

**BY ORDER OF THE COMMANDER,
436TH AIRLIFT WING**



**DOVER AIR FORCE BASE
INSTRUCTION 48-106**

21 OCTOBER 2003

Aerospace Medicine

RESPIRATORY PROTECTION PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements 29 Code of Federal Regulations (CFR) 1910.134, 42 CFR 84, and Air Force Occupational Safety and Health (AFOSH) Standard 48-137, *Respiratory Protection Program*, at Dover Air Force Base, Delaware. This instruction is not applicable when using the M17 or MCU-2/P gas masks for response to incidents or accidents involving nuclear, biological, or chemical warfare agents. This instruction is required to be maintained by all organizations in which personnel wear respirators for protection against inhalation of harmful atmospheres or for emergency escape or rescue. It does not apply to Air National Guard or US Air Force Reserve members or units unless a tenant on Dover Air Force Base and supported by the 436th Aeromedical Dental Squadron (436 ADOS). This instruction requires collecting and maintaining information protected by the Privacy Act of 1974 authorized by 10 U.S.C. 8013, Secretary of the Air Force: Powers and duties; delegation by; as implemented by Air Force Instruction 36-2608, and E.O. 9397 (SSN). System of Records Notice F036 AF PC C applies.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

1. Definitions.

- 1.1. Cartridge or Canister: A small container with a filter, sorbent, catalyst, or any combination of these items, which removes specific contaminants from the air passed through the container.
- 1.2. Carcinogen: A substance known to cause cancer.
- 1.3. Ceiling Concentration: The concentration of a toxic airborne substance that shall not be exceeded.

- 1.4. Confined Space: An enclosure such as a storage tank, process vessel, boiler, silo, tank car, pipe-line, tube, duct, sewer, underground utility vault, tunnel or pit having limited means of egress and poor natural ventilation that may contain hazardous contaminants or be oxygen deficient.
- 1.5. Contaminant: A harmful, irritating, or nuisance material that is foreign to the normal atmosphere.
- 1.6. Hazardous Atmosphere: Any atmosphere containing a toxic or disease producing contaminant that exceeds the legally established Occupational Exposure Limit.
- 1.7. Air-Purifying Respirator: A respirator with an air-purifying filter cartridge or canister that removes specific air contaminants by passing ambient air through the air-purifying element.
- 1.8. Filtering Face Piece Device: A respirator that has a face piece made entirely of filtering or absorbing material. These devices do not have changeable filters or cartridges.
- 1.9. High Efficiency Particulate Air (HEPA) Filter: A filter that is 99.97 percent efficient for particles with an aerodynamic diameter of 0.3 micrometers diameter. The equivalent National Institute for Occupational Safety and Health (NIOSH) 42 CFR 84 particulate filters are the N100, R100, and P100 filters.
- 1.10. Supplied-air respirator or airline respirator: An atmosphere supplying respirator for which the source of air is not designed to be carried by the user.
- 1.11. Self-contained breathing apparatus: An atmosphere supplying respirator for which the breathing air source is designed to be carried by the user.
- 1.12. Fit test: The use of a protocol to qualitatively or quantitatively evaluate the fit of a respirator on an individual.
- 1.13. Tight-fitting face piece: A respiratory inlet covering that forms a complete seal with the face.

2. Responsibilities.

- 2.1. Commanders/Directors will:
 - 2.1.1. Ensure each process and/or operation that may generate airborne concentrations of hazardous material is evaluated for health hazards by Bioenvironmental Engineering Flight (BEE) (436 ADOS/SGGB).
 - 2.1.2. Reassign those workers identified by BEE and/or physician not qualified to wear respirators (for inadequate fit test or other medical reason).
- 2.2. BEE:
 - 2.2.1. Is the office of primary responsibility for the base respiratory protection program.
 - 2.2.2. Is the authority for determining if respiratory protection is required.
 - 2.2.3. Will administer or appoint a suitably trained individual to administer the base respiratory protection program.
 - 2.2.4. Keeps all respiratory protection records of initial/annual refresher training.
 - 2.2.5. Distributes personnel specific lists for annual training to shop supervisors annually.
 - 2.2.6. Conducts annual reviews of the shop level operating instruction (OI) that will occur during the annual industrial hygiene surveys according to AFI 48-101, *Aerospace Medical Operations*.

