSTRUCTOR'S NOTE:** Show the students where to find the lot number and size located on the mask.

You may use the same inspection document to record the recurring inspection each time you inspect the mask.

ANNOTATE ALL INFO  
ON THE FILTERS

When serviceable filters are installed, annotate the lot number and date installed in the remarks section of the DD Form 1574 or in an area designated on the data automated form.

## E. CLEANING

E. Clean your mask and carrier every six months and before you turn it in or exchange it. To clean the mask, prepare a solution of warm soapy water (ideally 110° to 125° degrees Fahrenheit.)

1. Remove the hood and eyelens outserts
2. Remove the filter elements
3. Remove the headharness
4. Remove the voicemitter cover
5. Wash the mask thoroughly inside and out with the warm soapy water using a sponge or soft cloth
6. Rinse thoroughly with clear water
7. Allow the mask to dry ensuring all water is gone (Especially inside the filter pouches.)
8. Replace everything you took off the mask
9. You can use warm soapy water as well to clean the hood
10. Soiled carriers should be cleaned by dry brushing or by brushing with a wet brushed dipped in water

## TRANSITION:

Filter elements are essential to the mask working properly. Let's talk about how they work and how to change them in the M17A2.

MAIN POINT 3.  
FILTER ELEMENTS

The filter elements filter out contamination from inhaled air. Serviceable filters are used against chemical/biological warfare agents, riot control agents, and radioactive dust inhalation. They are a matched pair of filters and consist of right and left elements that fit into their respective cheek pouch.

A. WARNING

A. Remember filter elements will not afford protection from industrial chemicals, i.e., ammonia or carbon monoxide, or in areas where there is insufficient oxygen to support life.

B. M13A2

B. M13A2 filters are the serviceable filters for the M17A2 mask. The M13A2s can be visually identified by their GREEN colored connector ring. Other colors may be used for training, but are not considered serviceable.

C. SERVICEABILITY

C. Once filters are removed from the factory sealed package they have a service life based on various climatic conditions and/or exposure to chemical warfare agents. You will be directed by higher authority to replace filters especially when there is a clear indication that the use of chemical or biological agent is imminent. Filters will also be changed when:

- ⇒ 15 days have elapsed after exposure to chemical/biological agents (EXCEPT BLOOD)
- ⇒ exposure to BLOOD agent has occurred
- ⇒ they show evidence of mechanical damage such as breaks or cuts in material or edge of seal, or bent or split connector, etc.
- ⇒ excessive breathing resistance is experienced (clogged filter element will increase breathing resistance, but will not impair the ability of filter to remove agents)
- ⇒ they have been exposed for two months in tropical climates (Panama, Puerto Rico, etc.)
- ⇒ they have been exposed for 12 months in temperate climates (Korea, Europe, etc.)
- ⇒ they have been exposed for 24 months in arctic climates (Alaska, etc.)

SOME  
UNSERVICEABLE  
FILTERS CAN BE USED  
FOR OTHER PURPOSES

Filters which have exceeded their service life are useable against riot control agents and radioactive dust inhalation if the following damage is NOT noted:

D. REMOVAL AND  
INSTALLATION

MAIN POINT 4.  
SIZE AND FIT

A. SIZING

⇒ neither filter is crushed or distorted in any manner

⇒ mesh screens and edge seals are not cut or torn

⇒ neither filter is wet or shows signs of wetting

⇒ connector rings are not damaged or loose

D. Your ability to remove and replace your filter elements is essential to your survival in a chemical/biological attack.

**INSTRUCTOR'S NOTE:** Use T.O. 14P4-9-31 to teach removal and installation of filters elements and the proper position of the inlet valve cap.

The proper size and fit of the mask is also critical.

A. The following criteria determines a proper fit of the mask:

⇒ eyes centered in eyelenses

⇒ top of mask slightly below hairline

⇒ nosecup does not obstruct vision

⇒ headharness does not cut the ears

⇒ bottom of mask does not cut throat

## B. FITTING

B. The mask will be fitted using the following procedures:

1. Loosen the head harness straps and don the mask.
2. Hold the mask firmly against the chin and center the head harness pad in the middle of the back of the head. Hold it there with one hand.
3. Remove the hand from the chin position and tighten each of the forehead straps with a rapid pull or jerk (just enough to remove any slack).
4. Examine eye positions to see that the eyes are centered in the eyelenses.
5. Check to see that the nose cup does not press painfully on the nose of the edge or that the mask does not cut into the wearer's throat.
6. Check to be sure that the edge of the mask does not touch the ears.

