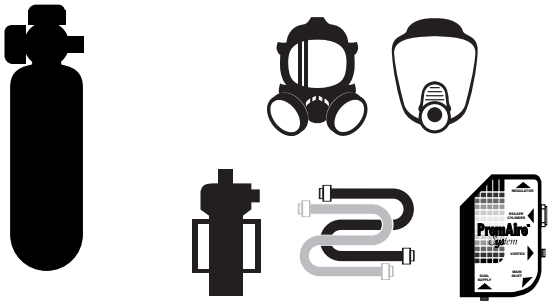
PremAire®

INSTRUCTIONS FOR CYLINDER MODE OF OPERATION

System



⚠ WARNING

This manual must be read carefully by all persons who have or will have the responsibility for using or servicing the premaire respirator with emergency escape cylinder. Like any complex piece of equipment, it will perform as designed only if used and serviced according to the instructions. Otherwise, the product could fail to perform as designed, and persons who rely on the product could sustain serious personal injury or death.

The warranties made by MSA with respect to the product are voided if the product is not used and serviced according to the instructions in this manual. Please protect yourself and your employees by following the instructions. Please read and observe the WARNINGS and CAUTIONS inside. We encourage our customers to write or call for a demonstration of this equipment prior to use, or for any additional information relative to use or repairs. During regular working hours, call 1-800-MSA-2222.

See separate Inserts for NIOSH Approval Information (P/N 10032763/818364)

For More Information, call 1-800-MSA-2222 or Visit Our Website at www.MSAnet.com

MSA The Safety Company

MINE SAFETY APPLIANCES COMPANY
PITTSBURGH, PENNSYLVANIA, U.S.A. 15230

INTRODUCTION

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NIOSH APPROVAL CAUTIONS AND LIMITATIONS

D- Air-line respirators can be used only when the respirators are supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.
E- Use only the pressure ranges and hose lengths specified in the User's Instructions.
I- Contains electrical parts which have not been evaluated as an ignition source in flammable or explosive atmospheres by MSHA/NIOSH.
J- Failure to properly use and maintain this product could result in injury or death.
M- All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
N- Never substitute, modify, and, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
O- Refer to User's Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
S- Special or critical User's Instructions and/or specific use limitations apply. Refer to User's Instructions before donning.

S - SPECIAL OR CRITICAL USER INSTRUCTIONS

1. The Duo-twin facepiece is not approved for use in IDLH atmospheres, even if the escape cylinder option is installed.
2. This approval applies only when the respirator is supplied with respirable air through 8 to 300 feet of air-supply hose within the pressure range of 60 to 100 psi using Ultra Elite® or Ultravue® Facepieces. When using an Advantage 4000 Facepiece ensure the pressure range is between 70 to 100 psi. A maximum of 12 sections of air-supply hose may be used in making up the maximum working length of hose. Each section of coiled hose is considered 50 feet in length (max. 6 sections).
3. An adequate respiratory protection program must include knowledge of hazards, hazard assessment, selection of proper respiratory protective equipment, instruction and training in the use of equipment, inspection and maintenance of equipment, and medical surveillance. [See OSHA regulations, Title 29 CFR 1910.134].
4. The program administrator and respirator users must read and understand these instructions before trying to use or service this product.
5. The PremAire Supplied-Air Respirator System will perform as designed only if used and maintained according to these instructions.
6. This respirator may be used only after proper instruction and training in its use as specified in OSHA regulations Title 29 CFR 1910.134.
7. Inspect the respirator regularly and maintain it according to the instructions. Repairs must only be made by properly trained personnel.
8. Use only with an air source that meets ANSI (Compressed Gas Association) specifications. The air delivered to the respirator's air-supply hose must be respirable and of a purity equal to at least Quality Verification Level (Grade) D Air of the Compressed Gas Association Commodity Specification for Air G-7.1. Air pressure and flow rates must be within the NIOSH approved ranges for the device.
9. Use strictly in accordance with instructions, labels and limitations pertaining to this device.
10. This device may not provide a satisfactory face seal with certain physical characteristics (such as beards or sideburns) as outlined in ANSI Z88.2, resulting in leakage in connection with the facepiece, which voids or limits the protection. If such a condition exists, the user assumes all risks of death or serious bodily injury, which may result.
11. Do not use the PremAire System for firefighting.
12. Do not use the PremAire System for underwater applications.
13. Thoroughly check out the respirator on receipt and prior to use.
14. Do not use compressed oxygen with the PremAire System.
15. Unless equipped with a pressure-demand facepiece and the Escape-Cylinder option, the PremAire Respirator MUST NOT be used and relied upon for respiratory protection when the atmosphere contains concentrations of contaminants which are unknown or IDLH.
16. Users must wear suitable protective clothing and precautions must be taken so that the respirator is not worn in atmospheres that may be harmful to the

device.

17. Never alter or modify this device, except as directed by MSA during installation of NIOSH approved kits. Use only MSA replacement parts. If other than the proper MSA parts are used, the NIOSH approval will be voided.
18. When using Ultra Elite or Ultravue Facepieces at temperatures below 32˚F nosecups are required. When using an Advantage 4000 Facepiece a nosecup must be used at all times.
19. Use only the listed hose lengths and air-pressure range specified in these instructions.

