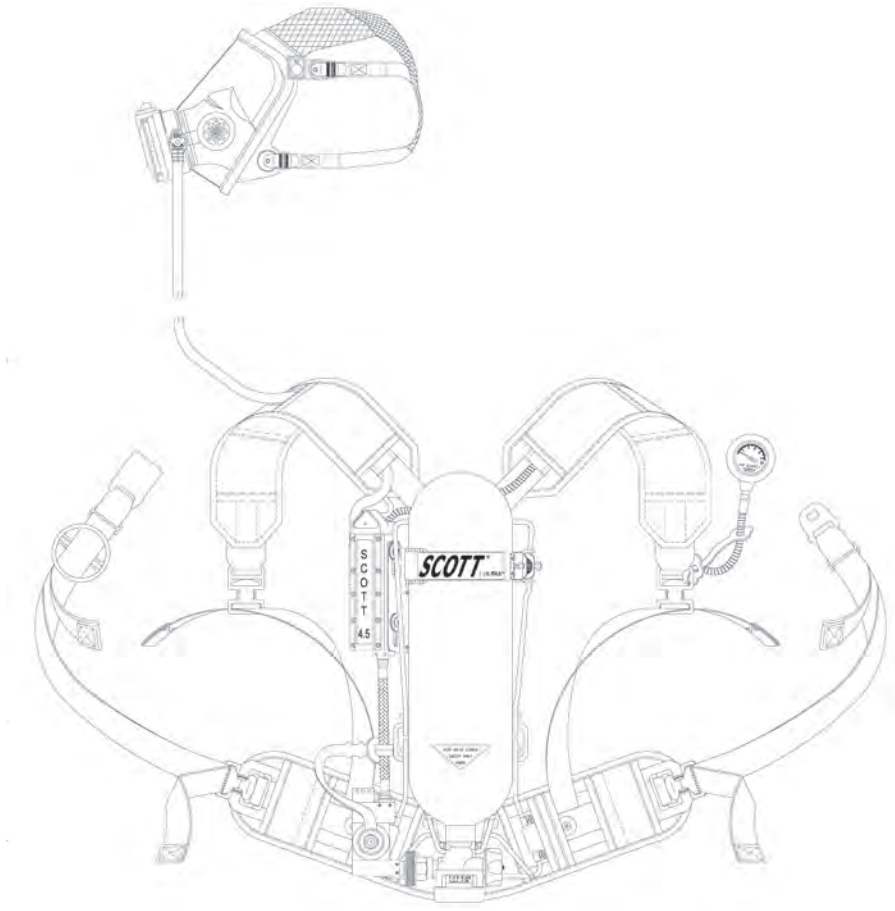
TM 10-4240-343-13&P

TECHNICAL MANUAL

FIELD MAINTENANCE MANUAL (INCLUDING
REPAIR PARTS AND SPECIAL TOOLS LIST)
FOR

SELF-CONTAINED BREATHING APPARATUS (SCBA)
(45 MINUTE)
NSN 4240-01-545-9605



HEADQUARTERS, DEPARTMENT OF THE ARMY

APRIL 2008

WARNING SUMMARY

FIRST AID

First aid is an important skill for all personnel. The ability to promptly administer first aid to another soldier could mean the difference between life and death for that soldier. First aid procedures for soldiers are contained in FM 4-25.11.

WARNING CONTENT SUMMARY

This warning summary contains general safety warnings and hazardous materials warnings that must be understood and applied during the operation and maintenance of the Self-Contained Breathing Apparatus (SCBA). Failure to observe these precautions could result in serious injury or death to personnel. Also included are explanations of safety and of hazardous materials used within the technical manual. Pages a through d are the Original Equipment Manufacturer's (OEM) warnings and cautions that have been modified to comply with US Army safety standards.

WARNINGS

Before depressurizing the cylinder assembly, ensure that all personnel stand clear of the area to avoid serious injury from flying debris. Failure to comply with this warning may result in serious injury or death to personnel.

Prior to donning the SCBA, ensure that the immediate location provides adequate space to safely don the SCBA. Failure to comply with this warning my cause damage to the equipment or cause serious injury or death to personnel.

For proper SCBA operation, the cylinder valve must be fully opened. SCBA use with cylinder valve partially opened may cause a reduction or sudden and complete loss of air supply. Failure to comply with this warning may result in serious injury or death to personnel.

If the Vibralert does not actuate or the HUD (if attached) does not initialize as described, remove the SCBA from service and tag out (FM 4-01.502) (supersedes FM 55-502) for repair. Failure to comply with this warning may result in serious injury or death to personnel.

Should the Vibralert or HUD activate during operational use, immediately leave the area requiring SCBA protection. Failure to comply with this warning may resuslt in serious injury or death to personnel.

Doffing the SCBA must be performed only when the user is in a safe environment that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

Cylinder assembly removal must be performed only when the user is in a safe environment that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

Verify that the remote pressure indicator shows no sign of air pressure prior to removing the RIC/UAC assemby. High-pressure air may cause damage to the equipment and cause serious injury or death to personnel.

WARNINGS (continued)

Do not grab the handwheel when preparing to remove the cylinder assembly from the backframe. Ensure that the hand grasps the cylinder valve. Failure to comply with this warning may result in serious injury or death to personnel.

Never use a cylinder assembly having a damaged cylinder valve or a cylinder valve with damaged threads. Leakage may occur, which could cause a loss of breathing air or a sudden release of high-pressure air. Failure to comply with this warning may result in serious injury or death to personnel.

When the facepiece is worn with the mask-mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position the crewmember will not be able to breathe normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death.

If in doubt about the serviceability of a part, replace it immediately. Worn or damaged parts shall be replaced with authorized replacement parts only. Failure to comply with this warning may result in serious injury or death to personnel.

Do not disassemble components or loosen or tighten fittings while the system is pressurized. Prior to performing maintenance, ensure high-pressure air supply has been shut down and all pressure has been bled from the system. Failure to comply with this warning may result in serious injury or death to personnel.

Omission or negligent performance of corrective maintenance procedures on this equipment could result in equipment failure. Failure to comply with this warning may result in serious injury or death to personnel.

Disassembly of the SCBA components beyond the procedures described in this manual shall not be performed. Additional disassembly may cause component failure. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

CAUTIONS

Ensure positive control is maintained during removal of the backframe and harness assembly. Failure to comply with this caution may resuslt in damage to the equipment.

Do not use a wrench to tighten the hand coupling to the cylinder valve. Overtightening may damage the hand coupling and the cylinder valve. Failure to comply with this caution may result in damage to the equipment.

Do not place the facepiece near a heater, a heat source, or in direct sunlight to dry. The rubber pieces of the facepiece may be damaged. Failure to comply with this caution may result in damage to the equipment.

Do not place the mask-mounted regulator near a heater, a heat source, or in direct sunlight to dry. The mask-mounted regulator may be damaged. Failure to comply with this caution may result in damage to the equipment.

To avoid damage to the O-ring groove, remove O-rings using the fingers only or the appropriate tool from an O-ring extractor kit. Failure to comply with this caution may result in damage to the equipment.

Before performing any maintenance, bleed the system of air to ensure that the internal system air pressure, not including the cylinder assembly, is equal to room (ambient) pressure. Failure to comply with this caution may result in damage to equipment.

The procedures in this section must be carried out by hand, without the aid of tools. Using tools to pry or pull components may damage rubber parts.

Do not use tools to pry or pull components during removal. Failure to comply with this caution will result in damage to the equipment.

Applying fresh water to the bezels and the faceseal will aid in assembly of these components. To avoid equipment damage, commercial lubricants must not be used in assembly of facepiece components. Failure to comply with this caution may result in damage to the equipment.

Only use a plastic scraper to remove the remaining portions of the respirator gasket. Failure to comply with this caution may result in damage to the equipment.

If the HUD is installed, ensure that the HUD electrical cable connector holes and the Visualert pins are aligned prior to connecting them together. Failure to comply with this caution may result in damage to the equipment.

Ensure that the Visualert outlet port is free of foreign matter before inserting the remote pressure indicator high-pressure hose. Failure to comply with this caution may result in damage to the equipment.

CAUTIONS (continued)

Install the retaining clip into bottom of the Visualert mounting block as shown in figure 6-32. Failure to comply with this caution may result in damage to the equipment.

Ensure that the HUD electrical cable connector holes and the Visualert pins are aligned prior to connecting them. Failure to comply with this caution may result in damage to the equipment.

Ensure that the RIC/UAC assembly inlet port is free of foreign matter before installing the RIC/UAC assembly. Failure to comply with this caution may result in damage to the equipment.

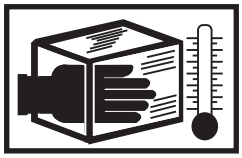
Ensure that the RIC/UAC assembly groove aligns with the pin holes prior to connecting them together. Failure to comply with this caution may result in damage to the equipment.

Do not use tools to remove the hip pad assembly. Failure to comply with this caution may result in damage to the equipment.

EXPLANATION OF SAFETY WARNING ICONS

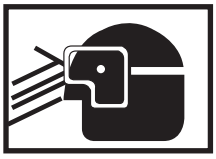
BIOLOGICAL - abstract symbol bug shows that a material may contain bacteria or viruses that present a danger to life or health.

CHEMICAL - drops of liquid on hand show that the material will cause burns or irritation to human skin or tissue.



CRYOGENIC - hand in block of ice shows that the material is extremely cold and can injure human skin or tissue.

EXPLOSION - rapidly expanding symbol shows that the material may explode if subjected to high temperatures, sources of ignition, or high pressure.



EYE PROTECTION - person with goggles shows that the material will injure the eyes.

FIRE - flame shows that a material may ignite and cause burns.

EAR PROTECTION - headphones over ears show that noise level will harm ears.

ELECTRICAL - electrical wire to arm with electricity symbol running through human body shows that shock hazard is present.

ELECTRICAL - electrical wire to hand with electricity symbol running through hand shows that shock hazard is present.

EXPLANATION OF SAFETY WARNING ICONS (continued)

FALLING PARTS - arrow bouncing off human shoulder and head shows that falling parts present a danger to life or limb.

FLYING PARTICLES - arrows bouncing off face show that particles flying through the air will harm face.

FLYING PARTICLES - arrows bouncing off face with face shield show that particles flying through the air will harm face.

HEAVY OBJECT - human figure stooping over heavy object shows physical injury potential from improper lifting technique.

HEAVY PARTS - hand with heavy object on top shows that heavy parts can crush and harm.

HEAVY PARTS - foot with heavy object on top shows that heavy parts can crush and harm.

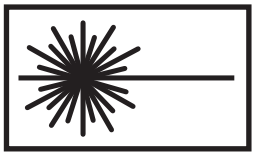
HEAVY PARTS - heavy object on human figure shows that heavy parts present a danger to life or limb.

HEAVY PARTS - heavy object pinning human figure against wall shows that heavy, moving parts present a danger to life or limb.

HELMET PROTECTION - arrow bouncing off head with helmet shows that falling parts present a danger.

EXPLANATION OF SAFETY WARNING ICONS (continued)

HOT AREA - hand over object radiating heat shows that part is hot and can burn.



LASER LIGHT - laser light hazard symbol indicates extreme danger for eyes from laser beams and reflections.

MOVING PARTS - human figure with an arm caught between gears shows that the moving parts of the equipment present a danger to life or limb.

MOVING PARTS - hand with fingers caught between gears shows that the moving parts of the equipment present a danger to life or limb.

MOVING PARTS - hand with fingers caught between rollers shows that the moving parts of the equipment present a danger to life or limb.

SHARP OBJECT - pointed object in hand shows that a sharp object presents a danger to limb.

SHARP OBJECT - pointed object in hand shows that a sharp object presents a danger to limb.

SHARP OBJECT - pointed object in foot shows that a sharp object presents a danger to limb.