2.3. Program Administrator will:

2.3.1. Comply with AFOSH Standard 48-137, AFOSH Standard 48-8 and 29 CFR 1910.134.

2.3.2. Perform initial/annual fit testing and training. Trains personnel for use of all tight fitting air purifying and air supplied respirators.

2.4. The Chief, Aeromedical Services and Physical Examinations Section, will:

2.4.1. Arrange for and conduct initial and routine medical surveillance of respirator users as required by this instruction, AFOSH Standard 48-137, 29 CFR 1910.134, and applicable Occupational Safety and Health Administration (OSHA) standards (see [Attachment 2](#)).

2.4.2. Ensure all potential respirator wearers shall complete an initial screening questionnaire ([Attachment 2](#)) that will address cardiovascular, respiratory, and physiological risk factors prior to a respiratory protection fit test. Any positive response will be reviewed by a licensed health care professional (LHCP) and scheduled for further medical evaluation as appropriate. If all responses are “no”, the LHCP will indicate on the questionnaire that the worker is medically cleared for respirator fit testing and sign the form. The form will then be filed in the worker’s medical record (see [Attachment 2](#)). Prior to annual fit testing BEE will ask “Have you experienced difficulty wearing a respirator in the past year?” If answer is “yes”, they will be referred to their PCM for evaluation. If answer is “no”, fit-testing will be completed.

2.4.3. Appoint a Respiratory Protection (RP) monitor; RP monitor is the liaison between BEE and PGS.

2.4.4. Notify BEE as appropriate.

2.4.5. Notify, in writing, the supervisor of any employee not medically qualified to wear a respirator.

2.5. Workplace supervisors will contact the BEE office if new personnel assigned to their section require training or if personnel leave the shop. They must also provide BEE a list of respirator wearers every six months. The list will include the following information: organization, office symbol, duty phone, full name, date of birth, grade, social security number, building number, supervisor, type of respirator and type of cartridges and/or filters used.

2.5.1. Ensure compliance with this instruction and maintain a copy in organizations where personnel wear respirators for protection against inhalation of harmful atmospheres or for emergency escape or rescue.

2.5.2. Write a workplace specific OI per AFOSH Standard 48-137, para 9.3.3 and 29 CFR 1910.134(c)(1). Supervisors shall call BEE at extension 8-2595 as needed for information and guidance regarding respiratory protection matters. Additional guidance for a sample work place specific respiratory protection OI is provided in [Attachment 3](#).

2.5.3. Ensure workers are medically qualified before initial wear of respirators.

2.5.4. Ensure respirators are properly worn and maintained.

2.5.5. Document training on AF Form 55, **Employee Safety and Health Record**.

2.5.6. Ensure the following conditions do not exist for employees when using respirators and prevent the use of respirators in the event that any of the conditions are met:

- 2.5.6.1. Facial hair in the sealing area of the respirator.
 - 2.5.6.2. Absence of one or both dentures.
 - 2.5.6.3. Use of chewing tobacco, snuff, or gum.
 - 2.5.6.4. Protective glasses, goggles, or face shields that interfere with the respirator seal. Workers who must wear spectacles with full-face respirators must contact BEE to ensure that correct spectacle inserts are obtained.
 - 2.5.6.5. Medical conditions, chronic and recurrent such as respiratory and circulatory conditions that preclude use of the respirator, specifically asthma and heart conditions, will require Medical Evaluation Board (MEB) instructions as both warrant MEBs.
 - 2.5.6.6. Wear of skullcaps or coverlets. Wear of these items will prevent proper seal of the respirator.
 - 2.5.6.7. Ensure any female planning to become or who suspects she is pregnant is removed from potential exposures and referred to the Public Health Flight (436 ADOS/SGGM) for evaluation.
 - 2.5.7. Ensure all respirator wearers have been advised that they may leave the area any time for relief from respirator use in event of equipment malfunction, physical or psychological distress, procedural or communication failure, significant deterioration and operating conditions or any other conditions that might require relief.
 - 2.5.8. Ensure an individual has been appointed to be responsible for the use, maintenance, inspection and care of common use, emergency, or escape respirators as appropriate.
 - 2.5.9. Provide quality control of respirator breathing air (if required) according to Technical Order 42B-1-22, Quality Control of Compressed and Liquid Breathing Air and furnish sampling results to BEE.
 - 2.5.10. Ensure personal respiratory protective equipment is used by the individual to whom it is issued. Exchange among users is strictly prohibited except in common use areas as designated by BEE. Shared respirators must be inspected, cleaned, sanitized and stored away from contaminants after each use. Atmosphere supplying respirators are examples of shared or common use respirators.
- 2.6. Individual wearer of respiratory protection will:
- 2.6.1. Inspect, clean, and maintain respirators issued to them.
 - 2.6.2. Wear only those respirators for which they have received fit testing and training, and only for the tasks specified.
 - 2.6.3. Maintain the integrity of the NIOSH certification by not mixing parts from different manufacturers.
 - 2.6.4. Use the provided respiratory protection according to the instructions and training received.
 - 2.6.5. Report to their supervisor any change in medical status that may impact their ability to safely wear a respirator. This includes suspected pregnancy, respiratory illness or any significant problem with the sense of smell.

2.7. Ground Safety will refer any suspected problems on respirator usage discovered during their inspections to the Flight Commander, BEE.

2.8. Fire Protection Flight will:

2.8.1. Provide effective training to employees who are required to use self-contained breathing apparatus (SCBA) respirators. The training must be comprehensive, understandable and recur at least annually. Ensure each employee can demonstrate knowledge of the use and maintenance of SCBA.

2.8.2. Ensure required maintenance for regulating of admission valves, regulators, and alarms for SCBAs is performed by the respirator manufacturer or appointed individual(s) trained and certified by the manufacturer to conduct such maintenance.

2.8.3. Ensure that cylinders used to supply breathing air to respirators meet all the requirements according to 49 CFR, Part 173 and Part 178. Provide BEE with a copy of the certificate of analysis from the supplier that the breathing air meets the requirements for Type 1 – Grade D breathing air.

3. Selection, Use, and Limitations.

3.1. On July 10, 1995, 30 CFR 11 was replaced by 42 CFR Part 84. Under 42 CFR 84, NIOSH has revised certification criteria for nonpowered air purifying particulate filter respirators and filtering face piece devices. Three new filter series, N, R, and P, will be certified, each with three filter efficiencies (95 percent, 99 percent, or 99.97 percent). NIOSH has determined that N, R and P filters, with a minimum filter efficiency of 95 percent, meet the Centers for Disease Control and Prevention criteria for protection against tuberculosis. The new Part 84 respirators have passed a more demanding certification test than the old respirators (e.g., dust and mist, dust, fume and mist, spray paint, pesticide, etc.) certified under 30 CFR 11. Personnel may continue to wear existing stock of HEPA filters as previously certified by NIOSH under 30 CFR 11. Under Part 84, NIOSH allowed manufacturers to continue selling and shipping Part 11 particulate filters as NIOSH-certified until July 10, 1998.

3.2. Appropriate respirator selection, use and limitations will be determined by BEE personnel as outlined in 42 CFR 84.

3.3. Elective use of respirators is strictly prohibited and will not be worn by Air Force employees in the workplace. Respirators will either be required according to applicable directives or recommended after evaluation by the BEE.