Proper fit is attained when the mask comes well up on the forehead and the edge of the facepiece is close to the ears.

C. SEALING

C. Test for a proper seal of the mask. This will determine if there are leaks. Test for leaks by:

1. Pressing the palms of the hands firmly over the inlet valve cover openings. Do not press too hard as to distort the mask.
2. Blocking the inlets, inhaling normally and holding your breath for 10 seconds. If the facepiece collapses and remains collapsed during this test period, you should have an effective airtight seal.
3. Locate the leak and eliminate the cause if the mask does not properly seal.

TRANSITION:

Now that you can properly inspect the mask, change the filters, and size and seal your mask, we will move on to the hood and carrier. Later, we will go through the complete procedure of donning and doffing the mask.

MAIN POINT 5.  
PROTECTIVE  
HOOD

When the hood is used, it must be attached to the mask so the mask will be ready for instant use at all times.

The hood protects the wearer's head and neck from exposure to chemical agent vapors, aerosols, and droplets. It also prevents the wearer from being contaminated with alpha contamination/dust.

Make sure you inspect the hood and ensure serviceability before attaching it to the mask.

#### A. INSTALLING THE HOOD

A. Some tips to remember when attaching the hood to the mask:

⇒ Remove the eyelenses outserts and inlet valve caps first. Then replace the eyelens outserts.

⇒ Properly align the eyering openings with the eyelenses on the mask.

⇒ Mount the inlet valve caps in the hoods inlet valve opening AND THEN attach the cap to the mask.

⇒ Tie the outlet valve cover opening around the bottom half of the outlet valve assembly. This cord must be tied UNDER the outlet valve cover.

**INSTRUCTOR'S NOTE:** Follow the procedures in T.O. 14P4-9-31 for a complete description of installing the hood on the mask.

B. WEATHER  
ADJUSTMENT

B. To increase operational efficiency, you must make sure certain adjustments to the hood based on temperatures.

MODERATE WEATHER

⇒ In moderate temperature (between 30° to 90° degrees Fahrenheit), place the hood over the voicemitter/outlet valve cover. The exhausted air inflates the hood and helps prevent contaminated air from entering the hood.

EXTREME WX

⇒ In extreme weather -- cold (below 30° F) or hot (above 90° F), uncover the voicemitter/outlet valve cover. In cold weather, this prevents condensed moisture from freezing inside the hood or from dripping into your clothing. In hot weather, it prevents extreme heat and humidity buildup inside the hood.

TRANSITION:

We will cover the steps for donning the hood and mask later. We will now cover the mask carrier; wearing the carrier and stowing the mask.

**MAIN POINT. 6  
MASK CARRIER**

The carrier allows the mask to be carried securely strapped to the wearer's body via the shoulder and waist strap, or waist and leg straps. The carriers are equipped with shoulder and waist straps, three exterior pockets, and one interior pocket for NBC-related materials.

When the mask carrier is worn, place it on the left side, with the carrier open positioned vertically toward the front, against the wearer's body in either the shoulder or leg carry position. The wide strap will be used as the shoulder strap for the shoulder carry and waist strap for the leg carry. The thin strap will be used as the waist strap for the shoulder carry and the leg strap for the leg carry.

**A. SHOULDER  
CARRY**

A. Place the carrier on the left side (underneath the arm), route the shoulder strap around the back, over the right shoulder, and connect the shoulder strap hook to the large "D" ring on the carrier. Route the waist strap toward the back, around the waist, and connect the waist strap hook to the small ROUND ring on the carrier. Adjust the carrier straps for a close, secure fit.

B. LEG CARRY

Place the carrier on the left hip, route the waist strap toward the back, around the waist, and connect the waist strap hook to the large "D" ring on the carrier. Route the leg strap towards the back, around the left leg (a double wrap may be required for a smaller leg), and connect the leg strap hook to the small ROUND ring on the carrier. Adjust the carrier straps for a close, secure fit.

C. STOWING THE MASK

C. Always stow the mask in the carrier when not in use. Keep the interior of the carrier free from grit or sand. Be sure the mask is free of oil or organic solvents and is dry before stowing it in the carrier.

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.