SLICK FLOOR - wavy line on floor with legs prone shows that slick floor presents a danger for falling.

EXPLANATION OF SAFETY WARNING ICONS (continued)

POISON - skull and crossbones shows that a material is poisonous or is a danger to life.

VAPOR - human figure in a cloud shows that material vapors present a danger to life or health.

LIST OF EFFECTIVE PAGES / WORK PACKAGES

NOTE: Zero in the "Change Number" column indicates an original page or chapter/appendix.

Date of original issue for this manual is: 28 February 2008

Original . . . . . 04 April 2008

TOTAL NUMBER OF PAGES FOR FRONT AND REAR MATTER IS 34 AND TOTAL NUMBER OF CHAPTERS/APPENDIXES IS 16, CONSISTING OF THE FOLLOWING:

Page/WP Number	Change Number
Front Cover	0
Blank	0
Warning Summary (8 pgs)	0
A/B blank	0
Blank	0
i - viii	0
Chapter 1 (8 pgs)	0
Chapter 2 (20 pgs)	0
Chapter 3 (8 pgs)	0
Chapter 4 (36 pgs)	0
Chapter 5 (2 pgs)	0
Chapter 6 (40 pgs)	0
Appendix A (8 pgs)	0
Appendix B (2 pgs)	0
Appendix C (6 pgs)	0
Appendix D (2 pgs)	0
Appendix E (4 pgs)	0
Appendix F (2 pgs)	0
Appendix G (6 pgs)	0
Appendix H (20 pgs)	0
Appendix I (4 pgs)	0
Appendix J (4 pgs)	0
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Electronic DA Form 2028	0
DA 2028	0
Authentication Page	0
Rear Cover	0

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 04 April 2008

TECHNICAL MANUAL

FIELD MAINTENANCE MANUAL (INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST) FOR SELF-CONTAINED BREATHING APPARATUS (SCBA) (45 MINUTE) NSN 4240-01-545-9605

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Equipment Technical Publications) through the Internet on the Army Electronic Product Support (AEPS) Web site. The Internet address is https://aeps.ria.army.mil. The DA Form 2028 is located under the Public Applications section on the AEPS public home page. Fill out the form and click on SUBMIT. Using this form on the AEPS site will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax, or e-mail your letter or DA Form 2028 directly to: AMSTA-LC-LMPP / TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The e-mail address is ROCK-TACOM-TECH-PUBS@conus.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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TABLE OF CONTENTS (continued)

USING THIS MANUAL

This technical manual is a reproduction of Commercial Off The Shelf (COTS) technical information. The technical data contained in this technical manual applies to the equipment procured by the U.S. Army.

When using this manual, read and understand the entire maintenance action before performing the task. Also, read and understand all warnings, cautions, and notes as well as general safety precautions that apply to the task to be performed. The warning summary will inform personnel of hazards associated with the equipment to be worked on. However, the summary is not all-inclusive and personnel should be aware at all times of hazardous conditions that may arise.

ACCESSING INFORMATION

Information is accessed by referring to the table of contents, located in the front of this manual, or by looking in the alphabetical index, located in the back of this manual.

To locate information using the table of contents, first scan the chapter titles to determine the general area in which your information will be contained. After locating the proper chapter, look beneath the chapter title to find the desired informational or procedural title. To the right of the title is a page number. This page sequence number will direct you to the proper page.

To locate information using the alphabetical index, look down the subject column on the left side of the page until you find the desired subject. To the right of the subject is the page number. Go to the indicated page number to find the desired information.

ILLUSTRATIONS

Various visual methods are used to locate and repair components. Locator illustrations in Controls and Indicator tables, Preventive Maintenance Checks and Services (PMCS) tables, digital photos, exploded views, and cut-away diagrams make the information in the manual easier to understand and follow.

OPERATOR INSTRUCTIONS

Operator instructions are included in this manual to describe operation under usual conditions. Prior to performing any operating procedure, read the entire procedure and ensure that all required expendables, tools, materials, and other items listed are present prior to starting the task. Always perform the listed steps in the listed order.

TROUBLESHOOTING PROCEDURES

A troubleshooting chapter is contained in this manual. This chapter contains the troubleshooting procedures and data necessary to locate the source of equipment malfunction or performance degradation of the SCBA. Full directions for using the troubleshooting procedures are contained in the troubleshooting instructions in this chapter. The troubleshooting procedures immediately follow the troubleshooting instructions.

MAINTENANCE PROCEDURES

To locate a maintenance procedure, consult the table of contents or the alphabetical index. Each maintenance procedure contains complete maintenance procedures. Always ensure that the entire procedure is read and that all required expendables, tools, materials, and other items listed are present before beginning a maintenance procedure and always ensure that all warnings, cautions, and notes are heeded.

MAINTENANCE ALLOCATION CHART (MAC)

The MAC lists all of the authorized maintenance for the SCBA and assigns that maintenance to the appropriate maintenance level (operator, unit, field support, below depot, and depot). Use of the MAC is explained fully in the Maintenance Allocation Chart Introduction Appendix.

REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

The RPSTL lists all of the repair parts authorized for the SCBA. Illustrations are provided to assist in locating the desired repair parts. Full instructions for use of the RPSTL are contained in the Repair Parts and Special Tools List Introduction Appendix. Always follow the directions contained in this appendix when using the RPSTL.

ALPHABETICAL INDEX

The Alphabetical Index, located in the back of this manual, contains an alphabetical list of all sections of this manual. For example, Troubleshooting is found in section T. The page number is found on the right side of the title where the Troubleshooting is located. Turn to the page identified to view the troubleshooting procedures.

LIST OF ABBREVIATIONS/ACRONYMS

Abbreviation/Acronym	Name
AEPS	Army Electronic Product Support
ANSI	American National Standards Institute
AR	Army Regulations
BOI	Basis of Issue
CAGEC	Commercial and Government Entity Code
CFR	Code of Federal Regulations
CGA	Compressed Gas Association
COTS	Commercial Off The Shelf
CPC	Corrision Prevention and Control
DA	Department of the Army
DA PAM	Department of the Army Pamphlet
DOT	Department of Transportation
E-BAC/SS	Emergency Breathing Air Compressor/Stainless Steel
EDIL	Expendable and Durable Items List
EMP	Electromagnetic Pulse
FEDLOG	Federal Logistics Record
FIG.	Figure
FM	Field Manual
HCI	Hardness Critical Item
HP	High Pressure
HUD	Heads-Up Display
IAW	In Accordance With
ISEA	In-Service Engineering Agent
LED	Light-Emitting Diode
MAC	Maintenance Allocation Chart
MDS	Maintenance Data System
MIL-HDBK	Military Handbook
MIL-SPEC	Military Specification
MIL-STD	Military Standard
NBC	Nuclear, Biological, Chemical
NHA	Next Higher Assembly
NFPA	National Fire Protection Association
NID	Non-Ionic Detergent
NIOSH	National Institute for Occupational Safety and Health
NSN	National Stock Number
OBSL	On Board Spares List
OEM	Original Equipment Manufacturer
PMCS	Preventive Maintenance Checks and Services
PN	Part Number
PSI	Pounds per Square Inch

LIST OF ABBREVIATIONS/ACRONYMS (continued)

Abbreviation/Acronym	Name
QTY	Quantity
RA	Return Authorization
RPSTL	Repair Parts and Special Tools List
RIC/UAC	Rapid Intervention Crew/Universal Air Connection
SAE	Society of Automotive Engineers
SCBA	Self-Contained Breathing Apparatus
SCI	Structural Composite Industries
SMR	Source, Maintenance, and Recoverability
SRA	Specialized Repair Activity
TM	Technical Manual
TMDE	Test, Measurement, and Diagnostic Equipment
TMDER	Technical Manual Deficiency/Evaluation Report
UUT	Unit Under Test

CHAPTER 1
SELF-CONTAINED BREATHING APPARATUS (SCBA)
INTRODUCTION AND SAFETY PRECAUTIONS

1.1 INTRODUCTION

The purpose of this manual is to provide the information and procedures necessary to operate, troubleshoot, maintain, and restore to an operable condition, the Self-Contained Breathing Apparatus Scott® Air-Pak® 4.5, hereafter referred to as Self-Contained Breathing Apparatus (SCBA).

1.1.1 SCOPE

Information in this manual is presented in six chapters and ten appendices as follows:

- Chapter 1, *Introduction and Safety Precautions*, introduces safety considerations and presents a system description, reference data and publications, and lists of equipment, accessories, documents supplied with each system, and warranty information.
- Chapter 2, *Operation*, provides a description of SCBA controls, indicators, and mechanisms. The following procedures are also addressed: operational use, air replenishment, emergency operation, and post-operation.
- Chapter 3, *Functional Description*, provides a detailed description of the function of each major component of the SCBA.
- Chapter 4, *Preventive Maintenance Checks and Services (PMCS)*, provides the PMCS to be performed on the SCBA.
- Chapter 5, *Troubleshooting*, contains procedures for locating malfunctions or potential faults and for identifying possible corrective actions.
- Chapter 6, *Corrective Maintenance*, provides instructions for inspecting, adjusting, and testing the SCBA and for removing and replacing damaged or defective components. Safety precautions, tools, and materials are also identified.
- Appendix A, *Operational Checklists*, provides reproducible copies of procedure checklists for visual inspection, donning, go-on air, doffing, and cylinder assembly removal and replacement.
- Appendix B, *Department of Transportation Cylinder Exemptions*, provides a link to a website that provides the latest Department of Transportation (DOT) cylinder exemptions.
- Appendix C, *SCBA Cylinder Inspection Guide*, provides specific information to assist the user in identifying damaged or defective cylinders.
- Appendix D, *Website References*, provides a list of websites referenced in this technical manual.
- Appendix E, *SCBA Stowage Instructions*, provides instruction for proper stowage of the SCBA.
- Appendix F, *References*, provides a list of publications referenced in this technical manual.
- Appendix G, *Maintenance Allocation Chart (MAC)*, designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels.
- Appendix H, *Repair Parts and Special Tools List (RPSTL)*, lists and authorizes spares and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for field maintenance of the SCBA. It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the Source, Maintenance, and Recoverability (SMR) codes.
- Appendix I, *On Board Spares List (OBSL)*, provides the OBSL for the SCBA to help inventory items for safe and efficient operation of the equipment.
- Appendix J, *Expendable and Durable Items List (EDIL)*, provides the EDIL that indicates what is needed to operate and maintain the SCBA. This list is for information only and is not authority to requisition the listed items.

1.2 SYSTEM DESCRIPTION

The SCBA (figure 1-1) is an atmosphere-supplying respirator that supplies a breathable air source that is independent of the ambient environment and designed to be carried by the user.

All SCBA configurations are National Institute for Occupational Safety and Health (NIOSH) approved and National Fire Protection Association (NFPA) compliant. The SCBA is also Nuclear, Biological, and Chemical (NBC) approved.

1.3 SPECIFICATIONS

Table 1-1 lists the specifications for the SCBA and figure 1-1 provides a generic illustration of components.

1.4 SAFETY PRECAUTIONS

United States Army safety procedures shall be observed while operating the SCBA. Personnel using the SCBA shall comply with the safety instructions listed in paragraph 1.4.2 and with the safety precautions presented in this manual.

Safety precautions must be understood and followed by all personnel during operation and maintenance procedures.

1.4.1 STANDARD SAFETY PRECAUTIONS

The SCBA shall be used only after personnel have been properly instructed in its operation. Maintenance of the SCBA shall be performed only by personnel who have been properly trained. Personnel must use the equipment In Accordance With (IAW) posted instructions, labels, and limitations. Personnel must be thoroughly familiar with all safety practices and understand the potential hazards associated with the SCBA before operating or maintaining the equipment.