3.4. Only government purchased respirators will be used in Air Force workplaces. Work centers purchase respirators, cartridges/filters, and spare parts with IMPAC. Privately owned respirators will not be worn by Air Force employees in the workplace. These items require approval from BEE (436 ADOS/SGGB) before purchase and use.

3.5. During routine industrial hygiene surveys, BEE will note any work processes or existing air sampling results that may indicate the need for respiratory protection. Respirator selection shall be accomplished by BEE personnel using the respiratory selection flow chart found in AFOSH Standard 48-8, and AF Form 2773, **Respirator Selection Worksheet**. The completed AF Form 2773 will be filed in the appropriate shop RPP binder.

4. Training. Supervisors who have the responsibility of overseeing work activities of persons who must wear respirators will receive initial training. Initial supervisory training will be repeated if the supervisor

has a permanent change of station or becomes the supervisor of a different workplace. Initial training will be completed and documented on an AF Form 55 prior to working in an environment requiring the use of respiratory protection. Initial/annual training for users of air-purifying and airline respirators will be conducted during the industrial hygiene survey. Training of emergency respirators will be conducted during the industrial hygiene survey. The 436th Civil Engineer Squadron, Fire Protection Flight, will accomplish training of emergency response and rescue teams using SCBAs.

5. Fit Testing. BEE will contact the workplace supervisor to schedule fit testing at least 1 week prior to the actual fit testing. All fit testing, including quantitative fit testing, shall be performed by BEE. Quantitative respirator fit testing is the standard BEE method for fit testing and will be ensured when mandated by a substance specific standard (asbestos, lead, cadmium) to select specific types, makes, or models of respirators. Once fit testing is completed, the individual will be issued an AF Form 2772, **Certificate of Respirator Fit Test**.

6. Care, Inspection, and Maintenance of Respirators.

6.1. The respirator user shall inspect the respirator immediately before use to ensure it is in proper working condition. After cleaning and sanitizing, each respirator shall be inspected to determine if it needs repairs, replacement of parts, or should be discarded. Each respirator stored for emergency or rescue will be inspected at least monthly. AFOSH Standard 48-137 provides a suggested procedure for cleaning and sanitizing. Inspection will include inlet valve assemblies, tightness of connections, abnormal wear, or defects and the proper installation of filters, canisters or cartridges. The workplace supervisor or an individual appointed by the supervisor will inspect each air-line, SCBA, emergency escape and air purifying respirator used in the workplace monthly and document this inspection on AF Form 1071, **Inspection/Maintenance Record**. This inspection will include, in addition to the above, the compressors used with the air-supplied systems and proper functioning of regulators, alarms and other warning systems.

6.2. Storage will be in a manner that will protect against chemical and physical agents such as vibration, shock, sunlight, heat, extreme cold or excessive moisture. Respirators will not be stored or packed in lockers or toolboxes unless they are protected from contamination, distortion and damage.

6.3. Agencies having compressed or liquid breathing air quality tested will send BEE a copy of the results no later than two weeks after received.

6.4. Spare parts for respirator repair will be installed according to the manufacturer's instruction so as not to invalidate NIOSH or MSHA certification. The manufacturer of the given respirator and spare parts will be the same. Using a different manufacturer's part invalidates NIOSH or MSHA certification.

6.5. Reducing or admission valves, regulators and alarms will be adjusted or repaired only by the respirator manufacturer or a technician trained by the manufacturer. Calibration of the instrumentation for valve, regulator and alarm components will be done at an interval not to exceed three years. Cartridges, filters, or canisters of air-purifying respirators will be changed whenever the worker detects an increase in breathing resistance, smells or tastes the contaminant, the end of service life indicator is triggered, the shelf life of the item has been reached or as required by applicable substance specific OSHA standards.