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

Place the mask in the carrier with the lower portion of the mask resting on the bottom of the carrier and with the nose toward the carrier opening.

**MAIN POINT 7.  
DONNING AND  
DOFFING****NINE SECONDS -- SIX  
TO ADJUST THE HOOD****WARNING:****A. DONNING****STOP BREATHING AND  
CLOSE EYES  
REMOVE HEADGEAR**

Your mask should already be fitted to your face; therefore, its just a matter of quickly donning your mask to ensure survivability.

Due to the short time from agent detection to mask donning, the wearer must become an expert in donning the mask and getting an airtight seal in only nine seconds with an additional six seconds to adjust the hood when attached.

Perform the steps for putting on our mask quickly. You must put the mask on before you take another breath. Toxic agents may be in the surrounding air and cause sickness or death.

<b>INSTRUCTOR'S NOTE:</b> Verify procedures in T.O. 14P4-9-31 5 for complete donning criteria.
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**A. Don the mask in the following order:**

1. Stop breathing and close eyes.
2. Remove headgear and place between knees.

REMOVE MASK

3. With the left hand, open the carrier. Reach into the carrier and, with the right hand, grasp the carrier by the voicemitter-outlet valve assembly and remove the mask.

DON MASK

4. Grasp the lower head harness straps near the buckles. With the hands on the headharness straps, pull the mask up onto the face. 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.

CLEAR MASK

5. Place the palm of one hand firmly over the openings in the bottom of the voicemitter-outlet valve assembly cover. Clear the mask by forcing exhaled air to escape around the facepiece and clearing the mask of contaminated air.

SEAL MASK

6. Press the palms of the hands over the inlet valve assemblies and inhale to ensure an airtight seal.

RESUME BREATHING  
AND OPEN EYES  
WARNING:

7. Open eyes and resume breathing.

You must check the mask for leaks when it is fitted and each time you put it on. A leaky mask will not protect you from toxic agents which can cause sickness or death.

Once the mask is on, pull the back of the hood over the head so that the hood covers the head. Drape the cape over the shoulders and make sure the cape is under the neck cord. Fasten the neck cord and underarm straps. Don your headgear and close the carrier.

## B. DOFFING

### B. To doff the mask:

1. Unfasten the underarm straps, loosen the neck cord, pull the hood over in front of the mask, and remove the mask.
2. Shake or wipe the moisture or frost accumulation from the inside of the hood and mask.
3. Gather the cape of the hood to one side of the facepiece and replace the mask and hood in the carrier.

## MAIN POINT 8. ACCESSORIES

In this section, we will briefly cover information on the winterization kit, waterproofing bag, and drinking capabilities.

### A. M4 WINTERIZATION KIT

A. The winterization kit is installed only when field operations in subzero temperatures are anticipated. Once installed, the winterized discs are not removed when the ambient temperature rises above freezing.

B. WATERPROOFING  
BAG

B. The waterproofing bag will be used to store the mask when operating in extremely wet areas. This will protect the filter elements from getting wet. There are some precautions when using the waterproofing bag.

⇒ Do not store the mask in the waterproofing bag for more than 24 consecutive hours.

⇒ Do not store food items in the bag.

C. DRINKING  
SYSTEM

C. The M17A2 is designed to allow the wearer to drink from a canteen while wearing the mask. The canteen must have the M1 cap installed in order to use the drinking system. The steps for using the drinking system are:

**INSTRUCTOR'S NOTE:** Verify the complete procedures for using the drinking system in T.O. 14P4-9-31.

1. Steady the mask with one hand and remove the coupling.
2. Flip open the canteen protective cover and decontaminate the cap and coupling if necessary.

3. Using a rotary motion, connect the mask coupling to the canteen cap and ensure the connection is tight.
4. Open your mouth wide and turn lever on front of mask to the right. This will bring the drinking tube forward. Hold the drinking mouthpiece between the teeth and blow lightly into the drinking tube to create a positive pressure. If a positive pressure is not obtained, the drinking system is defective.
5. Turn the canteen upside down and, keeping the lever down the entire time, drink water from the canteen.
6. After several swallows, allow air from the mask to return to the canteen.
7. When you have finished drinking, return the canteen upright and blow into the mouthpiece.
8. Disconnect the drinking tube and properly store the tube and cover the canteen cap.