1.4.2 GENERAL SAFETY INSTRUCTIONS

Standard operational and maintenance safety precautions contained in the following documents apply to the SCBA configurations:

- FM 4-01.502 *Watercraft Safety* (supersedes FM 55-502)

1.4.3 SPECIAL PRECAUTIONS

The warnings, cautions, and notes appearing throughout this technical manual must be followed to prevent hazards to personnel and damage to equipment.

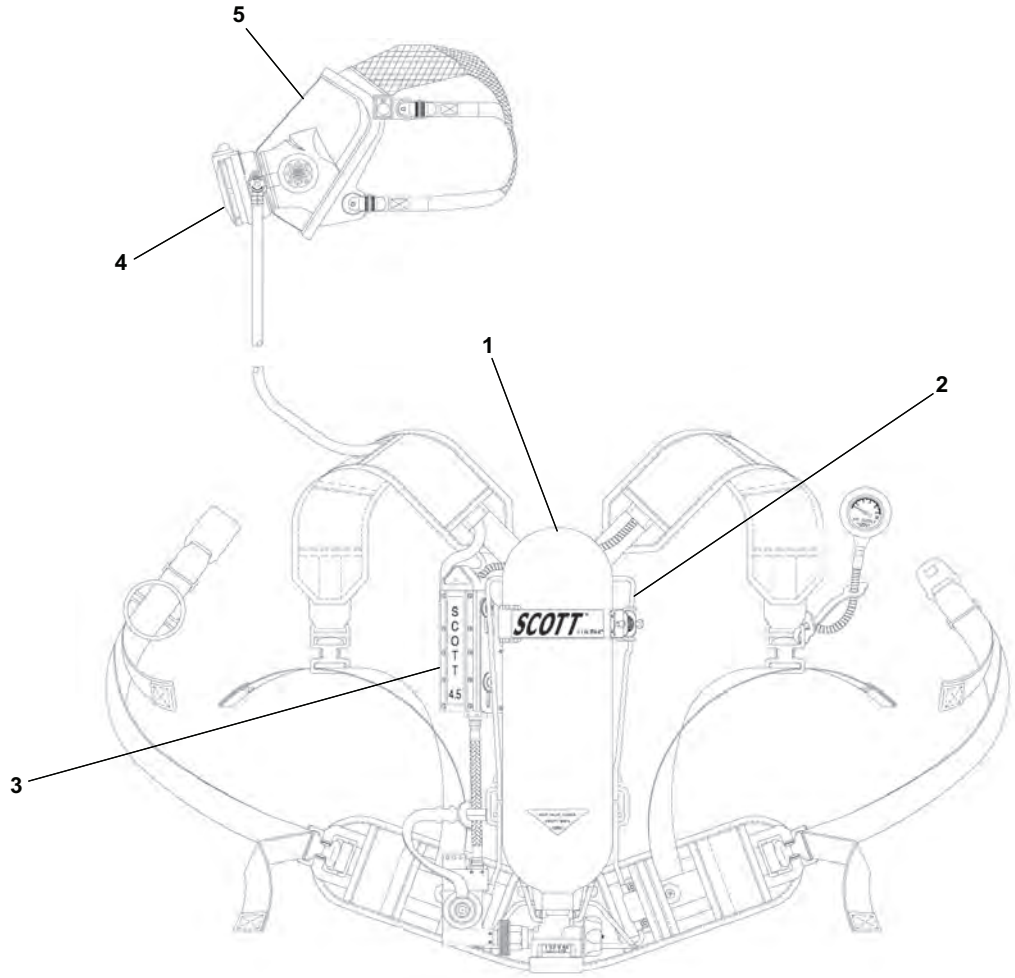


Figure 1-1. SCBA

Table 1-1. SCBA (refer to figure 1-1)

Key	Control/Indicator	Function
1	Cylinder Assembly	Cylinder Construction • Carbon-fiber wrapped, epoxy-coated exterior • Aluminum liner Cylinder Specifications • 45-minute carbon-fiber wrapped • Pressure: 4,500 PSI compressed air • Diameter: 6.3 in. • Length: 24 in. • Weight with air: 15.2 lbs. • Weight without air: 9.1 lbs. Valve Assembly • Standard Compressed Gas Association (CGA)-347 connection • 7,200 PSI burst disc • Integral, dual-reading pressure indicator • Gauge range: 0 - 4,500 PSI • Hanger plate DOT Exemptions • E-10915 - Luxfer Gas Cylinders • E-10945 - SCI

Table 1-1. SCBA (refer to figure 1-1) (continued)

Key	Control/Indicator	Function
2	Backframe and Harness Assembly	Backframe • Corrosion-resistant wire frame • Cylinder band with over-center latch mechanism • Pressure reducer mounting plate • Locking tab Harness • Flame and heat resistant Kevlar® • Adjustable side and waist straps • Quick-release buckle on waist straps • Mask-mounted regulator holder
3	Pressure Reducer	• Relief Valve (relieves at approximately 200 PSI) • Redundant flow paths • Attached components: • Remote pressure indicator • Gauge range is 0 - 4,500 PSI (+/- 500 PSI) • RIC/UAC Assembly • Pressure relief valve set at approximately 4,850 PSI • High-pressure hose with CGA-347 connection • Quick connect with UAC • Low-pressure hose assembly • Visualert® (electronic components for HUD)
4	Mask-Mounted Regulator	• Positive pressure regulator • Reduces air from pressure reducer to 0.3 - 3.5 inches of water in facepiece • Latch mechanism locks mask-mounted regulator in place • Purge valve for manual override • Air saver switch stops airflow • Low-pressure hose • Vibralert® • End-of-service-time indicator to warn user when approximately 900 - 1,125 PSI (20 - 25% of cylinder pressure) remains in cylinder, or of a pressure reducer malfunction. • HUD Provides visual indication of air pressure in cylinder: • Full cylinder: Two rectangular green Light-Emitting Diodes (LEDs) glowing • 3/4 cylinder: One rectangular green LED glowing • 1/2 cylinder: One rectangular yellow LED glowing • 1/4 cylinder: One rectangualr red LED flashing rapidly • Low battery: One round red LED
5	Facepiece	• Three sizes (with size code molded into faceseal) • Small • Medium • Large • Single, wide-angle, clear lens • Anti-fog • Chemical hard coat to resist scratching • Six-point Kevlar® mesh head harness • Nosecup assembly • Voicemitter and voicemitter ducts • Voice amplifier mounting bracket
-	Accessories	• Spectacle kit • Voice amplifier powered by a 9-volt battery

1.5 REFERENCE PUBLICATIONS NOT SUPPLIED

Table 1-2 lists reference publications that are not supplied with each SCBA.

Table 1-2. Reference Publications Not Supplied

Publication Title	Publication Number	Application
Watercraft Safety	FM 4-01.502 (supersedes FM 55-502)	Safety guidelines for Army watercraft
Commodity Specifications for Air	Compressed Gas Association (CGA) G-7.1	PMCS pages 4-1 through 4-36
DOT Cylinder Exemptions	Refer to Appendix D	Shipping cylinder assemblies
Field Maintenance Manual Including Repair Parts and Special Tools List for Emergency Breathing Air Compressor/Stainless Steel (E-BAC/SS)	TM 10-4310-503-13&P	Charging cylinders
Guidelines for Visual Inspection and Requalification of Fiber Reinforced High-Pressure Cylinders	CGA C-6.2	Visual inspection and requalification
National Fire Protection Association	NFPA 1981, 1992 Ed.	Compliance
National Fire Protection Association	NFPA 1981, 1997 Ed.	Compliance
National Fire Protection Association	NFPA 1981, 2002 Ed.	Compliance
National Institute of Occupational Safety and Health Code of Federal Regulations	42 CFR Part 84	Approval guidelines

1.6 COMPLIANCE ISSUES

SCBAs are originally supplied as National Institute of Occupational Safety and Health (NIOSH) 42 Code of Federal Regulations (CFR) Part 84 approved. SCBAs purchased under NFPA 1981 standard are grandfathered into the latest edition and no equipment upgrades are required. Any unauthorized modifications void NIOSH approval and NFPA compliance.

1.7 WARRANTY INFORMATION

Scott® warrants all of its Air-Pak® products to be free from defects in workmanship and materials for a period of 8 years from the date of original manufacture by Scott®, except for the pressure reducer which is warranted for a period of 15 years from the date of manufacture. This warranty does not apply to equipment malfunction or damage resulting from accident, alteration, misuse, or abuse of the equipment.

1.7.1 DETERMINING AGE OF COMPONENTS

It may be necessary from time to time to determine the age of various components of the SCBA for compliance with various standards or warranty identification. The information that follows will assist in identifying the manufacturing dates of the cylinder assembly, high- pressure hose assembly, pressure reducer and mask-mounted regulator.

1.7.1.1 CYLINDER ASSEMBLY

The date of manufacture of the cylinder assembly is located near the serial number identification. Composite cylinders have this information on a label located on the sidewall of the cylinder. Refer to table 4-3 of PMCS (Chapter 4) for instructions on identifying the original hydrostatic test date, which is considered the date of manufacture.

1.7.1.2 HIGH-PRESSURE HOSE ASSEMBLY

The date of manufacture code is a quarter date code stamped into the metal elbow of the high-pressure hose assembly. The first digits will be one of the following: 1Q means first quarter of the calendar year, 2Q means second quarter, 3Q means third quarter, and 4Q means fourth quarter. The last two digits are the year of manufacture. For example, a date code of “4Q00” means the high-pressure hose assembly was manufactured during the fourth quarter of 2000.

1.7.1.3 PRESSURE REDUCER AND MASK-MOUNTED REGULATOR

Identifying the date of manufacture for the pressure reducer and for the mask-mounted regulator is identical once the part number/serial number is determined. Locate the part number/serial number of the pressure reducer on the label affixed to the side of the pressure reducer and facing the cylinder assembly (as worn). Locate the part number/serial number of the mask-mounted regulator on the label affixed to the side of the mask-mounted regulator body.

Then use the second column of table 1-3 to determine the manufacture cycle. The third and fourth columns illustrate how to interpret the part number/serial number to obtain the date of manufacture.

Table 1-3. Part Number/Serial Number Examples

Example Part Number/ Serial Number	Manufacture Cycle	Example Part Number/Serial Number Description	Example Month of Manufacture
RED0405000579CC	2004 or later	RED=Pressure Reducer 04=year 05=month 000579CC=Manufacturer's use	May 2004
REG0504000579CC	2004 or later	REG=Mask-Mounted Regulator 05=year 04=month 000579CC=Manufacturer's use	April 2005
NB002478EZVS	February 2000 through December 2003	N=new* B=month* 00=year 2478EZVS= Manufacturer's use	February 2000
8910877	Prior to February 2000	89=year (in reverse order) 10=month 8770= Manufacturer's use	January 1998

* N - indicates a new (not upgraded) mask-mounted regulator for this manufacturer's cycle.
** The letter code for the remaining months is as follows:

A	January	D	April	G	July	K	October
B	February	E	May	H	August	L	November
C	March	F	June	J	September	M	December

1.8 RETURN TO THE ORIGINAL EQUIPMENT MANUFACTURER (OEM)

Before returning an SCBA or component to the Original Equipment Manufacturer (OEM) for repair, contact the Scott® Service Department for a Return Authorization (RA) Number. For proper tracking of the returned item, record the RA number on all pertinent shipping documents.

Contact the Scott® Service Department at the following numbers and email address:

Phone: 1-800-AIR-PAKS (1-800-247-7257)
Fax: 704-296-3370
Email: Refer to Appendix D

When sending items for service, provide a detailed description of the service to be performed. The Scott® Service Department will provide an estimate of repair costs and will obtain authorization before repair work begins.

NOTE

The OEM cannot return items to an FPO address.