7. Procedures for Program Evaluation.

7.1. The BEE respiratory protection program evaluation will be presented annually to the Aeromedical Dental Council and the OSH Council.

7.2. Workplace OIs will be reviewed annually by BEE personnel during the industrial hygiene survey in accordance with AFI 48-137.

JOHN I. PRAY, JR., Colonel, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFOOSH Standard 48-137, *Respiratory Protection Program*

AFOOSH Standard 48-8, *Controlling Exposures to Hazardous Materials*

29 CFR 1910.134, *Respiratory Protection*

42 CFR 84

HQ USAF/SG letter dated 17 Jul 96.

Attachment 2

RESPIRATOR PROTECTION STANDARD QUESTIONNAIRE

DEPARTMENT OF THE AIR FORCE
436th AEROMEDICAL DENTAL SQUADRON

Date: _____

MEMORANDUM FOR SGGB

FROM: 436th ADOS/SGGF

SUBJECT: Respirator Protection Standard Questionnaire Review

(RANK) _____ (NAME) _____ (SSAN) _____ of
(SQUADRON) _____ (SHOP NAME) _____ (DUTY PHONE) _____,
completed the OSHA directed respiratory questionnaire on this date. The individual:

1. Requires a respirator to perform some or all of their duties. (Y/N) _____
(If you do not wear a respirator you are not required to complete this form.)

2. Is assigned to Ecological Control and is required to fill this form out due to Japanese Beetle spraying
only. (Y/N) _____

3. Works during the following duty hours. _____ (Used for scheduling purposes)

_____ The member is fully qualified to use a respirator in this section. No medical complaints were
identified.

_____ The member's medical complaints have been evaluated and they are qualified for respirator
use.

_____The member is **NOT** qualified to use a respirator at this time. See Military Health records for full details.

For questions on this matter, please contact me or SMSgt Altman @ 2557. Thank you.

Evaluating Flight Surgeon Stamp/Signature

Date Signed:

AUTHORITY 10 U.S.C. 8013 AND EO 9197

PRINCIPAL PURPOSE: Document individuals authorized to wear respirator.

ROUTINE USES: Used to identify and document those individuals who have been medically authorized or unauthorized to wear respirators.

DISCLOSURE IS VOLUNTARY: Use of SSAN is required for positive identification. Failure to supply it could result in related forms not being properly filed in individuals records.

Appendix C to § 1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination

To the employee:

Can you read (circle one): Yes No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory) The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date: _____ 2. Your name: _____ 2a. SSAN: _____

3. Your age (to the nearest year): _____ 4. Sex (circle one): Male / Female

5. Your height: ____ ft. ____ in. 6. Your weight: _____ lb

7. Duty section/Duty phone: _____

8. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes / No

9. Have you worn a respirator (circle one): Yes / No If “yes”, what type(s): _____

During the period of using the respirator(s), is the work effort: (mark an “x” in all that are correct)

	a. Light
	Examples of a light work effort are <i>sitting</i> while writing, typing, drafting, or performing light assembly work; or <i>standing</i> while operating a drill press (1-3 lbs.) or controlling machines If the work is light, how long does this period last during the average shift: _____ hrs. _____ mins.
	b. Moderate
	Examples of moderate work effort are <i>sitting</i> while nailing or filing; <i>driving</i> a truck or bus in urban traffic; <i>standing</i> while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; <i>walking</i> on a level surface about 2 mph or down a 5-degree grade about 3 mph; or <i>pushing</i> a wheelbarrow with a heavy load (about 100 lbs.) on a level surface. If the work is medium, how long does this period last during the average shift: _____ hrs. _____ mins.
	c. Heavy
	Examples of heavy work are <i>lifting</i> a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; <i>shoveling</i> ; <i>standing</i> while bricklaying or chipping castings; <i>walking</i> up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.). If the work is heavy, how long does this period last during the average shift: _____ hrs. _____ mins.

