

PremAire® Cadet Escape Respirator: Introduction

MAINTENANCE AND REPAIR

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



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INTRODUCTION

Table of Contents

INTRODUCTION.....	2
Operation and Instructions	2
PremAire Cadet Escape Respirator Maintenance and Repair.....	2
Special Note For PremAire Cadet Escape Respirator Maintenance And Repair Documents.....	3
GENERAL NOTES.....	3
Depressurize	3
Eye and Face Protection.....	3

Christo-Lube Lubricant.....	3
O-Rings, Back-Up Rings, and Gaskets.....	3
PTFE (Teflon) Pipe-Sealing Tape.....	3
Torque	3
Adhesives and Sealants.....	3
Tools	3
Standard Tools.....	4
Special Tools, Adhesives, Lubricants, and Sealants	5
FLOW TEST AND OVERHAUL REQUIREMENTS	5

⚠ WARNING

This manual is intended for use with PremAire Cadet Escape Combination Supplied Air Respirators only. DO NOT use the procedures in this manual for maintaining self-contained breathing apparatus (SCBA) regulators. Airline regulators are designed for pressures up to 80 psig. Use with an air source in excess of 80 psig may result in airline regulator rupture, causing serious personal injury or death.

INTRODUCTION

Operation and Instructions

A thorough understanding of the PremAire Cadet Escape Respirator is essential before attempting to repair or maintain the PremAire Cadet Escape Respirator.

The PremAire Cadet Escape Respirator Operation and Instructions (P/N 10063148), available at www.MSASafety.com has NIOSH Approval information and user instructions for donning and doffing, negative pressure user seal checks, and cleaning and disinfecting, etc.

Thoroughly read the PremAire Cadet Escape Respirator Operation and Instructions. Follow procedures and maintenance schedules in the Operation and Instructions and/or as specified herein. If an apparatus does not pass all tests and/or checks, remove it from service until it has been repaired and passes all tests.

PremAire Cadet Escape Respirator Maintenance and Repair

PremAire Cadet Escape Respirator Maintenance and Repair documents contain all maintenance procedures for the PremAire Cadet Escape Respirator. This document is for I.C.A.R.E. certified Air Mask Repair personnel only.

Only MSA I.C.A.R.E certified personnel are permitted to maintain and repair the PremAire Cadet Escape Respirator and only according to PremAire Cadet Escape Respirator Maintenance and Repair instructions.

⚠ WARNING

DO NOT attempt to repair the PremAire Cadet Escape Respirator unless I.C.A.R.E. certified by MSA. Only MSA I.C.A.R.E certified personnel are permitted to maintain and repair the PremAire Cadet Escape Respirator and only according to PremAire Cadet Escape Respirator Maintenance and Repair instructions. Failure to follow this warning can result in serious personal injury or death.

⚠ WARNING

DO NOT attempt to maintain and/or repair the PremAire Cadet Escape Respirator without ICARE Certification from MSA. Failure to follow this warning can result in serious personal injury or death.

Use only MSA-approved parts.

The PremAire Cadet Escape Respirator is certified by the National Institute of Occupational Safety and Health (NIOSH). Do not alter, modify, or substitute parts without the approval of MSA. Doing so voids NIOSH approval. Do not deviate from the maintenance and repair procedures contained herein unless approved in writing by MSA.

⚠ WARNING

DO NOT attempt to make repairs beyond those specified in this manual. Use only MSA approved parts. The PremAire Cadet Escape Respirator will perform as designed only if used, maintained and repaired according to PremAire Cadet Escape Respirator Maintenance and Repair instructions. If not used, maintained and repaired according to these instructions, the air mask could fail to perform as designed and persons who rely on the air mask for respiratory protection could sustain serious personal injury or death.

The warranties made by MSA with respect to the product are void if the product is not used, maintained, and repaired according to PremAire Cadet Escape Respirator Maintenance and Repair documents.

INTRODUCTION

For additional information, or for answers to maintenance and repair questions, write to MSA at the address below, or call 1-800-MSA-2222 during regular working hours.

Special Note For PremAire Cadet Escape Respirator Maintenance And Repair Documents

Earlier I.C.A.R.E. documents identify “critical repair” items with a heavy black outline. Critical repair items require I.C.A.R.E. certification for maintenance and repair and must be flow tested on MSA-approved flow test equipment.

PremAire Cadet Escape Respirator Maintenance and Repair documents do not differentiate between user serviceable and critical repair items. However, the requirements for I.C.A.R.E. certification and the use of MSA-approved flow testing equipment remain.

GENERAL NOTES

Depressurize

- Depressurize the PremAire Cadet Escape Respirator before maintenance or repair.
- Close the cylinder valve.
- Squeeze the shut off buttons.
- Open the bypass.

Eye and Face Protection

⚠ WARNING

Wear eye or face protection to avoid injury. Failure to follow this warning can result in serious personal injury.

Christo-Lube Lubricant

- When instructed to apply Christo-Lube lubricant, use it sparingly. A “small amount” is almost invisible. If you can see white, you’ve used too much.
- Lubricate and install the part immediately. Lubricant can collect dirt and contaminants.