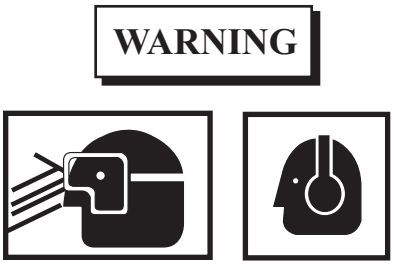
With the detailed description of service requested, include the name, unit, and daytime phone number of the contact person, the shipping address, and the purchase order and/or billing information.

1.8.1 SHIPPING INSTRUCTIONS

NOTE

Ensure cylinder is empty of compressed air and cylinder valve is open prior to packaging for shipment.

a. If shipping an SCBA containing a cylinder or a component cylinder, prior to packing the shipment, ensure cylinder is depressurized as follows:



Before depressurizing the cylinder assembly, ensure that all personnel stand clear of the area to avoid serious injury from flying debris. Failure to comply with this warning may result in serious injury or death to personnel.

(1) Don protective eye wear and hearing protection.

(2) Announce “Bleeding Down” to warn nearby personnel.

(3) Rotate handwheel fully counterclockwise, then back off 1/4 turn, to open cylinder valve.

b. Pack the SCBA or component in a sturdy container using packaging materials as required to cushion and protect the SCBA or component during transit.

c. Mark or label the shipping container “FRAGILE-HANDLE WITH CARE” on all sides, using large, legible letters.

d. Send SCBAs or components for repair either to a local Scott® Authorized Service Center or to the Service Department located at: Scott® Health & Safety, 4320 Goldmine Road, Monroe, NC 28110.

CHAPTER 2
SELF-CONTAINED BREATHING APPARATUS (SCBA) OPERATION

2.1 INTRODUCTION

This chapter contains the following information:

- A description and illustration of the controls, indicators, and mechanisms of the Self-Contained Breathing Apparatus (SCBA).
- Operational use procedures providing visual inspection, donning, go-on air, go-off air, and doffing procedures. Checklists for these procedures are also provided in Appendix A.
- Air replenishment procedures and cylinder assembly removal and replacement. Appendix A contains a checklist for cylinder assembly removal and replacement.
- Post-operating procedures.
- Proper short-term stowage procedures.

2.2 CONTROLS, INDICATORS, AND MECHANISMS

The controls, indicators, and mechanisms of each major component of the SCBA are described in table 2-1 and illustrated in figure 2-1. The following information is provided for each item illustrated:

- Number – identifies the corresponding callout on figure 2-1
- Nomenclature – item name
- Function – provides a brief description of the function of the item
- Normal Operating Condition – position of item during operational use

Table 2-1. SCBA Major Component Controls, Indicators, and Mechanism

No.	Nomenclature	Function	Normal Operating Condition
1	Cylinder Band Clamp	Secures dome end of cylinder assembly to backframe	N/A
2	Cylinder Adjustment Handwheel	Allows for tightening and loosening of cylinder band to accommodate variations in cylinder size	N/A
3	Over-Center Latch Mechanism	Secures the cylinder band clamp in locked position	Locked
4	Shoulder Strap Spring-Action Buckles	Secures shoulder straps to side straps once tightened to fit	Secured
5	Quick-Release Buckle	Secures ends of waist adjustment straps together	Locked
6	Waist Adjustment Straps	Adjusts to allow even distribution of SCBA weight on hips	Tightened
7	Side Straps	Attaches the waist adjustment straps and shoulder straps together and adjusts length to provide a comfortable fit	Tightened
8	Waist Strap Spring-Action Buckles	Secures waist adjustment straps once tightened to fit	Secured
9	Locking Tab	Secures hanger plate of cylinder assembly to the backframe	Engaged
10	Backframe Hook	Engages cylinder assembly hanger plate	N/A
11	Hanger Plate	Secures the neck of the cylinder assembly to the backframe when engaged with the backframe hook	Engaged
12	Burst Disc	Relieves cylinder pressure when over 7,200 PSI	Not ruptured
13	Handwheel	Starts and stops cylinder airflow	Open
14	Dual-Reading Pressure Indicator	Provides a continuous reading of cylinder air pressure whether cylinder valve is opened or closed	Continuous reading
15	Cylinder Valve	Regulate release of breathable air	N/A
16	Remote Pressure Indicator	Continuously displays cylinder air pressure when the cylinder valve is open	N/A
17	Air Saver Switch	Prevents rapid loss of air supply when the cylinder valve is open	Released
18	Heads-up Display (HUD)	Provides a visual monitor of remaining air supply and HUD battery power	Initialized
19	Vibralert	End-of-service-time indicator that activates to warn of low air supply	Initialized
20	Latch Mechanism	Locks the mask-mounted regulator onto facepiece	Engaged
21	Purge Valve	Bleeds residual air from the SCBA after cylinder valve is closed	Closed
22	Hand Coupling	Rotates to allow removal of the high-pressure hose assembly or RIC/UAC assembly from the cylinder valve	Tightened

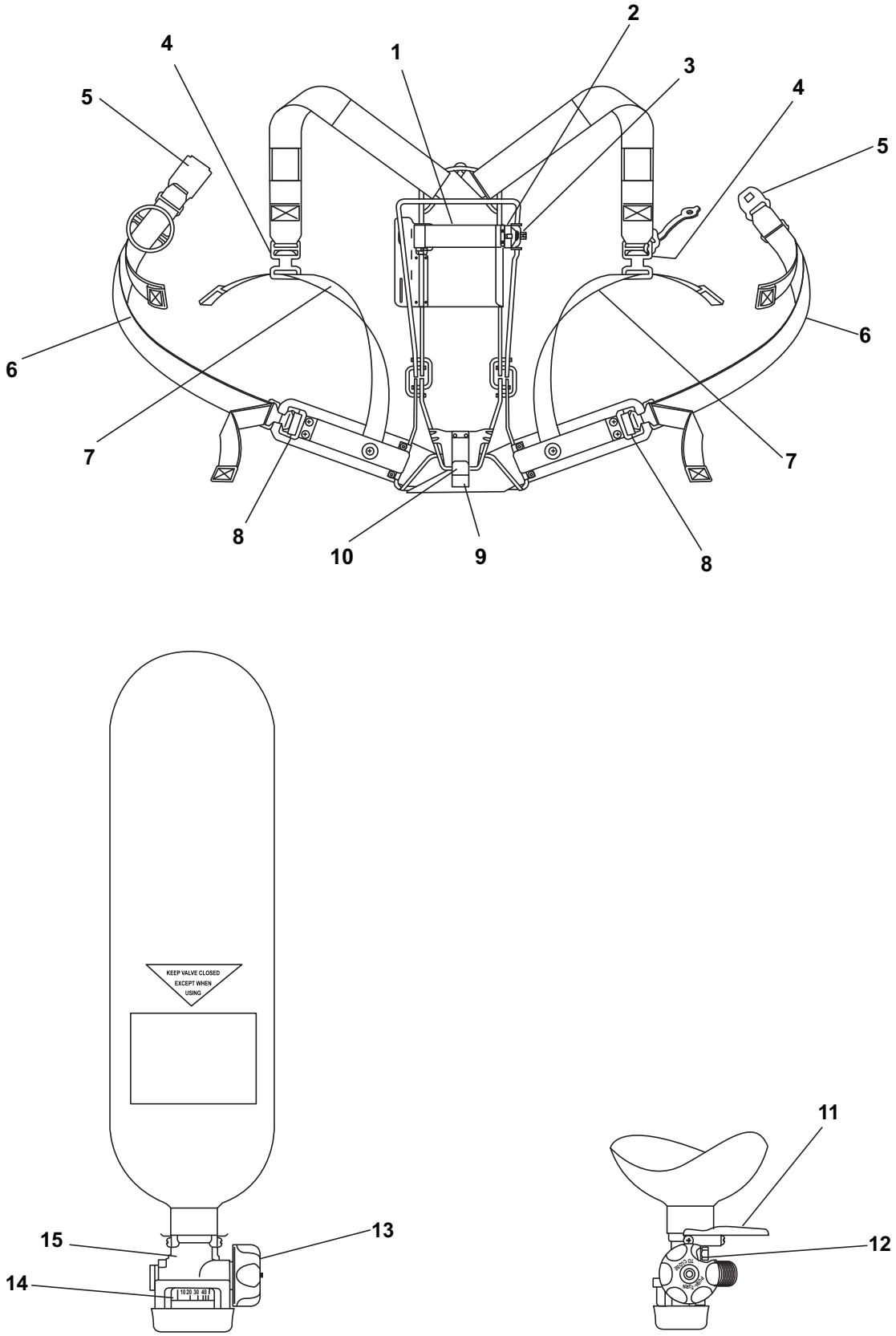


Figure 2-1. SCBA Major Component Controls, Indicators, and Mechanisms (Sheet 1 of 2)

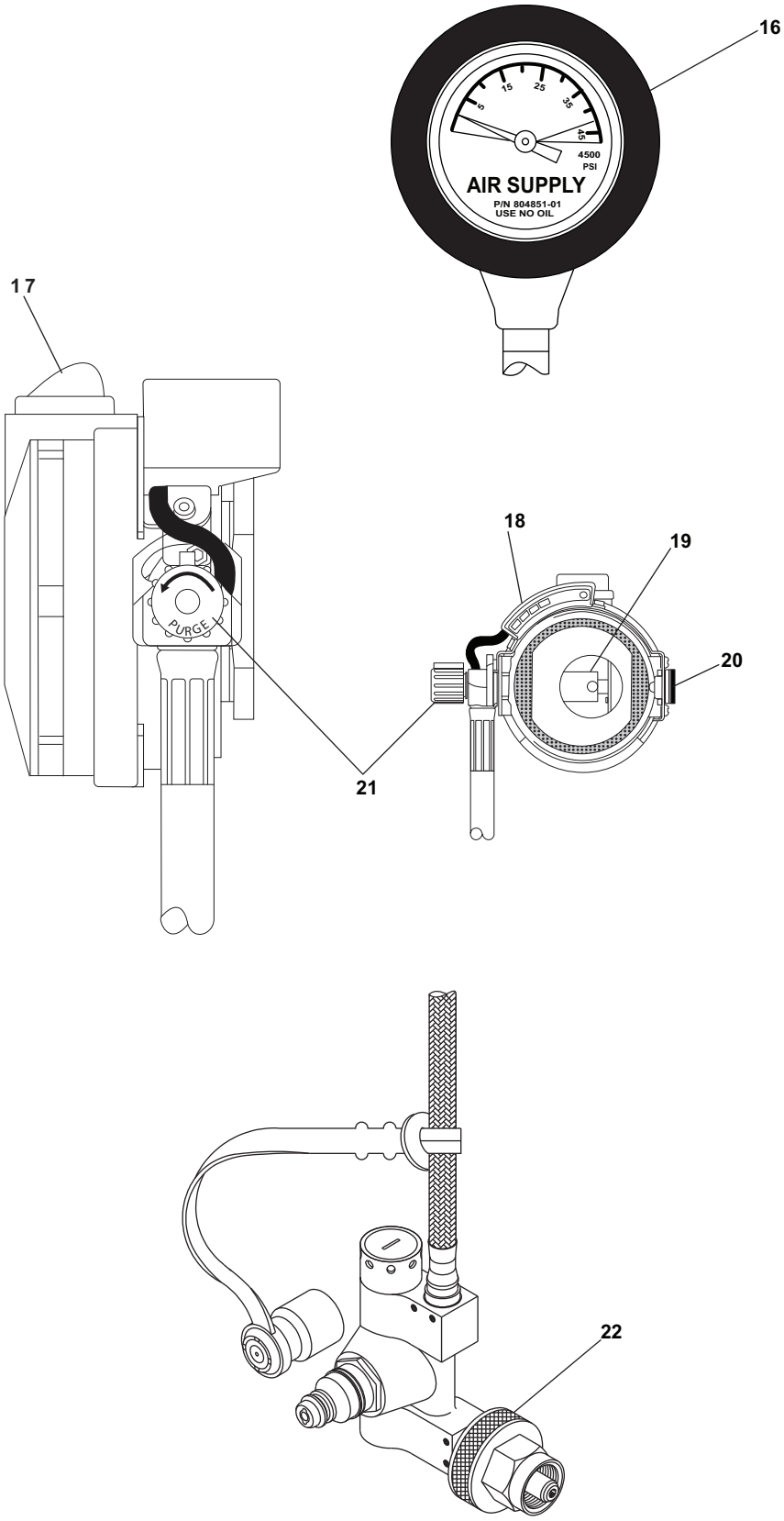


Figure 2-1. SCBA Major Component Controls, Indicators, and Mechanisms (Sheet 2 of 2)

2.3 OPERATING PROCEDURES

Paragraphs 2.3.1 through 2.3.3 address operational use, air replenishment, and emergency operation. Appendix A provides corresponding checklists to be copied and used as needed. Post-operational and stowage procedures are addressed in paragraph 2.4.