⚠ WARNING

Particles and contaminants can enter an air-line respirator system when air-supply hoses are disconnected and/or reconnected in a contaminated atmosphere. This could result in serious injury or death depending on the toxicity of the contaminant involved. It is the responsibility of the user to determine the potential risk and to take the necessary precautions which may include a requirement that NO disconnection or reconnection of air-supply hoses be permitted in a contaminated atmosphere. If in doubt DO NOT disconnect and/or reconnect.

18. When used at temperatures below 32˚F, nosecup is required.

PREMAIRE RESPIRATOR SYSTEM SYMBOLS

Symbols are used to direct you to other instructions, warnings and guidelines that apply to the type of option(s). It is important that you familiarize yourself with these symbols, along with the corresponding instructions before attempting to operate the respirator.

Escape Cylinder Capability (P/N 800808)

Pressure-Demand Supplied-Air Respirator (P/N 496958)

Vortex Tube Capability (P/N 497231)

Duo-Twin Capability (P/N 818370)

Dual-Supply Capability (P/N 497230)

PREMAIRE SYSTEM OPTIONS

The PremAire Respirator is a pressure-demand, Type C supplied-air respirator as de-fined by 42 CFR Part 84, Subpart H. The respirator's unique waist-mounted manifold, which serves as the air distribution center for the system

These options can be combined or used individually. A list of all possible respirator configurations can be found on the PremAire System Quick Reference Chart (P/N 802999).

NOTES

DESCRIPTION

DESCRIPTION

The pressure-demand emergency-escape air cylinder allows you to work in an IDLH (Immediately Dangerous to Life or Health) atmospheres by providing either a 5-minute or 10-minute emergency-escape capability. It is only approved for IDLH conditions using the pressure-demand Facepiece. When working in IDLH environment, the National Institute for Occupational Safety and Health (NIOSH) requires escape cylinder for any person using a supplied-air respirator.

⚠ CAUTION

The emergency-escape air cylinder is the only PremAire Respirator configuration approved for use in IDLH conditions. IT IS ONLY APPROVED FOR IDLH CONDITIONS USING THE PRESSURE-DEMAND FACEPIECE. THE DUO-TWIN FACEPIECE IS NOT APPROVED FOR USE IN IDLH ATMOSPHERES, EVEN IF THE ESCAPE-CYLINDER OPTION IS INSTALLED.

IDLH means conditions that pose immediate threat to life or health, or conditions that pose an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse cumulative or delayed effects on health [Title 42 CFR, Part 84, Subpart J].

Non-IDLH means any hazardous atmosphere which may produce physical discomfort immediately, chronic poisoning after repeated exposure, or acute adverse physiological symptoms after prolonged exposure. [Title 42 CFR Part 84, Subpart J, Paragraph 11.3 (z)].

In addition to working as a pressure-demand supplied-air respirator, the unit features a belt-mounted emergency-escape cylinder, either a five- or ten-minute rated air supply or cylinder placement— either the left or right hip. In the air-supplied mode of operation, the respirator allows the wearer to work within the limits of the approved air-supply hose. However, should the primary air supply fail or be interrupted, the emergency-escape cylinder enables the wearer to egress from the potentially IDLH atmosphere.

OPERATING PRINCIPLES

In normal use, the apparatus operates in the same principle as the PremAire pressure-demand supplied-air respirator. When connected to an air source, it provides continuous respiratory protection until the user disconnects from the air-supply hose. In an emergency-escape situation, the cylinder portion of the apparatus is activated by turning the cylinder valve.

⚠ CAUTION

The emergency-escape air cylinder must not be used to provide respiratory protection while entering the working area. Entry must be made only when connected to the primary air source through the air-supply hose.

⚠ WARNING

DO NOT enter any area which requires an escape greater than the service life of the cylinder. Cylinder life varies with the work rate of the individual and may be shorter wit heavy work loads. Serious injury or death could result.

CYLINDER COMPONENTS

If you are adding this feature (using the MSA Emergency-Escape Cylinder Kit — P/N 800696 with right hip/five-minute cylinder; P/N 800697 with right hip/ten-minute cylinder; P/N 800694 with left hip/five-minute cylinder; P/N 800695 with left hip/ten-minute cylinder

NOTES

CLEANING AND DISINFECTING

CLEANING AND DISINFECTING

Respirators should be cleaned and disinfected after each use. If the facepiece is to be cleaned, remove the filter or cartridges (if used). The facepiece should be cleaned and disinfected after every use. MSA recommends using ConfidencePlus® Cleaner Solution (P/N 10009971). Refer to the label for user instructions. ANSI suggests that users be trained in cleaning procedure.

⚠ CAUTION

- **Cleaning and disinfecting at or below 110˚F temperature will avoid possible overheating and distortion of parts which would require replacement.**
- **DO NOT use any cleaning substances that can or might attach any part of the apparatus.**
- **DO NOT us alcohol because it may deteriorate rubber parts.**
- **If not rinsed thoroughly, cleaning agent residue may irritate the wearer's skin.**

NOTES

INSPECTION

INSPECTION

Inspect the respirator by sight and sound for normal operations after it has been cleaned and disinfected. When any part shows evidence of damage, wear, or any other adverse condition explained in this section, it must be replaced and the condition corrected before the respirator can be used again.

