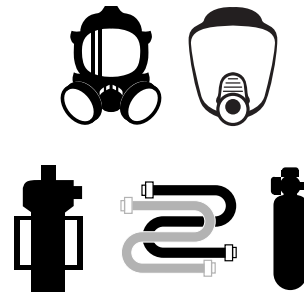
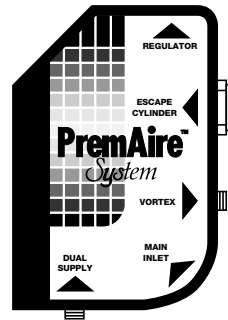


# PremAire®

## OPERATION AND INSTRUCTIONS

*System*



### **⚠ WARNING**

THIS MANUAL MUST BE READ CAREFULLY BY ALL PERSONS WHO HAVE OR WILL HAVE THE RESPONSIBILITY FOR USING OR SERVICING THE PRODUCT. Like any complex piece of equipment, the PremAire from MSA 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.

This PremAire is certified by the National Institute of Occupational Safety and Health (NIOSH).

The warranties made by MSA with respect to the product are voided if the product is not installed, used and serviced in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions. Please read and observe the WARNINGS and CAUTIONS inside. For any additional information relative to use or repair, write or call 1-800-MSA-2222 during regular working hours.

See separate Inserts for NIOSH Approval information  
(P/N 10032763 / 818364 / 10032761)

For More Information, call 1-800-MSA-2222 or Visit Our Website at [www.MSAnet.com](http://www.MSAnet.com)



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

# INTRODUCTION

## TABLE OF CONTENTS

NIOSH Approval Information .....	2	Regulator Check.....	7
Special or Critical User Instructions .....	2	Donning the Facepiece.....	7
PremAire Respirator System Symbols .....	3	Using the Speed-On Harness .....	8
PremAire System Options .....	3	Respirator Fit Test.....	8
Operating Principles .....	5	Facepiece Fit Check .....	8
General Instructions/Air Source .....	5	Donning and Using the Respirator .....	8
High-Pressure Air Cylinders .....	5	Removing the Apparatus .....	11
Air Compressors .....	5	Air-Purifying Doffing (Removing).....	11
Air-Supply Hose and Pressure Gauge.....	6	Cleaning and Disinfecting.....	13
Connecting Inlet Pressure Gauge.....	6	Inspection .....	15
Interconnecting Air-Supply Hoses.....	6	Storage .....	16
Preparing Respirator for Use.....	7	Functional Checks .....	17
Donning the Apparatus.....	7	Troubleshooting .....	18

## NIOSH APPROVAL INFORMATION CAUTIONS AND LIMITATIONS

- A- Not for use in atmospheres containing less than 19.5 percent oxygen.
- B- Not for use in atmospheres immediately dangerous to life or health.
- C- Do not exceed maximum use concentrations established by regulatory standards.
- 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.
- G- If airflow is cut off, switch to filter/or cartridge or canister and immediately exit to clean air.
- H- Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before break through occurs.
- 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.
- L- Follow the manufacturer's User's Instructions for changing cartridges, canister and/or filters.
- M- All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA and other applicable regulations.
- N- Never substitute, modify, add or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
- O- Refer to Users Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
- P- NIOSH does not evaluate respirators for use as surgical masks.
- S- Special or critical Users Instructions and/or specific use limitations apply. Refer to user instructions before donning.

## S - SPECIAL OR CRITICAL USER INSTRUCTIONS

1. 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].
2. The program administrator and respirator users must read and understand these instructions before trying to use or service this product.
3. The PremAire Supplied-Air Respirator System will perform as designed only if used and maintained according to these instructions.
4. This respirator may be used only after proper instruction and training in its use as specified in OSHA regulations Title 29 CFR 1910.134.
5. Inspect the respirator regularly and maintain it according to the instructions. Repairs must only be made by properly trained personnel.
6. 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.
7. Use strictly in accordance with instructions, labels and limitations pertaining to this device.
8. 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.
9. Do not use the PremAire System for firefighting.
10. Do not use the PremAire System for underwater applications.
11. Thoroughly check out the respirator on receipt and prior to use.