2.3.1 OPERATIONAL USE

2.3.1.1 DONNING

The Donning Checklist (table A-1) should be completed when the following procedures are performed.

WARNING

Prior to donning the SCBA, ensure that the immediate location provides adequate space to safely don the SCBA. Failure to comply with this warning my cause damage to the equipment or cause serious injury or death to personnel.

NOTE

Do not attach anything to the shoulder strap spring-action buckles. Side straps could loosen during use of the SCBA.

a. Don SCBA using either the coat-style or the over-the-head method as appropriate.

(1) Don SCBA using the coat-style method as follows:

(a) Position the backframe and the harness assembly with cylinder valve on the deck, the cylinder assembly facing the user, and fully extended side straps facing away as shown in figure 2-2.

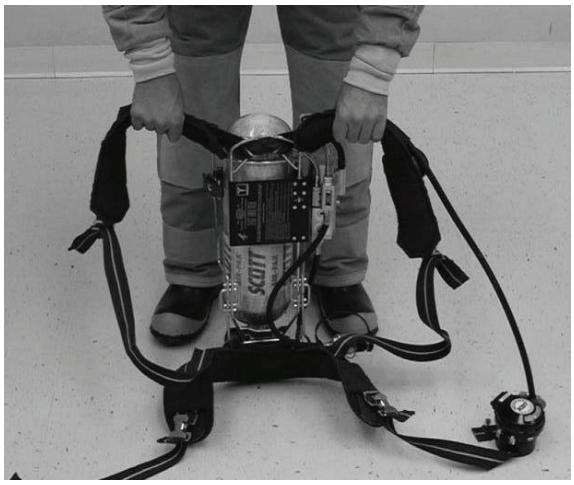


Figure 2-2. Position Backframe and Harness Assembly for Coat-Style Method

(b) Grasp the shoulder straps as shown in figure 2-2.

(c) Swing the backframe and harness assembly over and onto the back, sliding the shoulder strap over the arm as shown in figure 2-3. Extend both arms through the shoulder straps.

Figure 2-3. Position Backframe and Harness Assembly Onto Back for Coat-Style Method

(d) Lean forward and pull down on both side straps to tighten as shown in figure 2-4.

Figure 2-4. Tighten Side Straps for Coat-Style Method

NOTE

Ensure that the low-pressure hose is not behind the waist adjustment strap.

(e) Secure the quick-release buckle as shown in figure 2-5.

Figure 2-5. Secure Quick-Release Buckle for Coat-Style Method

(f) Simultaneously pull both waist adjustment straps forward to tighten as shown in figure 2-6.

Figure 2-6. Tighten Waist Adjustment Straps for Coat-Style Method

(g) Readjust the side straps to ensure most of the SCBA weight is on the hips.

(h) Lift hands straight up to ensure a comfortable fit and proper adjustment.

(2) Don the SCBA using the over-the-head method as follows:

(a) Position the backframe and harness assembly with the cylinder valve facing up, the cylinder assembly away from the user, and fully extended side straps facing away as shown in figure 2-7.

Figure 2-7. Position Backframe and Harness Assembly Over-the-Head Method

(b) While on one knee, grasp the sides of the backframe as shown in figure 2-8.

Figure 2-8. Grasp Backframe for Over-the-Head Method

(c) Lift the backframe and harness assembly up and over the head, making sure the elbows extend through the loop formed by the shoulder straps as shown in figure 2-9.

Figure 2-9. Lift Backframe and Harness Assembly for Over-the-Head Method

(d) Pull down on the side straps to tighten as shown in figure 2-10. Stand up.

Figure 2-10. Tighten Side Straps for Over-the-Head Method

NOTE

Ensure low-pressure hose is not behind waist adjustment strap.

(e) Secure the quick-release buckle as shown in figure 2-11.

Figure 2-11. Secure Quick-Release Buckle for Over-the-Head Method

(f) Simultaneously pull both waist adjustment straps forward to tighten as shown in figure 2-12.

Figure 2-12. Tighten Waist Adjustment Straps for Over-the-Head Method

(g) Readjust the side straps to ensure most of the SCBA weight is on the hips.

(h) Lift hands straight up to ensure a comfortable fit and proper adjustment.

b. Ensure that the air saver switch (figure 2-13, item 1) on mask-mounted regulator (figure 2-13, item 2) is fully depressed and that the purge valve (figure 2-13, item 3) is rotated fully clockwise until closed.

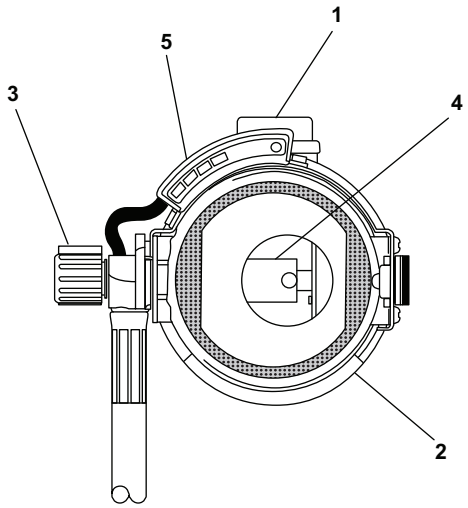


Figure 2-13. Depress Air Saver Switch

WARNING

For proper SCBA operation, the cylinder valve must be fully opened. SCBA use with cylinder valve partially opened may cause a reduction or sudden and complete loss of air supply. Failure to comply with this warning may result in serious injury or death to personnel.

c. Open the cylinder valve (figure 2-14, item 1) by slowly turning the handwheel (figure 2-14, item 2) fully away from the user, then back off 1/4 turn.

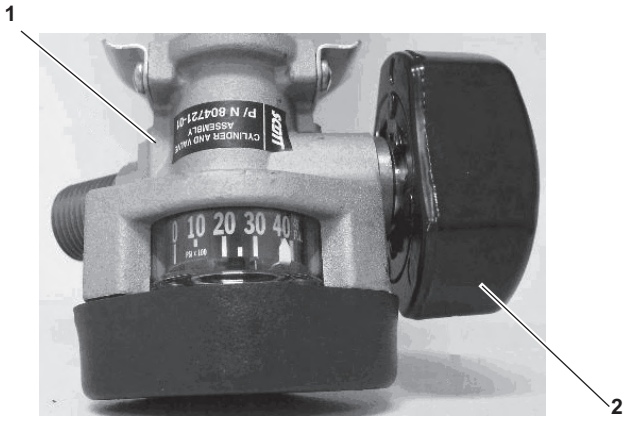


Figure 2-14. Open Cylinder Valve

WARNING

If the Vibralert does not actuate or the HUD (if attached) does not initialize as described, remove the SCBA from service and tag out (FM 4-01.502) (supersedes FM 55-502) for repair. Failure to comply with this warning may result in serious injury or death to personnel.

d. The Vibralert (figure 2-13, item 4) shall actuate then stop. The HUD (figure 2-13, item 5), shall initialize with all five LEDs on for approximately 20 seconds then display the cylinder air pressure as a percentage of the air remaining.

e. Ensure that the remote pressure indicator (figure 2-15) reading is greater than 0 PSI. If 0 PSI, replace cylinder assembly IAW paragraph 2.3.2.1.

Figure 2-15. Read Remote Pressure Indicator

f. Extend the head harness straps as shown in figure 2-16. Ensure that the head harness straps are not twisted and will lay flat against the head.

Figure 2-16. Extend Head Harness Straps

g. To don the facepiece, place the chin in the chin pocket and pull the head harness straps over the head as shown in figure 2-17.

Figure 2-17. Don Facepiece

h. Simultaneously pull back on both ends of the temple straps to tighten for a comfortable fit as shown in figure 2-18.

Figure 2-18. Tighten Temple Straps

i. Simultaneously pull back on both ends of the neck straps to tighten for a comfortable fit.

j. Feel the crown of the head with one hand to ensure proper head harness strap placement (figure 2-19). Readjust the temple and neck straps as necessary until a comfortable fit and proper placement is achieved. The SCBA is now in place and the facepiece is donned without the mask-mounted regulator installed.

Figure 2-19. Proper Head Harness Strap Placement

NOTE

Applying excessive pressure with hand may cause false seal.

k. Perform a seal check by placing the palm of the hand over the adapter port (figure 2-20, item 1) on the facepiece.

Figure 2-20. Adapter Port

NOTE

Ensure correct size of facepiece before repeating procedure if facepiece does not seal properly.

l. Inhale and hold breath for a second so that the facepiece can seal to the face. If the facepiece does not seal to the face, repeat steps f through k.

m. If equipped, turn on the voice amplifier and check for proper operation.

n. Don the protective head gear as shown in figure 2-21, and properly position and close any required protective clothing such as the fire fighters ensamble. The SCBA is now in standby condition but not in operational use.

Figure 2-21. Facepiece Worn With Protective Head Gear

2.3.1.2 GO-ON-AIR

The following procedures mount the mask-mounted regulator to the facepiece and provide procedures for the subsequent use in an operational environment. The Go-On-Air Checklist (table A-2) should be completed when the following procedures are performed.

a. Remove the mask-mounted regulator from regulator holder.

b. From the perspective of user, orient the purge valve (figure 2-22, item 1) at 12 o'clock and the air saver switch (figure 2-22, item 2) at the 3 o'clock position, insert the mask-mounted regulator into the adapter port and rotate it counterclockwise 1/4 turn until the latch mechanism (figure 2-22, item 3) engages.

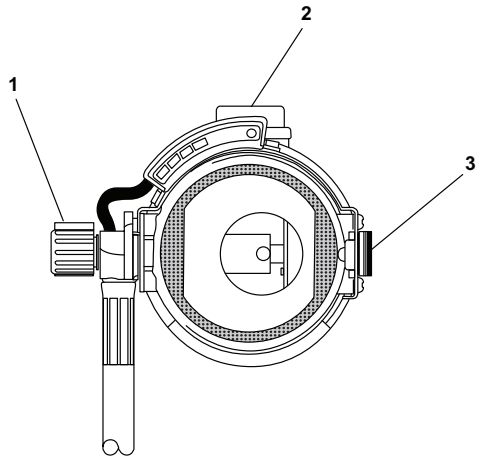


Figure 2-22. Mask-Mounted Regulator Mechanisms

c. Attempt to rotate the mask-mounted regulator to ensure that the latch mechanism is engaged.

NOTE

If air is not supplied on first inhalation, ensure that the cylinder valve is fully open and that the remote pressure indicator indicates air pressure in the cylinder.

d. Inhale sharply to release the air saver switch and start airflow.

NOTE

If free flow of air is experienced, readjust the temple and neck straps of head harness.

e. Breathe normally.

WARNING

Should the Vibralert or HUD activate during operational use, immediately leave the area requiring SCBA protection. Failure to comply with this warning may resuslt in serious injury or death to personnel.

f. Proceed with the use of the SCBA.