Note: Replacement or repairs shall be done only by qualified persons, using only MSA parts designed for the respirator. No attempt shall be made to make adjustments or repairs beyond the manufacturer's recommendations. Parts shall not be interchanged among devices of different manufacturers. MSA authorizes levels of maintenance and repair for the PremAire Respirator System. (See users maintenance manual P/N 10017251.)

If there is no MSA Service Center in your area, return the unit to MSA for service. Call 1-800-MSA-2222 for instructions.

⚠ WARNING

DO NOT inspect the respirator before cleaning if there is danger of contacting hazardous contaminants. Clean and disinfect first, then inspect. Failure to follow this precaution may result in inhalation or skin absorption of the contaminant and cause serious personal injury or death.

Inspect the entire apparatus after it is cleaned and disinfected. ANSI Standards Z88.2 and Z88.5, describe three levels of inspection procedures which are to be performed. Refer to these documents, or to an inspection program prepared by a health professional in establishing an inspection program. Detailed repair procedures are located in PremAire Users Maintenance Instructions.

⚠ WARNING

If any of the following inspections do not function properly, the apparatus must be removed from service. Failure to follow this warning can result in serious personal injury or death.

Component Inspection
(AFTER EACH USE and MONTHLY)

1. Don the respirator following the instruction procedures. These steps make up the Functional Test.
2. If all steps are performed successfully, remove the respirator and inspect it following the steps below.
3. Facepiece
   a. Inspect the facepiece for rubber deterioration, dirt, cracks, tears, holes, or tackiness.
   b. Check the harness headstraps for breaks, loss of elasticity, missing buckles or straps. Check the strap serrations for signs of wear.
   c. Inspect the lens for cracks, scratches, and a tight seal with the facepiece rubber.
   d. The exhalation valve must be clean and operate easily. The valve must move off the seat and return when released.
   e. Inspect the facepiece coupling for damage. When using Ultra Elite or Ultravue Facepieces, be sure the spider gasket, O-ring, and valve disc are present.
4. Harness
   a. Inspect all harness components for cuts, tears, abrasion or signs of heat- or chemically-related damage. Check that the tee nuts, washers, and screws, if any are secure.
5. Record Keeping
   Following inspection, the date and initials of the designated person should be recorded on an inspection tag. A more detailed record of the operations performed can be noted on an inspection and maintenance log. Inspection tags and inspection and maintenance logs are available from MSA. When the inspection data has been recorded, the apparatus is stored in a ready position.

PREPARATION FOR STORAGE

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Note: Do not force-dry the parts by placing them in a heater or in direct sunlight. The rubber will deteriorate. When the facepiece is thoroughly dry, store the facepiece in the plastic bag that it was shipped in.

1. In general, only the facepiece requires cleaning and disinfecting after each use. If the apparatus is soiled or has dirt accumulation, use a sponge damp with mild soap solution or use a soft/medium bristle brush to remove deposits that may interfere with normal operation.
   a. Ensure Second Stage Regulator is free of water, dirt, or debris.
2. Inspect the entire apparatus as you reassemble it. Follow the Inspection Instructions.
3. Thoroughly dry the facepiece and regulator after cleaning and disinfecting. The facepiece can trap water, which could enter the regulator.

STORAGE

⚠ CAUTION

DO NOT store the respirator near substances that can attack respirator components, causing them to fail to peform as designed.

The PremAire CADET Respirator must be storedin a cool, dry place away from direct sunlight. Head and sunlight will shorten the life of rubber parts.

FUNCTIONAL CHECKS

FUNCTIONAL CHECKS
After Each Use and Monthly

1. Check that the regulator works properly. The regulator outlet should be sanitized before and after testing.
   a. Check that the cylinder valve and second stage shut-off are closed, and that the system is not pressurized.
   b. Gently inhale through the regulator outlet and hold your breath for about 10 seconds. If the negative pressure is maintained, there is no leakage.
   c. Gently exhale through the regulator outlet for about 10 seconds. If the positive pressure is maintained, there is no leakage.
   d. Do not use the apparatus if airflow through the regulator is detected in either test. Return the regulator to a Certified repairperson.
2. Inspect the Second Stage Shut-Off and Bypass Valve.
   a. With the regulator pressurized, operate each valve to be sure it operates. Venting of pressure relief valves (or a continuing flow of air through the regulator when the user is not inhaling) indicates that the regulator needs to be repaired.
   b. Listen to the regulator. Any unusual sounds, such as whistling, chattering, clicking, or rattling mean that the regulator should be checked further.
   c. If any of these symptoms occur, the apparatus must be removed from service. Return the regulator to a Certified repairperson.

⚠ WARNING

DO NOT disconnect when pressurized. Release all pressure from the regulator by opening the bypass valve. Removing the regulator when pressurized may result in serious personal injury, death, or damage to equipment.

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