# INTRODUCTION

12. Do not use compressed oxygen with the PremAire System.
13. 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. Also, only the PremAire XV and the PremAire Cadet XV with escape cylinders are approved as an entry and escape respirator from IDLH atmospheres.
14. 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.
15. 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.
16. Use only the listed hose lengths and air-pressure range specified in these instructions.
17. 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® and 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).

## **⚠ WARNING**

**Particles and contaminants can enter an airline 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. Failure to follow this warning can result in serious personal injury or death.**

18. When using Ultra Elite or Ultravue Facepieces at temperatures below 32°F, noseclip is required. A noseclip must always be used with the Advantage 4000 Facepiece.

## 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.



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



**Escape Cylinder  
Capability  
(P/N 800808)**



**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 defined by 42 CFR Part 84, Subpart J. 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).



# OPERATING PRINCIPLES

## OPERATING PRINCIPLES

The PremAire System Supplied-Air Respirator provides respirable air to the user on demand — not constantly, as in a constant-flow type device.

The PremAire Respirator is a pressure-demand regulator mounted at the facepiece. This mask mounted regulator (MMR) maintains a slight positive pressure within the facepiece while regulating and reducing the air supply to a breathable pressure. This is accomplished by using a pilot diaphragm that senses the breathing demands of the user in a controlled feedback state.

The PremAire Respirator is designed to maintain a slight positive pressure of air inside the facepiece, whether the wearer is inhaling or exhaling, to prevent contaminants from entering the facepiece, should there be slight face-to-facepiece seal leakage.

As such, it is suitable for use with a large, compressed air cylinder of breathable air or a bank of cylinders set up in cascade fashion. Alternatively, the PremAire Respirator can be used with a compressor system designed and configured to supply respirable breathing air to the respirator, within the NIOSH approved pressure range.

In normal use, the pressure-demand respirator is connected to an air supply of a type and duration selected by the user and will provide respiratory protection as long as the user remains connected to the air supply.

### ⚠ WARNING

**DO NOT use the PremAire Respirator in an IDLH atmosphere UNLESS equipped with the emergency escape air cylinder and a pressure-demand only facepiece. This is because if the air supply should fail, the user has no adequate means to escape from an IDLH atmosphere to fresh air. Duo-Twin versions of the PremAire System are not NIOSH approved for use in IDLH atmospheres. Failure to follow this warning can result in serious personal injury or death.**

IDLH means conditions that pose an 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].

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].

## GENERAL INSTRUCTIONS

### AIR SOURCE

The purity of the air supply is the responsibility of the user. The respirator is approved only when the air supplied to the respirator meets the requirements of the Compressed Gas Association Specification G7.1 for Quality Verification Level (Grade) D Breathable Air. This requires that the air contain no more than 10 parts per million (ppm) carbon monoxide, not more than 1000 parts per million (ppm) carbon dioxide, and not more than 5 milligrams per cubic meter of oil vapor or oil particulates.

### AIR-SUPPLY HOSE AND PRESSURE GAUGE

The PremAire System can be used with a wide range of MSA air-supply hoses, which can be interconnected up to a maximum length of 300 feet. A maximum of 12 sections of air-supply hose may be used in making up the maximum 300 feet working length of hose. Each section of coiled hose is considered 50 feet in length (maximum 6 sections).

### ⚠ WARNING

**MSA air-supply hoses have various temperature limitations. DO NOT use the PremAire System whenever ambient or inlet-air temperatures exceed the limits specified below for each hose material. Failure to follow this warning can result in serious personal injury or death.**

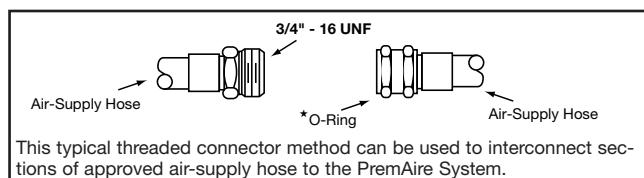
HOSE MATERIAL	RECOMMENDED LIMITS
Polyvinyl Chloride	32°F/120°F
Neoprene	-25°F/212°F
Nylon	-20°F/180°F

### INLET PRESSURE GAUGE

To ensure accurate readings, the inlet pressure-gauge assembly must be installed at the air source.