Part A. Section 2. (Mandatory) Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please check “yes” or “no”).

	YES	NO
1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?		
2. Have you ever had any of the following conditions?		
a. Seizures (fits)		
b. Diabetes (sugar disease)		
c. Allergic reactions that interfere with your breathing		
d. Claustrophobia (fear of closed-in places)		
e. Trouble smelling odors		
3. Have you ever had any of the following pulmonary or lung problems?		
a. Asbestosis		
b. Asthma		
c. Chronic Bronchitis		
d. Emphysema		
e. Pneumonia		
f. Tuberculosis		
g. Silicosis		
h. Pneumothorax (collapsed lung)		
i. Lung Cancer		
j. Broken ribs		
k. Any chest injuries or surgeries		
l. Any other lung problem that you've been told about?		
4. Do you currently have any of the following symptoms of pulmonary or lung illness?		
a. Shortness of breath		
b. Shortness of breath when walking fast on level ground or walking up a slight hill or incline		
c. Shortness of breath when walking with other people at an ordinary pace on level ground		
d. Have to stop for breath when walking at your own pace on level ground		
e. Shortness of breath when washing or dressing yourself		
f. Shortness of breath that interferes with your job		
g. Coughing that produces phlegm (thick sputum)		
h. Coughing that wakes you early in the morning		
i. Coughing that occurs mostly when you are lying down		
j. Coughing up blood in the last month		

k. Wheezing		
l. Wheezing that interferes with your job		
m. Chest pain when you breathe deeply		
n. Any other symptoms that you think may be related to lung problems		
5. Have you ever had any of the following cardiovascular or heart problems?		
a. Heart attack		
b. Stroke		
c. Angina		
d. Heart failure		
e. Swelling in your legs or feet (not caused by walking)		
f. Heart arrhythmia (heart beating irregularly)		
g. High blood pressure		
h. Any other heart problem that you've been told about		
6. Have you ever had any of the following cardiovascular or heart symptoms?		
a. Frequent pain or tightness in your chest		
b. Pain or tightness in your chest during physical activity		
c. Pain or tightness in your chest that interferes with your job		
d. In the past two years, have you noticed your heart skipping or missing a beat		
e. Heartburn or indigestion that is not related to eating		
f. Any other symptoms that you think may be related to heart or circulation problems		
7. Do you currently take medication for any of the following problems?		
a. Breathing or lung problems		
b. Heart trouble		
c. Blood pressure		
d. Seizures (fits)		
8. If you've used a respirator, have you ever had any of the following problems? (If you've never used a respirator go to question 9)		
a. Eye irritation		
b. Skin allergies or rashes		
c. Anxiety		
d. General weakness or fatigue		
e. Any other problem that interferes with your use of a respirator		
9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire?		

10. Have you ever lost vision in either eye (temporarily or permanently)?		
11. Do you currently have any of the following vision problems?		
a. Wear contact lenses		
b. Wear glasses		
c. Color blind		
d. Any other eye or vision problem		
12. Have you ever had an injury to your ears, including broken eardrum?		
13. Do you currently have any of the following hearing problems?		
a. Difficulty hearing		
b. Wear a hearing aid		
c. Any other hearing or ear problem		
14. Have you ever had a back injury?		
15. Do you currently have any of the following health problems?		
a. Weakness in any of your arms, hands, leg, or feet		
b. Back pain		
c. Difficulty fully moving your arms and legs		
d. Pain or stiffness when you lean forward or backward at the waist		
e. Difficulty fully moving you head up or down		
f. Difficulty fully moving your head side to side		
g. Difficulty bending at your knees		
h. Difficulty squatting to the ground		
i. Climbing a flight of stairs or a ladder carrying more than 25 lbs		
j. Any other muscle or skeletal problem that interferes with using a respirator		

AUTHORITY 10 U.S.C. 8013 AND EO 9197

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Certifying Medical Professional/Technician Signature

Attachment 3

WORKPLACE SPECIFIC RESPIRATORY PROTECTION OPERATING INSTRUCTION

Date _____

Squadron: _____ Shop: _____

NCOIC: _____ Duty Phone: _____

1. This Operating Instruction contains information and guidance for proper respirator selection, use, care, and maintenance. Reference directives include AFOSH Standard 48-137, "Respiratory Protection Program" and applicable Technical Orders.