2.3.1.3 GO-OFF-AIR

The Doffing Checklist (table A-3) should be completed when the following procedures are performed:

a. Depress air saver switch (figure 2-22, item 2) until click is heard, then release.

b. Pull out on latch mechanism (figure 2-22, item 3) and rotate mask-mounted regulator 1/4 turn clockwise and remove from adapter port.

c. Stow mask-mounted regulator in regulator holder to return to standby condition.

2.3.1.4 DOFFING

The Doffing Checklist (table A-3) should be completed when the following procedures are performed.

WARNING

Doffing the SCBA must be performed only when the user is in a safe environment that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

a. Perform the Go-Off-Air procedures IAW paragraph 2.3.1.3.

b. Fully close the cylinder valve by rotating the handwheel toward the user.

c. Fully open the purge valve by rotating it counterclockwise and bleed the residual air from the SCBA.

d. When the airflow stops, close the purge valve by rotating it clockwise.

NOTE

The user may find it more comfortable to first relieve tension on the temple straps by loosening buckles.

e. Lift each buckle on the temple and neck straps and remove the facepiece from the head.

f. Depress the waist strap spring-action buckles and fully extend the waist adjustment straps.

g. Unbuckle the quick-release buckle.

h. Depress the shoulder strap spring-action buckle and fully extend the side straps.

⚠ CAUTION

Ensure positive control is maintained during removal of the backframe and harness assembly. Failure to comply with this caution may resuslt in damage to the equipment.

i. Maintain a firm grip of the shoulder straps while removing the SCBA.

2.3.2 AIR REPLENISHMENT

The SCBA may be recharged with 4,500 PSI Grade D air by two methods:

- Cylinder assembly removal and replacement (2.3.2.1)
- Charging the cylinder using the E-BAC/SS (TM 10-4310-503-13&P)

2.3.2.1 CYLINDER ASSEMBLY REMOVAL AND REPLACEMENT

Cylinder assembly removal and replacement procedures can be performed with assistance while the SCBA is being worn, or alone with the SCBA removed from back. The Cylinder Assembly Removal and Replacement Checklist (table A-5) should be completed.

a. Removal

WARNING

Cylinder assembly removal must be performed only when the user is in a safe environment that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

(1) Fully close the cylinder valve (figure 2-1, item 15) by rotating the handwheel (figure 2-1, item 13) toward the user if the SCBA is donned, or clockwise if the SCBA has been doffed.

(2) Fully open the purge valve (figure 2-1, item 21) on the mask-mounted regulator by rotating it counterclockwise, to bleed the residual air from the SCBA.

(3) When the airflow stops, close the purge valve (figure 2-1, item 21) by rotating it clockwise.

(4) Check the remote pressure indicator (figure 2-1, item 16) for indication of no air pressure.

WARNING

Verify that the remote pressure indicator shows no sign of air pressure prior to removing the RIC/UAC assemby. High-pressure air may cause damage to the equipment and cause serious injury or death to personnel.

(5) Rotate the hand coupling (figure 2-1, item 22) counterclockwise to remove the RIC/UAC assembly from the cylinder valve (figure 2-1, item 15).

(6) Unsnap and pull up on the over-center latch mechanism (figure 2-1, item 3) to release the cylinder band clamp (figure 2-1, item 1).

WARNING

Do not grab the handwheel when preparing to remove the cylinder assembly from the backframe. Ensure that the hand grasps the cylinder valve. Failure to comply with this warning may result in serious injury or death to personnel.

(7) With one hand, grab the cylinder valve (figure 2-1, item 15) and press on the locking tab (figure 2-1, item 9) with other hand.

(8) Push up on the cylinder assembly approximately one inch until it is disengaged from backframe hook (figure 2-1, item 10) and then pull the cylinder assembly down and out of backframe and harness assembly.

b. Replacement

WARNING

Never use a cylinder assembly having a damaged cylinder valve or a cylinder valve with damaged threads. Leakage may occur, which could cause a loss of breathing air or a sudden release of high-pressure air. Failure to comply with this warning may result in serious injury or death to personnel.

(1) Conduct a visual inspection of the cylinder assembly IAW Appendix C.

(2) Ensure that the dual-reading pressure indicator (figure 2-1, item 14) indicates a minimum of 4,000 PSI.

(3) Position the cylinder band clamp (figure 2-1, item 1) on the bail for the cylinder in the middle position for the 45-minute carbon-fiber cylinder (see figure 2-23).

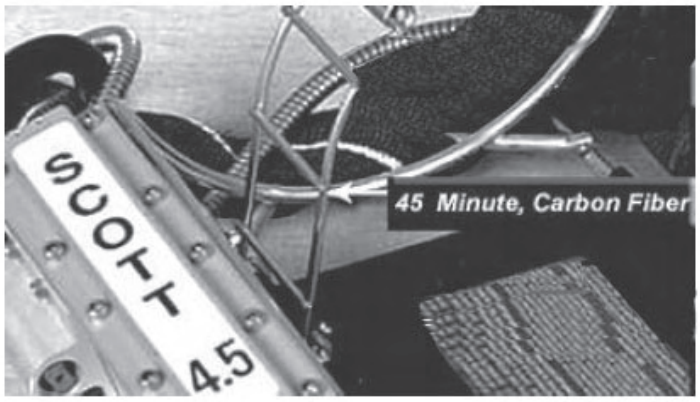


Figure 2-23. Cylinder Band Clamp Bail Positions

(4) Guide the dome end of the cylinder assembly upward through the cylinder band clamp (figure 2-1, item 1).

(5) Turn the cylinder assembly so that the hanger plate (figure 2-1, item 11) points toward the backframe and aligns with the center of backframe hook (figure 2-1, item 10) in the bottom of the backframe.

(6) Push the cylinder assembly down until the backframe hook (figure 2-1, item 10) engages with the hanger plate (figure 2-1, item 11).

NOTE

Do not force the over-center latch mechanism. Adjust the cylinder band clamp for a snug fit by turning cylinder adjustment handwheel.

(7) If necessary, the cylinder band clamp may be adjusted to compensate for small variations in cylinder size by rotating the cylinder adjustment handwheel (figure 2-1, item 2) clockwise to compensate for smaller cylinders and counterclockwise for larger cylinders after the cylinder band clamp is unsnapped and over-center latch mechanism (figure 2-1, item 3) is disengaged.

(8) Push down on over-center latch mechanism (figure 2-1, item 3) until it is locked firmly in place.

NOTE

Slide the pressure reducer within the mounting plate to assist in aligning the hand coupling to the cylinder valve.

(9) Connect, but do not tighten, the hand coupling (figure 2-1, item 22) to the cylinder valve (figure 2-1, item 15).

⚠ CAUTION

Do not use a wrench to tighten the hand coupling to the cylinder valve. Overtightening may damage the hand coupling and the cylinder valve. Failure to comply with this caution may result in damage to the equipment.

(10) Hand-tighten the hand coupling (figure 2-1, item 22) by turning it clockwise until seated.

2.3.3 EMERGENCY OPERATION

Emergency operation procedures shall be followed immediately should the SCBA not operate in a normal manner.

WARNING

Should the Vibralert or HUD activate during operational use, immediately leave the area requiring SCBA protection. Failure to comply with this warning may resuslt in serious injury or death to personnel.

a. Should the Vibralert or HUD activate during use, even if the air supply has not been depleted to approximately 1,125 PSI (25% of full capacity), leave hazardous area at once.

b. Should the air supply be partially cut off during use, fully open the purge valve by rotating it counterclockwise (pointer on knob downward), ensure that the cylinder valve is fully opened (turned fully counterclockwise) and leave the hazardous area at once.

c. Should the air supply begin to flow freely into the facepiece during use, leave the hazardous area at once.

d. Should a total and irreversible loss of SCBA protection or an airflow blockage occur, leave the hazardous area at once.

e. Once in a safe environment not requiring SCBA protection, bleed the system, doff the SCBA, and tag out (FM 4-01.502) (supersedes FM 55-502) for repair.

2.4 POST-OPERATING PROCEDURES

a. Clean the SCBA. Refer to PMCS (Chapter 4).

b. Inspect the SCBA. Refer to PMCS (Chapter 4).

2.4.1 STOWAGE

The SCBA and cylinder assemblies shall be stored in an approved SCBA storage locker IAW Appendix E.

CHAPTER 3
SELF-CONTAINED BREATHING APPARATUS (SCBA)
FUNCTIONAL DESCRIPTION

3.1 INTRODUCTION

This chapter provides a description of the major components of the Self-Contained Breathing Apparatus (SCBA). The descriptions are intended to provide personnel with a basic understanding of how each component achieves the desired purpose.

3.2 DESCRIPTION

The SCBA is a respirator which, when properly maintained and properly used, is an atmosphere-supplying respirator that supplies a breathable air source that is independent of the ambient environment and is designed to be carried by the user. The SCBA is not designed for, and must not be used, underwater.

The basic SCBA consists of five major components: cylinder assembly for storing compressed breathing air, a backframe and harness assembly to support the weight of the equipment, a redundant dual-path pressure reducer mounted on the backframe, a positive-pressure mask-mounted regulator fed by a low-pressure hose assembly, and a facepiece.

3.2.1 CYLINDER ASSEMBLY

The cylinder assembly (figure 3-1), when charged to 4,500 PSI, provides the user with a breathable air source for a rated duration of 45 minutes.

3.2.1.1 CYLINDER

The Army uses a composite carbon-fiber wrapped over an aluminum liner cylinder. The cylinder is constructed of a forged-aluminum body, is epoxy-coated, and available in two sizes.

SCBA cylinders are required to have decals displaying information on the latest cylinder hydrostatic test dates. These decals assist the operator in ensuring the cylinder inspection is current (within 5 years for carbon-fiber wrapped cylinders).

3.2.1.2 CYLINDER VALVE

The cylinder valve is both a charging point for the cylinder and a connection point for the the RIC/UAC assembly. A built-in dual-reading pressure indicator displays current cylinder air pressure at all times. A handwheel provides control over the release of compressed air from the cylinder, and an elastomeric bumper on top of the cylinder valve protects internal cylinder valve mechanisms.

3.2.1.3 BURST DISC

The copper burst disc is a critical safety feature of the SCBA, and is designed to rupture if an inadvertent over-pressurization (7,200 PSI) of the cylinder is experienced.

3.2.1.4 HANGER PLATE

The hanger plate is mounted on the cylinder assembly and is used to position, support, and lock the cylinder assembly to the backframe.

3.2.2 BACKFRAME AND HARNESS ASSEMBLY

The backframe and harness assembly (figure 3-2) holds the cylinder assembly securely in place and provides for proper weight distribution of the SCBA while being worn.