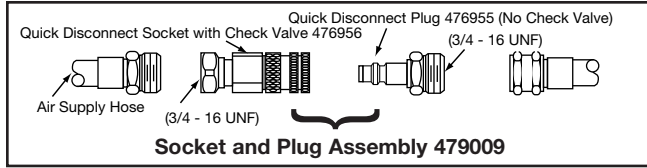
### INTERCONNECTING AIR-SUPPLY HOSES

MSA air-supply hoses can be interconnected up to a maximum length of 300 feet without voiding the NIOSH approval. MSA offers both threaded and locking-type quick disconnects.

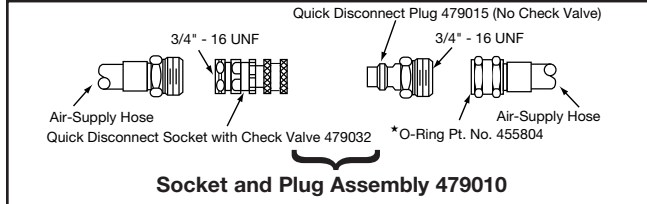


# OPERATING PRINCIPLES

## CEJN - Chrome



## SNAP-TITE — Aluminum



Locking quick-disconnects easily connect by pushing the plug and socket together. To separate, push the plug and socket together, then pull the sleeve from the plug.

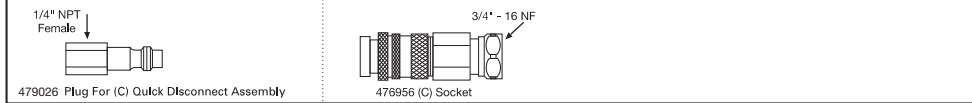
### ⚠ WARNING

Hoses must only be interconnected with either the threaded connector (3/4 16 UNF) or the locking-type quick-disconnects listed above. Do NOT use nonlocking quick-disconnects to interconnect air-supply hoses. Failure to follow this warning can result in serious personal injury or death.

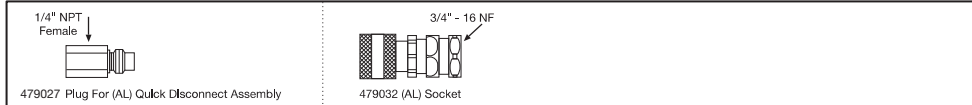
## Quick Disconnects Table Chart

### LOCKING TYPES

#### CEJN — Chrome (C)

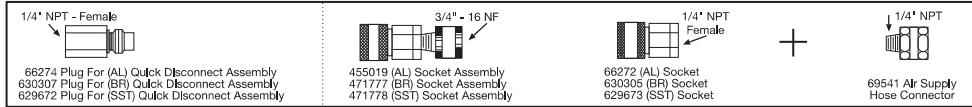


#### SNAP-TITE — Aluminum (AL)



### NON-LOCKING TYPES

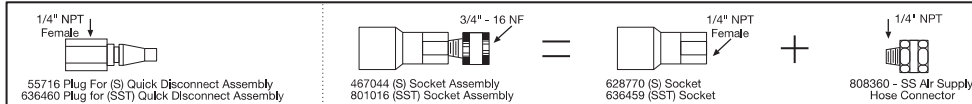
#### SNAP-TITE — Aluminum (AL)



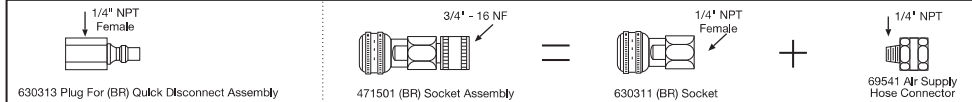
#### Brass (BR)

#### Stainless Steel (SST)

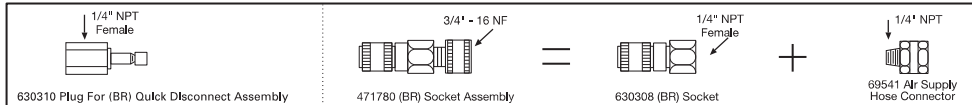
#### FOSTER — Steel (S) Stainless Steel (SST)