O-Rings, Back-Up Rings, and Gaskets

- Do not reuse o-rings, back-up rings, or gaskets.
- If a part with o-ring(s), back-up rings, or gasket(s) is removed, discard and replace the o-rings, back-up rings and/or gaskets.
- Use tape, a thin piece of paper, or other protector when installing o-rings.
- Lubricate as instructed.

PTFE (Teflon) Pipe-sealing Tape

- Use Teflon tape on fittings with tapered threads.
- Start at the second thread. Do not put tape on the first thread.
- Wrap 1 to 1-1/2 turns of tape in a clockwise direction (looking into the threaded end of the fitting).
- Pieces of tape can break off and reduce air flow.

Note: Do not overtighten threaded parts.

Torque

- Unless specified otherwise, torques are calculated for dry thread.

⚠ CAUTION

DO NOT APPLY LUBRICANT UNLESS SPECIFICALLY INSTRUCTED. Lubricant can cause thread failure and component separation.

- Calibrate torque wrenches, gauges, and other test instruments regularly.

Adhesives and Sealants

- Use only as instructed.
- Use MSA-approved adhesives, sealants, leak detectors, and lubricants.
- Use adhesives, sealants, and lubricants sparingly.
- Although adhesives and sealants both hold parts in place, never swap them. Use adhesives and sealants as specified.

Tools

Most repairs can be done with standard tools. Some special tools are required.

INTRODUCTION

STANDARD TOOLS

Tool	Spec.	Drive	Type	
Wrench (open end)	7/16"			
	5/8"			
	11/16"			
	13/16"			
	7/8"			
Breaker Bar		3/8"		
Socket adapters (Female to Male)		3/8" to 1/2"		
		1/2" to 3/4"		
Socket	7/16"	3/8"	Deepwell	6 point
	7/16"			
	9/16"			
	11/16"			
	3/4"			
	7/8"			
	1"	Deepwell		
	1-5/8"	1/2" to 3/4"	6 point	
Screwdriver Bit	No. 2	3/8"	Phillips	
Torque Wrench	0-250 in. lbs.	3/8"		
	10-100 ft. lbs.			
Crowsfoot	3/4"	3/8"		
	5/8"			
	11/16"			
	13/16"			
	7/8"			
Hex Wrench/Bit	1/8"			
	1/4"			
	3/16"			
Screwdriver (Slot head)	1/8"			
	1/4"			
Pliers	Needle Nose			
	Channel Lock			
	Retaining Ring		Convertible	
Nut Driver	3/16"			

INTRODUCTION

SPECIAL TOOLS, ADHESIVES, LUBRICANTS, AND SEALANTS

Part Number	Description
636060	O-ring Removal Tool
633411	Plastic Stick
28907	Teflon Tape
604070	Christo-Lube Lubricant
600920	Snoop Leak Detector
29787	Loctite 222
480000184	Loctite 243
466008	Locknut Wrench
10009971	Confidence Plus Germicidal Cleaner
10090548	Lever Height Gauge
10075663	Test Manifold, PremAire Cadet Escape Respirator
10064120	Test Manifold, PremAire Cadet Responder Respirator

MSA FLOW TEST POLICY

MSA recommends using an MSA approved Test Bench to flow test SCBA at a minimum:

- Before putting a new SCBA into service.

Note: MSA flow tests every new SCBA before it leaves our factory. The flow test results are shipped with the product.

- At least annually
- After a repair or user reported condition before returning the SCBA into service:
 - o Facepieces: If a lens or parts within the component housing and /or nose cup are replaced, perform a facepiece flow test and function test.
 - o Pneumatics: If a 1st stage regulator, 2nd stage regulator, or Audi-Larm is repaired, adjusted or replaced, perform a flow test and function test.
 - o Other Assemblies: If a Hose or Control Module is replaced, perform a leak test and function check. If a power module is replaced, perform a function check.

FLOW TEST AND OVERHAUL REQUIREMENTS

The PremAire Cadet Escape Respirator must be flow tested and overhauled at the intervals determined by use. PremAire Cadet Escape Respirators must be flow tested annually using an MSA-approved flow test device.

Required Overhaul and Flow Test Frequency

Average Combination Supplied Air Respirator Use*	Second Stage Regulator and Cylinder and Valve Assembly Overhaul Frequency	Flow Test Frequency
Thirty (30) minutes or more of airline use or one (1) or more cylinder(s) per day.	every 3 years	every year
Thirty (30) minutes of airline use or one (1) cylinder every other day.	every 8 years	
Up to thirty (30) minutes of airline or one (1) cylinder per week.	every 15 years	

* The unit of combination supplied air respirator use is defined as thirty (30) minutes of airline use or the consumption (or partial consumption) of one escape cylinder. If combination supplied air respirator use cannot be determined, overhaul every three (3) years.

Retiring a Combination Supplied-Air Respirator

Base the decision to retire a combination supplied-air respirator on performance data. Retire combination supplied-air respirators that do not meet specified performance levels.