MAIN POINT 9.  
OPERATIONAL  
SAFETY TIPS

Safety is paramount when using any protective equipment. This last section will cover or re-emphasize some basic safety issues concerning the M17A2 mask:

A. PROPER FIT

A. Ensure you have a proper fit on your mask. The CE readiness flight or your unit disaster preparedness representative can help ensure you have a proper fit. A leaking mask will not protect against toxic agents.

DON'T OVER TIGHTEN

Don't over tighten the mask. Over tightening may actually cause leaks.

B. CHECK FOR  
LEAKS

B. Check the mask for leaks every time you put your mask on.

C. DON THE MASK  
QUICKLY

C. Don the mask quickly. Remember it should be on and sealed before you take another breath. It should only take you nine seconds to don, clear, and seal the mask.

D. REMEMBER THE  
LIMITATIONS

D. The M17A2 is not intended for industrial chemical use and is not effective in confined spaces where there is not enough oxygen to support life.

E. WEAR THE HOOD  
PROPERLY

E. When wearing the mask with the hood over the outlet valve, do not loosen the straps of the head harness for comfort. If the straps are loosened, the wearer is in danger of suffocation by carbon dioxide and unprotected against toxic agents.

F. EXTREME  
WEATHER  
CONDITIONS

F. If you become overheated in cold weather, do not remove your mask outdoors until your head cools and sweat has dried. Frostbite may result if the mask is removed while your face is still wet.

G. HAVE  
SERVICEABLE  
FILTERS

G. Serviceable M13A2 filters must be installed in the M17A2 prior to use in a toxic chemical or biological environment.

## **CONCLUSION**

**SUMMARY:**

In summary, we covered:

- ⇒ purpose and limitations of the M17A2 mask
- ⇒ components, inspection, operation, inspection, and cleaning the mask
- ⇒ filter elements: limitations, how to install them, and when they need to be changed
- ⇒ how to size, fit, and seal the mask
- ⇒ installation and adjustments for the protective hood
- ⇒ how to wear and stow the mask in the carrier
- ⇒ donning and doffing procedures
- ⇒ different mask accessories
- ⇒ and finally, some operational safety tips

**REMOTIVATION:**

The M17A2 mask can save your life, if you know how to use it properly

**CLOSURE:**

This concludes this lesson.

**TRANSITION:**

(Develop locally to transition to the next topic.)



**PART III**  
**EVALUATION**  
**STUDENT PERFORMANCE STANDARDS**

<b>The following steps were completed by the student:</b>  (* Must be done without error)	<b>Yes</b>	<b>No</b>
1. Inspect and determine serviceability of the M17A2 Mask *		
2. Remove and replace the M13A2 filters.		
3. Adjust mask to fit *		
4. Inspect hood for serviceability.		
5. Install hood onto mask and properly adjust according to weather conditions.		
6. Adjust and wear mask carrier.		
7. Stow mask in carrier.		
8. Don and doff mask with hood attached. *		

**TEST ITEMS**

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1. LESSON OBJECTIVE: State the purpose of the M17A2 mask.

QUESTION: (TRUE or FALSE) The M17A2 mask protects the wearer's face, eyes, and respiratory tract against chemical and biological warfare agents and radioactive dust particles.

- a. True
- b. False

KEY: a

REFERENCE: Main Point 1

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2. LESSON OBJECTIVE: Identify the limitations of the M17A2 mask.

QUESTION:(MULTIPLE CHOICE) Which of the following statement(s) are TRUE?

- a. The M17A2 mask will not protect against ammonia or carbon monoxide fumes.
- b. The M17A2 mask is an authorized respiratory device for industrial chemical spills.
- c. The M17A2 mask is effective in confined spaces where the oxygen content is insufficient to support life.
- d. None of the above are true statements

KEY: a

MAIN POINT 1

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3. LESSON OBJECTIVE: Identify the basic theory of how the M17A2 mask operates.

QUESTION: (MULTIPLE CHOICE) Which of the following statements is FALSE?

- a. Air flows in one direction through the filter elements which filter out contamination.
- b. Air is drawn into the mask through the inlet valve caps which filter out dust and large particles.
- c. Filtered air is directed to the eyelens by the deflector tubes to prevent fogging. It enters the nosecup through the nosecup valves and into the wearer's respiratory system.
- d. Exhaled air passes into the nosecup and is directed out the two-way exhalation valve by the nosecup and nosecup valves. It exits the mask through holes in the bottom of the outlet valve cover.