#### HANSEN — Brass (BR)

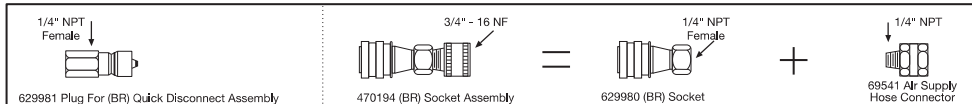


#### DUFF-NORTON — Brass (BR)

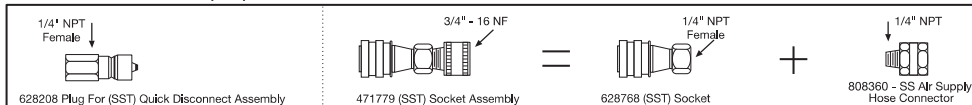


### NON-LOCKING TYPES — WITH CHECK VALVE IN PLUG

#### FOSTER — Brass (BR)



#### HANSEN — Stainless Steel (SST)



# DONNING

## PREPARING RESPIRATOR FOR USE

1. UPON RECEIPT, thoroughly check the respirator before use. Check the facepiece, regulator, hoses and all fittings for shipping damage. Replace any damaged components.
2. BEFORE EACH USE, inspect the facepiece, regulator, and hoses for wear. Replace any damaged components. See inspection guidelines.

## DONNING THE APPARATUS

1. Remove the facepiece from the case.

### ⚠ WARNING

Do not use a cover lens in a high-temperature environment, such as firefighting. High temperatures may distort the cover lens. Or, moisture trapped between a cover lens and the facepiece lens may condense and distort vision. Always remove the cover lens before donning the facepiece. Failure to follow this warning can result in serious personal injury or death.

2. Fasten the waist-strap and pull it tight for a snug fit. The waist-strap end must be tucked in and lay flat across the body.



## REGULATOR CHECK

1. Grasp the mask mounted regulator and push the shut-off IN.

**Note:** The 1/4 Turn Second Stage MMR Regulator has a shut-off button on one end of the regulator. The Firehawk Second Stage MMR Regulator has a slide button (top release button) on top of the regulator.

2. Connect the air-supply hose to the "MAIN" inlet of the PremAire manifold to initiate air flow.
3. No air should flow from the regulator. If it does, repeat steps 1 and 2.
4. Disconnect air-supply. Slowly bleed off pressure.

### ⚠ WARNING

The apparatus must be checked and corrected for proper operation by an MSA trained repairperson before using. Failure to follow this warning can result in serious personal injury or death.

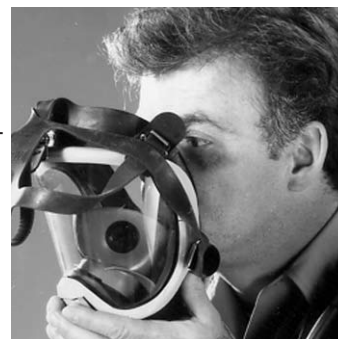
**Note:** Before donning, check that the regulator quick-connect seal ring is seated properly in its groove, and that it is not torn, gouged, or nicked.

## DONNING THE FACEPIECE

### ⚠ WARNING

Do not wear eyeglasses under the facepiece. The temples or sidebars on eye glasses will prevent an airtight seal. If you must wear glasses, install the spectacle kit. Failure to follow this warning can cause inhalation of contaminated air, resulting in serious respiratory injury or death.

1. Extend the facepiece straps fully. Place neck-strap around your neck and don the facepiece by inserting your chin first.



2. Pull the head harness completely over your head and tighten the lower (neck) straps.



3. Tighten the lower (neck) harness straps first, by pulling them straight back, not out. Tighten the temple straps the same way.
4. Tuck in the ends of the straps so that they lay flat across the head.
5. Push headband pad towards neck and repeat step 2. If necessary, tighten the front strap for best visibility and fit.
6. Tuck in the ends of the straps so they lay flat across the head.

# DONNING

## USING THE SPEED-ON HEAD HARNESS

1. Loosen the neck straps so the end-tabs are at the buckles.
2. Insert your chin into the facepiece.
3. Pull the harness "net" over the crown of your head.
4. Tighten the neck straps. If necessary, tighten the temple or front strap adjustments.
5. Tuck in the straps so that they lay flat across the head.

## RESPIRATOR FIT TEST

A qualitative or quantitative fit test must be conducted for each wearer of the respirator to determine the amount of protection it will provide. Respirator fit tests are explained fully in the American National Standard for Respiratory Protection, ANSI Z88.2, which is published by the American National Standards Institute.