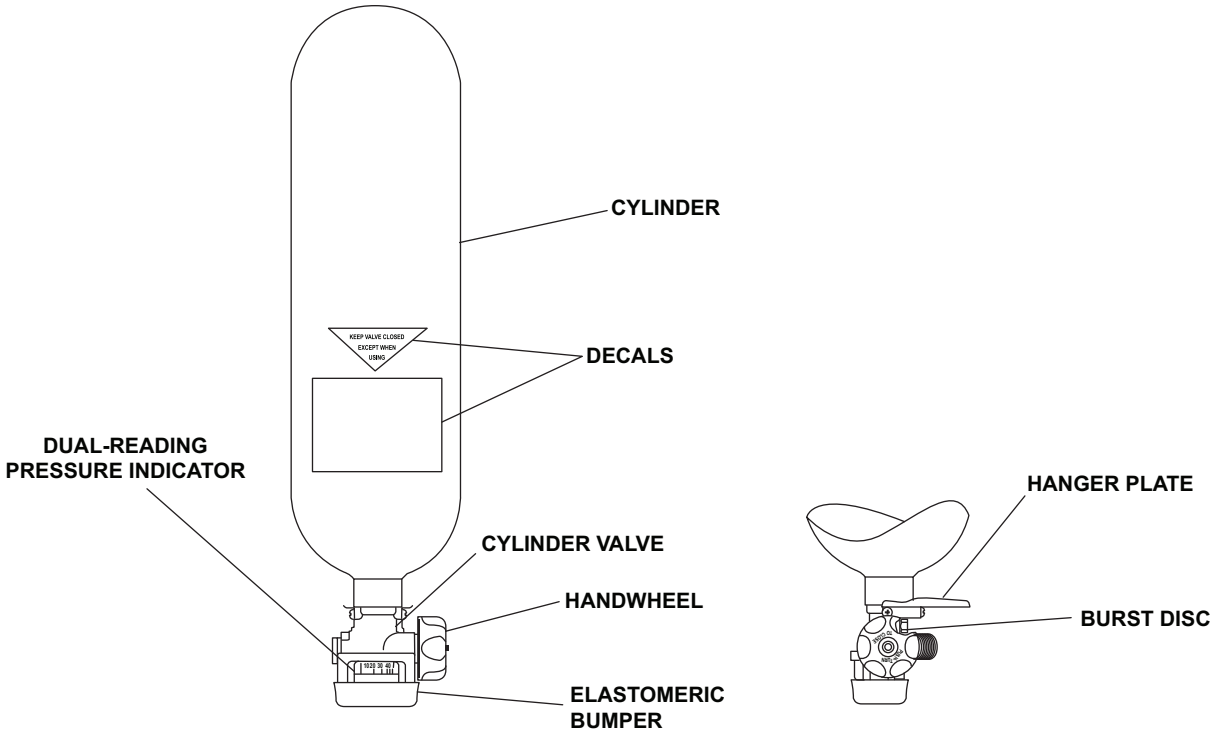


Figure 3-1. Cylinder Assembly Components

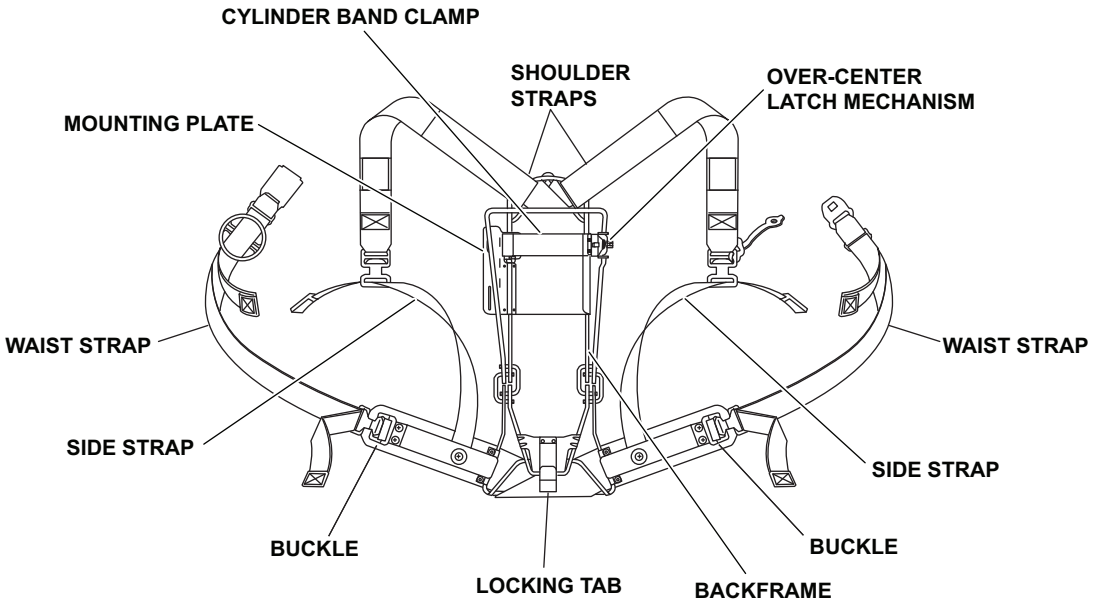


Figure 3-2. Backframe and Harness Assembly Major Components

3.2.2.1 BACKFRAME

The backframe is made of corrosion-resistant wireframe and includes a cylinder band clamp, an over-center latch mechanism that holds the dome end of the cylinder assembly securely in place, and a locking tab that engages to the hanger plate on the cylinder assembly. The design of the backframe allows the user, with the aid of an assistant, to quickly remove and replace a cylinder assembly without first doffing the SCBA. A mounting plate holding the pressure reducer is attached to the backframe.

3.2.2.2 HARNESS ASSEMBLY

The harness assembly is attached at the top and bottom of the backframe. The harness assembly is designed to position most of the SCBA weight on the hips. Adjustable waist and side straps allow for a comfortable fit and proper distribution of the weight of the SCBA.

3.2.3 PRESSURE REDUCER

The pressure reducer (figure 3-3) is a multifunctional component that is attached to the backframe on a mounting plate that couples to the cylinder valve through a Rapid Intervention Crew/Universal Air Connection (RIC/UAC) assembly.

Internally, the pressure reducer has primary and secondary paths that reduce the input pressure to nominally 100 PSI and 150 PSI, respectively. When cylinder pressure drops to approximately 1,000 - 1,250 PSI, the secondary path is activated, causing end-of-service-time indicators to actuate. The outlet manifold of the pressure reducer incorporates a repeatable over-pressurization relief valve that prevents the attached low-pressure hose and mask-mounted regulator from being subjected to excessively high pressure.

The pressure reducer also supports a RIC/UAC assembly. On all SCBA configurations, the pressure reducer supports two other components: a mask-mounted regulator connected via a low-pressure hose and a remote pressure indicator connected via the quick-charge assembly mounting block or Visualert® mounting block.

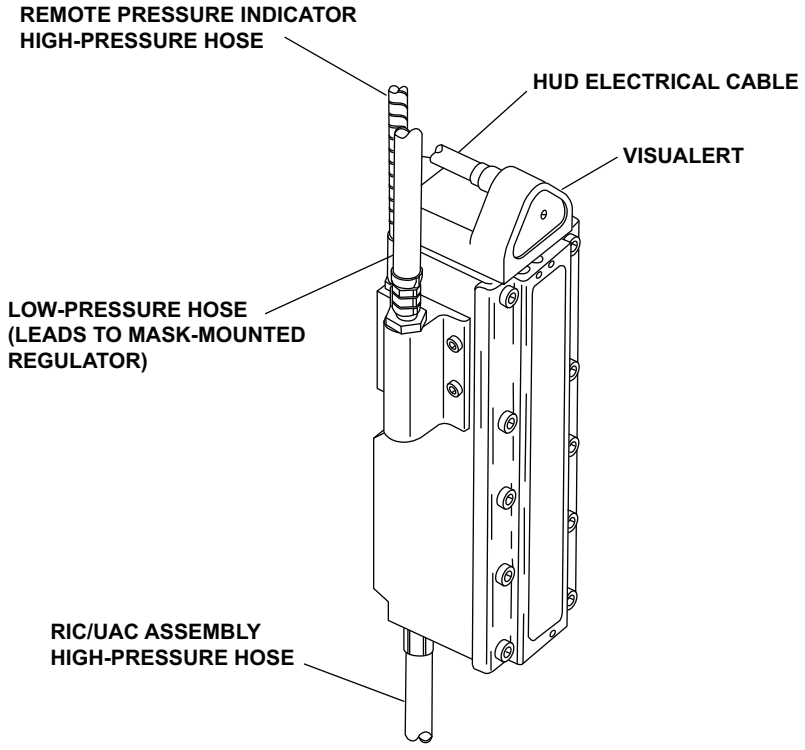


Figure 3-3. Pressure Reducer Supported Components

3.2.3.1 RIC/UAC ASSEMBLY

The RIC/UAC assembly (figure 3-4) directs high-pressure air from the cylinder valve to the pressure reducer during normal operation of the SCBA. The RIC/UAC assembly is equipped with a relief valve that will open at approximately 4,850 PSI if the pressure of the emergency air supply exceeds the maximum pressure rating of 4,500 PSI.

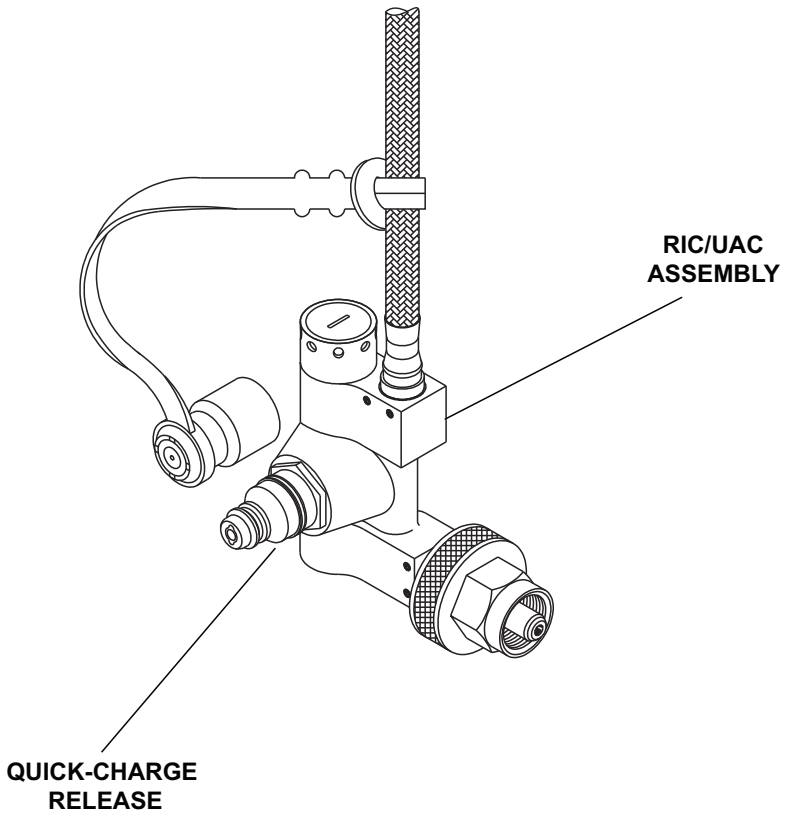


Figure 3-4. RIC/UAC Assembly

3.2.3.2 REMOTE PRESSURE INDICATOR

The remote pressure indicator is located on the right shoulder strap of the harness assembly and is connected to the Visualert® mounting block by a high-pressure hose. The remote pressure indicator has a luminescent face and when the cylinder valve is open, provides the user a reading of cylinder air pressure in 500 PSI increments. The green zone indicates cylinder air pressure between 4,000 to 4,500 PSI and is sufficient pressure to begin operational use.

3.2.4 MASK-MOUNTED REGULATOR

The mask-mounted regulator (figure 3-5) is connected to a low-pressure hose threaded through the left shoulder strap of the harness assembly. The mask-mounted regulator maintains airflow into the facepiece at a pressure greater than atmospheric pressure and directs airflow over the inner surface of the lens for anti-fogging purposes. The mask-mounted regulator is constructed of corrosion-resistant materials and mates with a quick quarter-turn to the facepiece.

The mask-mounted regulator is available in two models. Both have a red purge valve, air saver switch, latch mechanism, and Vibralert®. Mask-mounted regulators are also equipped with a Heads-Up Display (HUD).