Author's Note: This example Operating Instruction is written for air purifying respirators which covers most respiratory protection at Dover Air Force Base. Modifications are necessary for the use of air supplied respirators. Self Contained Breathing Apparatus systems fall under Fire Department guidelines.

SPECIFIC**2. RESPIRATOR TYPE MANUFACTURER MODEL CARTRIDGES(S) OPERATION/USE**

EXAMPLE:

Full face air purifying	3M	7300 S	HEPA & OV	Chromate primer Spray Painting
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All respirators will have formal approval by the Base Medical Authority which is the Bioenvironmental Engineering Flight (BEE), 436th Aeromedical Dental Squadron (436 ADOS/SGGB). Each individual required to use a respirator must be **medically qualified** by 436 ADOS/SGP, and then fit tested and trained by the BEE where personnel will be fit tested with a particular brand name respirator and corresponding cartridge(s).

3. Usage: Before each use of an approved respirator, the wearer shall perform the following procedures:

3.1. Inspection:

3.1.1. Check all parts of the respirator for wear and defects.

3.1.2. Check the National Institute for Occupational Safety and Health approval sticker (TC#) on the filters, canister, or cartridge.

3.1.3. Replace filters, canister, cartridge, valves, and head straps if necessary.

3.2. Leakage Test:

3.2.1. Positive Pressure Test: Close the exhaust valve and exhale gently into the face piece. The respirator and fit are considered satisfactory if a slight positive pressure builds up inside the face piece without any evidence of outward leakage of air at the seals. For some respirators, this method will require removal of the exhaust valve cover.

3.2.2. Negative Pressure Test: Use hands to cover the inlet openings of the filter, canister, or cartridge. Be careful not to apply too much pressure as to make a false fit; you want to identify if the mask fits during normal use of the respirator. Inhale gently so that the face piece collapses slightly and hold breath for 10 seconds. If the face piece remains in a slightly collapsed condition and no inward leakage of air is detected, the respirator and fit are considered satisfactory.

4. FILTERS, CANISTERS, OR CARTRIDGE REPLACEMENT: Recognition of the end of the filters, canisters, or cartridge service life can be detected by any and/or all four methods:

4.1. Check the manufacturer's recommended shelf life.

4.2. When the wearer detects an extra resistance in breathing.

4.3. When the wearer detects an odor or can taste the chemical that is being used. Since a common cold can disrupt the sense of smell and taste, the individual should replace the filters, canisters, or cartridges more often when suffering from sinus or respiratory illness.

4.4. When the wearer identifies a change in color in the end of life indicator generally found on most canisters.

5. SAFETY PRECAUTIONS: Prior to starting any hazardous operation, be sure to employ the following safety measures:

5.1. Be sure the respirator functions properly as described above.

5.2. Do not perform any potentially hazardous duties unless you are medically qualified and properly trained with the appropriate equipment.

6. CLEANING AND MAINTENANCE: Proper cleaning, maintenance, and storage are outlined in [Attachment 1](#).

7. RESPONSIBILITIES OF THE SHOP SUPERVISOR:

7.1. Ensure that the proper respirator is being utilized for a designated task.

7.2. Maintain a record of training (AF Form 2772) of personnel by the BEE office and all records of annual in-house training provided by the shop supervisor.

7.3. Maintain an inspection record of respirators.

7.4. Ensure respirator training and fit testing of newly assigned personnel are accomplished before the worker begins operations requiring the use of respiratory protection.