### Quantitative Test

If a quantitative fit test is used, a fit factor that is at least 1,000 shall be obtained before that respirator is assigned to an individual.

### Qualitative Test

If a qualitative fit test is used, only validated protocols are acceptable. The individual must pass a test designed to assess a fit factor of at least 1,000.

Respirators must be qualitatively or quantitatively fit tested in a negative-pressure mode.

### **⚠ WARNING**

**The user must perform a respirator fit test and follow all warnings and limitations specified. Failure to follow this warning can result in serious personal injury or death.**

Respirator fit tests are explained fully in the American National Standard "Practices for Respiratory Protection," ANSI Z88.2 1980, published by the American National Standards Institute.

**Note:** The user assumes all risks of death or serious bodily injury which can result if a fit test is not performed or the respirator limitations are not followed.

## FACEPIECE FIT CHECK

1. To check the inhalation valve, inhale. If you do not receive sufficient flow of air, remove and replace the facepiece.
2. To check for facepiece fit, hold the palm of your hand over the inlet connection and inhale. Hold your breath at least 10 seconds. The facepiece should collapse

and stay collapsed against your face. If it does not, readjust the facepiece and test again. **If this does not correct the leak, do not use the facepiece.**

3. Test the exhalation valve, take a deep breath and hold it. Block the inlet connection with the palm of your hand and exhale. If the exhalation valve is stuck, you may feel a heavy rush of air around the facepiece.



**Note:** You may need to exhale sharply to open the valve. If this does not release the valve, **do not** use the facepiece. See PremAire Duo-Twin Instruction Manual for Air Tightness Test for Duo-Twin facepiece (P/N 818370).

## DONNING AND USING THE RESPIRATOR

### **⚠ WARNING**

**Before donning and using the respirator, you must test the apparatus for any leaks in the supplied-air system. The respirator must be pressurized to conduct these tests. See Instruction manual for the required leak test procedures. Failure to follow this warning can result in serious personal injury or death.**



See PremAire Vortex Tube Instruction Manual for additional donning instructions (P/N 497231).

### **⚠ WARNING**

**This device may not seal properly with your face if you have a beard, gross sideburns, or similar physical characteristics (see ANSI Z88.2). An improper facial seal may allow contaminants to leak into the facepiece, reducing or eliminating respiratory protection. Do not use this device if such conditions exist. The face-to-facepiece seal must be tested before each use. Never remove the facepiece except in a safe, non-hazardous, non-toxic atmosphere. Failure to follow this warning can result in serious personal injury or death.**

Connect the air-supply hose to the "Main" inlet of the PremAire manifold to initiate air flow.



# DONNING

## INSTALLING 1/4 REGULATOR

1. To connect the Quick-Connect regulator to the facepiece, push the regulator into the facepiece adapter.



- a. Rotate the regulator 1/4 turn. The regulator can be rotated in either direction.



- b. Listen for the release tab to “click” as the regulator locks onto the facepiece.
- c. Verify proper engagement by rotating the regulator until it contacts the release tab and stops. The regulator must only swivel 70 degrees.
- d. Double check proper engagement by pulling on the regulator to ensure that the regulator is securely attached to the facepiece.

### ⚠ WARNING

**Do not use the respirator unless the regulator is connected properly. The regulator must swivel approximately 70 degrees, but must NOT rotate beyond the tab stops. Do NOT use the respirator if the regulator does not swivel approximately 70 degrees or rotates beyond the tab stops. Return the respirator to an MSA trained or certified repairperson to correct the condition. A regulator that is not installed correctly can separate from the facepiece unexpectedly. Failure to follow this warning can result in serious personal injury or death.**

2. Inhale sharply to start the air flow. The shut-off button should pop out automatically.
  - a. Check the bypass again. Turn the red knob counter-clockwise until it locks in position.

## INSTALLING FIREHAWK REGULATOR

1. Grasp regulator and orient regulator so that the slide button is on top.
2. Slide regulator onto rail (fast track) of facepiece cover. Slide regulator down the rail cover until regulator stops.
3. Insert regulator into facepiece adapter by pushing inward.
4. Listen for the button to “click” as the regulator locks into the facepiece.
5. Check proper engagement by pulling on the regulator to ensure regulator is securely attached to facepiece.