KEY: d

REFERENCE: Main Point 2

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4. LESSON OBJECTIVE: State the inspection frequencies for the M17A2 mask.

QUESTION: (TRUE OR FALSE) Inspect the mask upon issue, every six months, after removal from the packaging, and at least every seven days during wartime.

- a. True
- b. False

KEY: a

REFERENCE: Main Point 2

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5. LESSON OBJECTIVE: State when the M13A2 filter must be replaced.

QUESTION: (MULTIPLE CHOICE) When higher authority directs or when a clear indication of the use of chemical/biological warfare agents is imminent, personnel should:

- a. Be issued serviceable M13A2 filters from base supply.
- b. Immediately replace serviceable M13A2 filters in their mask.
- c. Inspect and repair the existing M13A2 filters installed in their mask.
- d. Replace M13A2 filters as soon as possible after the first attack involving chemical/biological agents.

Key: b

Reference: Main Point 3

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6. LESSON OBJECTIVE: Identify the proper adjustments while wearing the protective hood.

QUESTION: (TRUE or FALSE) The hood, when configured for moderate temperatures (30° - 90° F), is attached to the mask with the outlet valve assembly exposed.

- a. True
- b. False

Key: b

Reference: Main Point 5

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7. LESSON OBJECTIVE: Identify the proper steps for donning the mask with hood attached.

QUESTION: (MULTIPLE CHOICE) Which of the following lists the steps in the correct order for donning the M17A2 mask with the hood attached.

- a. Stop breathing; Close eyes; Place mask on face; Clear the mask; Resume normal breathing; and Determine an airtight seal.
- b. Close eyes; Place mask on face; Stop breathing; Determine an airtight seal; Clear the mask; Resume normal breathing.
- c. Stop breathing; Close eyes; Place mask on face; Clear the mask; Determine an airtight seal; and Resume normal breathing.
- d. Place mask on face; Stop breathing; Close eyes; Determine an airtight seal; Clear the mask; and Resume normal breathing.

Key: c

Main Point 7

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8. LESSON OBJECTIVE: State the purpose of the M4 winterization kit.

QUESTION: (True or False) The M4 winterization kit prevents frost accumulation on the inlet cap assemblies and fogging of the eyelenses during subzero operations.

- a. True
- b. False

KEY: a

REFERENCE: Main Point 8

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9. LESSON OBJECTIVE: State the purpose of the M1 waterproofing bag.

QUESTION: (Multiple Choice) Which of the following statements best describes the purpose of the M1 waterproofing bag?

- a. The M1 waterproofing bag is used to keep the mask dry when required by climatic conditions.
- b. The M1 waterproofing bag is used to keep foodstuffs dry when required by climatic conditions.
- c. The M1 waterproofing bag is used to keep the carrier and mask dry when required by climatic conditions.
- d. All of the above.

KEY: a

REFERENCE: Main Point 8

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10. LESSON OBJECTIVE: State the procedures used to drink from a canteen using the M1 canteen cap.

QUESTION: (Multiple Choice) Which of the following statements concerning the mask's drinking system is true?

- a. Decontaminate, canteen cap and coupling if possibility of contamination exists.
- b. Turn the lever on the mask to the right, hold drinking tube between teeth and blow lightly into drinking tube to cause a positive pressure.
- c. Turn the canteen upside down and, keeping the lever down the entire time, drink water from the canteen.
- d. All of the above.

KEY: d

REFERENCE: Main Point 8

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**PART IV**  
**RELATED MATERIALS**

**AFMAN 32-4006**, Mask Confidence and Liquid Hazard Simulant Training

**RTP C10** - MCU-2/P Series Mask and Accessories

**RTP C11** - Ground Crew Chem Defense Ensemble

**RTP F17** - Wartime Chemical Contamination Control Area (CCA) Ground Crew Ensemble  
Donning Doffing Procedures



This section is not used.

TRAINING PACKAGE COMMENT REPORT

RTP #	RTP DATE
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To get an *immediate response* to your questions concerning subject matter in this Readiness Training Package (RTP), call the author (listed on the front cover) or the Contingency Training Section at DSN 523-6160 between 0700-1600 (CT), Monday through Friday. Otherwise, write, fax, or E-mail the author to make comments, suggestions, or point out technical errors in the area of: references, body information, performance standards, test questions, and attachments.

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