7.5. Notify BEE of any problems or mishaps occurring while respirators are in use.

7.6. Notify BEE for any training needed.

7.7. Ensure that the guidelines in this operating procedure are followed.

8. RESPONSIBILITIES OF THE INDIVIDUAL USER:

8.1. Maintain a sanitary condition by ensuring that his or her respirator is washed on a periodic basis, stored in a clean and safe environment, and inspected prior to each use.

8.2. Proper wear and use of respirators as specified by this Operating Instruction and BEE report.

8.3. Notify the shop supervisor of damaged respirator.

SIGNATURE BLOCK

SHOP NCOIC

SIGNATURE BLOCK

BEE Representative

1 Atch

Cleaning & Maintenance Instructions

Attachment 1

CLEANING AND MAINTENANCE

This section explains the proper cleaning, maintenance, and storage of respirators.

1. CLEANING AND DISINFECTION:

1.1. Individually issued respirators shall be cleaned and disinfected by the user on a frequent basis to eliminate buildup of skin oil and grime, and to maintain a sanitary condition.

1.2. Respirators maintained for emergency use should be cleaned and disinfected after each use.

1.3. Procedures for cleaning:

1.3.1. Remove filters, cartridges, or canisters.

1.3.2. Remove inhalation/exhalation valves.

1.3.3. Wash face piece in cleaner-disinfectant solutions.

1.3.4. Rinse in clean warm water.

1.3.5. Air dry in a clean area.

1.3.6. Clean other respirator parts as recommended by the manufacturer.

1.3.7. Replace defective parts if necessary.

1.3.8. Place in a plastic bag or other clean tightly sealed container for storage.

1.4. Cleaner disinfectant solution:

1.4.1. Commercial product:

1.4.1.1. Prepare using manufacturer's instructions.

1.4.1.2. Wash.

1.4.1.3. Rinse well.

1.4.1.4. Air dry.

1.4.2. Other disinfecting solutions:

1.4.2.1. Bleach solutions (2 tablespoons per gallon of water). Wash as follows:

1.4.2.1.1. Wash in detergent.

1.4.2.1.2. Dip in bleach solution for only 2 minutes.

1.4.2.1.3. Rinse in clean water.

1.4.2.1.4. Air dry.

1.4.2.2. Iodine solutions (1 teaspoon of tincture of iodine per gallon of water). Wash using the same procedures as with bleach solutions.

1.4.2.3. Alcohol rinse for contamination of organic phosphate pesticide respirators **only**.

1.4.2.3.1. Light contamination—use normal cleaning procedures.

1.4.2.3.2. Heavy contamination:

1.4.2.3.2.1. Alkaline soap wash.

1.4.2.3.2.2. 50 percent Isopropyl or ethyl alcohol and water solution as a rinse.

Note: These disinfectant solutions can damage the respirator and its individual parts if the immersion time is extended past 2 minutes. Dermatitis can also be a result if not rinsed thoroughly.

2. REPAIRS AND REPLACEMENT OF PARTS:

2.1. Experienced personnel shall replace parts.

2.2. Only manufacturer parts designed for that use shall be used.

2.3. Filters, cartridges, valves, and head straps must be replaced when defective.

2.4. Replace respirator if face piece is defective.

2.5. For assistance in obtaining a national stock number and part numbers for the correct replacement parts, contact BEE.

3. STORAGE:

3.1. Do not store respirators and parts in or near the following:

3.1.1. Dusty areas

3.1.2. Direct sunlight

3.1.3. Temperature extremes

3.1.4. A high humidity area

3.1.5. Toxic chemicals

3.2. Store respirators in such an area and manner as to prevent the face piece from being deformed.

3.2.1. Seal in a plastic bag.

3.2.2. Position so that masks, hoses, and head straps are not creased or stretched out of shape.

3.2.3. Store in a designated area, preferably in a carrying case or special cabinet.