### ⚠ WARNING

**Do not use this respirator unless the regulator is connected properly. A regulator that is not installed correctly can separate from the facepiece unexpectedly. Return the respirator to an MSA trained and certified repairperson to correct the condition. Failure to follow this warning can result in serious personal injury or death.**

6. Inhale sharply to start the airflow.

### ⚠ WARNING

**If the apparatus passes all tests, the PremAire is ready to use. Remember, you must make these tests every time before you enter the hazardous atmosphere. If the unit fails to meet any of these tests, the condition(s) must be corrected before using the apparatus. Failure to follow this warning can result in serious personal injury or death.**

## INSTALLING FIREHAWK PUSH-TO-CONNECT REGULATOR

1. Grasp regulator and insert regulator into facepiece adapter by pushing inward. Listen for the buttons to “click” as regulator locks into the facepiece. Check proper engagement by pulling on the regulator to ensure regulator is securely attached to facepiece adapter.

### ⚠ WARNING

**Do not use the respirator unless the regulator is connected properly. A regulator that is not installed correctly can separate from the facepiece unexpectedly. Return the respirator to an MSA trained or certified repairperson to correct the condition. Failure to follow this warning can result in serious personal injury or death.**

2. Inhale sharply to start the airflow.

## DONNING

**Note:** If the respirator passes all tests, the unit is ready to use. Remember, you must perform these tests every time before you enter the hazardous atmosphere. If the unit fails to meet any of the tests, the condition(s) must be corrected before using the respirator.

**Note:** If using the PremAire Respirator with any of the following options, see the sections indicated for proper instructions for use.



See PremAire Escape Cylinder Instruction Manual for use instructions (P/N 800808).



See PremAire Duo-Twin Instruction Manual for use instructions (P/N 818370).



See PremAire Dual-Supply Instruction Manual for use instructions (P/N 497230).



See PremAire Vortex Tube Instruction Manual for use instructions (P/N 497231).

**Note:** If a decontamination procedure, created by a certified health and/or safety professional, has been established for the application in which this respirator is used, that procedure should take precedence.

# DOFFING

## REMOVING THE APPARATUS

**Note:** When ready to leave the work area, proceed to an area not requiring respiratory protection\*. Remain connected to the air-supply hose until this "safe" area is reached. Then remove the facepiece. The air-supply hose can then be disconnected.

## REMOVING THE 1/4 TURN REGULATOR

1. To disconnect the regulator, pull the release tab away from the facepiece.

- a. Rotate the regulator 1/4 turn. Pull the regulator away from the facepiece as you turn it so that it slides out of the groove.



2. Press the shut-off to release system pressure.
3. Press the shut-off button IN. Stow the regulator in the stand-by belt mount when it is not in use.

**Note:** Air will flow from the second stage regulator briefly until system pressure is relieved.

## REMOVING FIREHAWK REGULATOR

1. Grasp top of regulator.
2. Push the release buttons and pull regulator down and out of facepiece adapter.

**Note:** Regulator can hang on cover rail in a stand-by mode.

3. Slide regulator up cover rail until regulator slide button is free of cover rail.

4. To remove the facepiece, fully loosen the harness straps and pull the facepiece up and away from your face.



## DISCONNECTING THE FIREHAWK PUSH-TO-CONNECT REGULATOR

1. Grasp top of regulator.
2. Push the release buttons and pull regulator out of facepiece adapter.
3. To remove the belt, press the belt buckle release button IN.

**Note:** Inspection and Cleaning and Disinfecting procedures are outlined in this manual. Ensure complete apparatus is clean and dry. Ensure that facepiece head harness straps and harness adjustment straps are fully extended. Place the complete apparatus in the storage case or suitable storage location so it can be reached easily for emergency use.

## STORAGE

Do not store the respirator near substances that can attack respirator components, causing them to fail to perform as designed.

The PremAire system should be stored in a cool, clean, dry place, away from direct sunlight. Heat and sunlight will shorten the life of rubber parts.

## AIR PURIFYING DOFFING (REMOVING)

### ⚠ WARNING

**If you are working in a contaminated atmosphere, or you are exposed to contaminants while in the work area, take the proper precautions to decontaminate the facepiece and head harness before doffing the facepiece. You must determine the potential risk and take the necessary precautions. Failure to follow this warning can result in serious personal injury or death.**

**Note:** If a decontamination procedure (created by a certified health and/or safety professional) has been established for the application in which this respirator is used, the procedure should take precedence.

1. Return to an area that does not require respiratory protection before removing the respirator.
2. Disconnect the MMR from the facepiece.
3. Press the MMR shut-off button in to stop the flow of air.
4. Remove the facepiece by fully loosening the harness straps.
5. Pull the facepiece up and away from your face.
6. See PremAire Duo-Twin Instruction Manual for use Instructions (P/N 818370).

\*If a decontamination procedure, created by a certified health professional, has been established for the application in which the respirator is used, that procedure should take precedence.



# CLEANING AND DISINFECTING

## CLEANING AND DISINFECTING

Respirators should be cleaned and disinfected after each use. The facepiece should be cleaned and disinfected after every use. Remove the filter cartridges (if used). MSA recommends using Confidence Plus® Cleaning 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 use alcohol because it may deteriorate rubber parts.**
- **If not rinsed thoroughly, cleaning agent residue may irritate the wearer's skin.**



# INSPECTION

## INSPECTION

### 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 warning can result in inhalation or skin absorption of the contaminant and cause serious personal injury or death.**

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 System. (See new 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.



See PremAire Duo-Twin Instruction Manual for other general repair requirements.

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 User's 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, or missing buckles and 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. Also check to be sure the spider gasket, O-ring, and valve disc are present.
4. Harness
  - a. Inspect all harness components for cuts, tears, abrasions, or signs of heat or chemical-related damage. Check that the tee nuts, washers, and screws, if any, are secure.
5. Record Keeping
  - a. 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.

**Note:** There are additional components to be inspected for PremAire Cadet Respirators with Escape Cylinder. Refer to the Inspection section in P/N 497230.

# STORAGE

## PREPARATION FOR STORAGE

**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 damp sponge 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 perform as designed.**

The PremAire CADET Respirator must be stored in a cool, dry place away from direct sunlight. Heat 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.
  - a. Check that the cylinder valve and second stage shut-off are closed and the system is not pressurized.
  - b. Hold the facepiece against your face to create an effective seal.
  - c. Attach the regulator to the facepiece and inhale until the facepiece begins to collapse against your face. Hold your breath for about 10 seconds. The negative pressure should be maintained and the facepiece should remain collapsed against your face for the entire 10 seconds.
  - d. Do not use the apparatus if negative pressure cannot be maintained in the facepiece. Return the regulator and facepiece to a certified repairperson.
2. Inspect the Second Stage Shut-Off.
  - 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 can result in serious personal injury, death, or damage to equipment.**

## TROUBLESHOOTING

TROUBLE	PROBABLE CAUSE	REMEDY
Regulator has low flow performance	<p>Air-supply not fully open or pressure at wrong setting.</p> <p>Second-stage inlet filter may be plugged.</p> <p>Second stage regulator may require adjustments.</p>	<p>Be sure air source valve is fully open and that inlet pressure is between 60-100 psig.</p> <p>Remove the regulator from service and replace the inlet filter. See repair instructions.</p> <p>Return to MSA trained repair technician.</p>
Air leaking at mask mounted regulator.	<p>Swivel O-rings leaking.</p> <p>Swivel not fully engaged.</p> <p>Facepiece connection leaking.</p>	<p>Disconnect the regulator hose assembly. Inspect and replace the O-rings. See repair instructions.</p> <p>Return to MSA trained repair technician.</p> <p>If using Ultra Elite or Ultravue Facepieces, remove the regulator and inspect or replace seal ring and spider gasket within the Quick-Connect Adapter. See repair instructions of inhalation check valve and spider gasket.</p> <p>If using the Advantage 4000 Facepiece, inspect the gray silicone valve for perforations, cuts, or other visible irregularities that could compromise seal integrity.</p>
Air leaking from manifold.	Manifold port(s) not plugged.	Check all manifold parts to make sure they are plugged and sealed.



For More Information, call 1-800-MSA-2222 or Visit Our Website at [www.MSAnet.com](http://www.MSAnet.com)



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