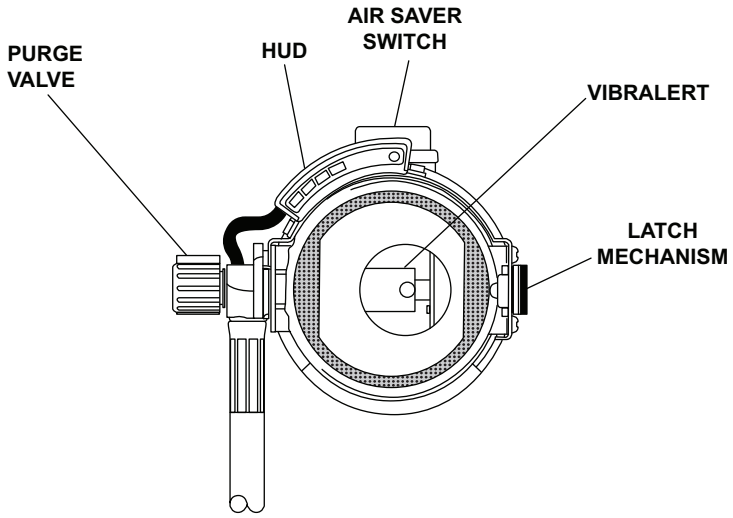


Figure 3-5. Mask-Mounted Regulator Components

3.2.4.1 PURGE VALVE

The red purge valve is situated at the inlet of the mask-mounted regulator and can be adjusted to provide a constant airflow of at least 125 liters per minute, to bleed the system of residual air at the end of operational use, or to supply constant airflow in case of mask-mounted regulator failure.

3.2.4.2 AIR SAVER SWITCH

When fully depressed, the air saver switch prevents the free flow of air when the facepiece is not donned. The air saver switch will allow airflow again once the wearer achieves a face-to-facepiece seal and inhales.

3.2.4.3 LATCH MECHANISM

The latch mechanism is engaged when the mask-mounted regulator is secured to the facepiece.

3.2.4.4 VIBRALERT®

The Vibralert® is an end-of-service-time indicator that actuates when cylinder pressure reaches approximately 900 - 1,125 PSI (20 - 25% of full), or when the pressure reducer malfunctions. The Vibralert® can be felt as a vibration of the facepiece and provides an audible alarm.

3.2.4.5 HEADS-UP DISPLAY (HUD)

The mask-mounted regulator comes equipped with the HUD (figure 3-6). The HUD is a battery-powered, independent, end-of-service-time indicator with cylinder air level status indicators and an integrated low-battery status indicator Light-Emitting Diode (LED). The HUD provides a constant status of the air supply with five LEDs that appear at the lower level of the facepiece field of vision.

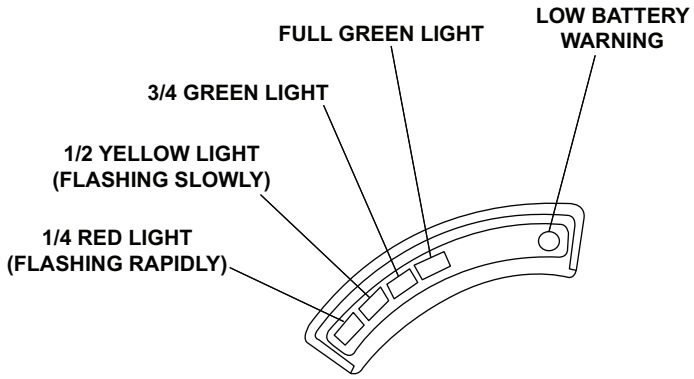


Figure 3-6. Heads-Up Display (HUD) LEDs

The HUD LEDs signify the following when lit:

- two rectangular green LEDs indicate cylinder air pressure is full to three-quarter (3/4) full
- one rectangular green LED indicates cylinder pressure is three-quarter (3/4) to one-half (1/2) full
- one rectangular yellow slowly flashing LED indicates cylinder pressure is one-half (1/2) to one-quarter (1/4) full
- one rectangular red rapidly flashing LED indicates one-quarter (1/4) cylinder pressure remains
- one round red LED indicates a low battery.

The mask-mounted regulator low-pressure hose is integrated with the HUD electrical power cable. This cable connects the HUD to the pressure reducer via an electronics package called the Visualert®.

3.2.5 AV-3000® FACEPIECE

The AV-3000® facepiece (figure 3-7) components are a head harness, lens, nosecup assembly, two inhalation check valves, and two voicemitters.

3.2.5.1 AV-3000® HEAD HARNESS

The six-point head harness for the AV-3000® facepiece is constructed of Kevlar® materials and consists of a head net, a neck strap, and a temple strap. The head harness temple and neck straps are threaded through pockets in the head net and are attached to the facepiece by temple and neck buckles.

3.2.5.2 AV-3000® LENS

The lens is constructed of a polycarbonate material, is anti-fogging, and is designed to meet the impact and penetration requirements of a faceshield as specified in American National Standards Institute (ANSI) Z87.1.

3.2.5.3 AV-3000 ® NOSECUP ASSEMBLY

The nosecup assembly covers the nose, mouth, and chin when the facepiece is worn. The inhalation check valves are rectangular-shaped and are installed on each side of the nosecup assembly. The nosecup assembly attaches to the voicemitter ducts and is anchored to the lens by a retaining ring.

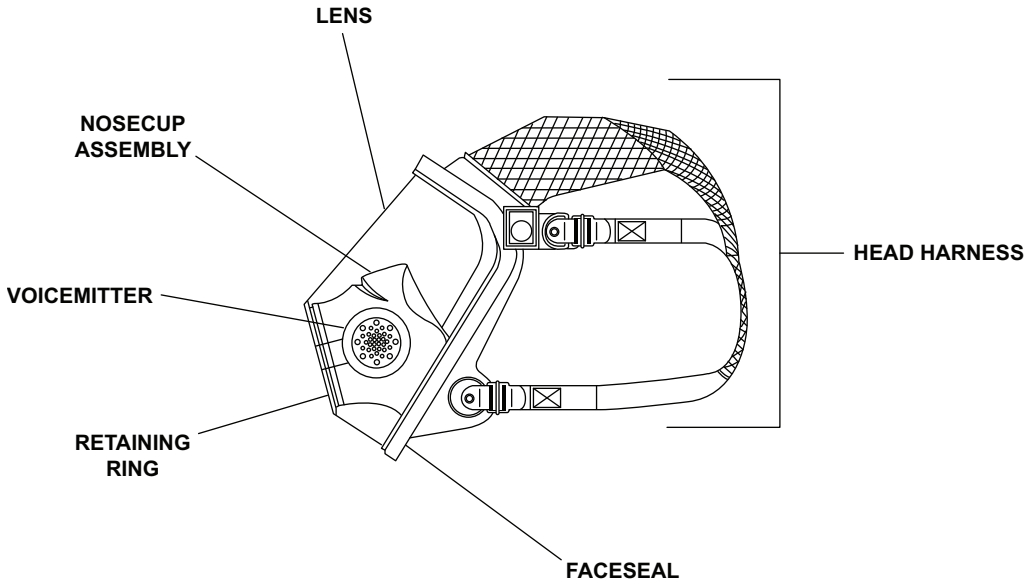


Figure 3-7. AV-3000® Facepiece Components

3.2.5.4 AV-3000® VOICEMITTER

The voicemitter allows the user to communicate through the facepiece when worn. The voicemitter does not enhance voice volume or clarity. The voice amplifier (see paragragph 3.2.5.6) is also an accessory option for the AV-3000® facepiece.

3.2.5.5 AV-3000® FACESEAL

The faceseal is made of rubber and effects an airtight seal around the face of the user to prevent inhalation of contaminated air sources. The size is molded into the facseal of the AV-3000® faceseal. The sizes available are small, medium, and large.

3.2.5.6 VOICE AMPLIFIER

The voice amplifier is an accessory that can be used with the AV-3000® facepiece. The voice amplifier electronically increases voice volume for clear communication and easily installs on top of the right voicemitter (as worn) with a mounting bracket assembly.

CHAPTER 4
SELF-CONTAINED BREATHING APPARATUS (SCBA)
PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

4.1 PURPOSE AND USE OF PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS) DATA

PMCS is performed to keep the SCBA in operating condition. The checks are used to find, correct, and report problems so that defects may be discovered and corrected. PMCS is to be accomplished each day the SCBA is operated using the appropriate item number from table 4-1. Pay attention to all WARNINGS, CAUTIONS, and NOTES that precede individual steps. WARNINGS indicate possible danger to personnel. CAUTIONS indicate possible damage to equipment. NOTES are for clarification and additional information. An explanation is prepared for each PMCS check entry, and for any general checks and services common to an entire piece of equipment or system. An explanation of PMCS chart columns follows:

4.1.1 ITEM NUMBER COLUMN

The checks and services are numbered within a specific table in chronological order.

4.1.2 INTERVAL

This column indicates the periodicity of the check or service.

1. Before SCBA operation, do Before PMCS.

2. During SCBA operation, do During PMCS.

3. After SCBA operation, do After PMCS.

4. Once a week do Weekly PMCS.

5. Do Monthly PMCS once a month. If the equipment has not been operated in a month, also do During PMCS at the same time as Monthly PMCS.

6. Do Quarterly PMCS once a quarter. If the equipment has not been operated in a quarter, also do After PMCS at the same time as Quarterly PMCS.

7. Do Semiannual PMCS once every six months. If the equipment has not been operated within the last six months, also do the Monthly PMCS at the same time as Semiannual PMCS.

8. Do Annual PMCS once a year.

9. If a deficiency is noted when performing PMCS, fix it, if possible, using troubleshooting procedures and/or maintenance procedures. If the deficiency cannot be corrected, write up the items not fixed on DA Form 2404 for unit maintenance. For further information on how to use this form, see DA PAM 750-8.

4.1.3 MANHOUR

This column indicates the projected amount of time that is expected to take to complete the check or service. Checks and services that require additional personnel include a cumulative amount of time.

4.1.4 ITEM TO BE CHECKED OR SERVICED

This column lists the equipment or item to be checked or serviced.

4.1.5 PROCEDURE COLUMN

This column contains a brief description of how to perform the checks and services, or it contains the reference to the page number or technical manual that contains the procedural information. Carefully follow the instructions. If the necessary tools are not available, or if the procedure tells you to, have organizational maintenance do the work.

4.1.6 EQUIPMENT NOT READY/AVAILABLE IF

Lists the criteria that will limit the use of equipment, or make it not ready for use. Depending on the severity of the limitations, the SCBA may not be able to operate and perform its primary mission. The terms "ready/available" and "mission capable" refer to the same status: Equipment is on hand and can perform its combat mission. If tools required to perform PMCS are not listed, notify unit maintenance. Write up items not fixed on DA Form 2404 for unit maintenance. For further information on how to use this form, see DA PAM 750-8.

4.1.7 DOCUMENTATION OF PMCS ITEM FAILURES

PMCS item failures are to be recorded on DA Form 2404, Equipment Inspection, and Maintenance Worksheet, and forwarded to unit maintenance via the vessel's Chief Engineer. Documentation of PMCS item failures must include the compartment location and item number in table 4-2 to ensure proper dissemination. All corrected faults will be recorded on DA Form 4640 (Harbor Boat Deck Department Log for Class A&B Vessels) and DA Form 4993 (Harbor Boat Engine Department Log for Class A and C-1 Vessels). All uncorrected faults will be transcribed to a DA Form 2407, Maintenance Request, and the appropriate log entry must be made. The crew will service the SCBA as outlined by the intervals contained in the PMCS tables.

4.1.8 CORROSION PREVENTION AND CONTROL (CPC)

Corrosion Prevention and Control (CPC) of Army materiel is a continuing concern. It is important that any corrosion problems be reported so that they can be corrected and improvements made to prevent future problems. Corrosion is typically associated with rusting of metals, but it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of materials may indicate a corrosion problem. Suspected corrosion problems should be reported using SF 368 (Product Quality Deficiency Report). Use of key words such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem.

4.1.9 INSPECTION

Look for signs of a problem or trouble. Senses help here. You can feel, smell, hear, or see many problems. Be alert. Inspect to see if items are in good condition. Are they correctly assembled, stowed, secured, excessively worn, leaking, corroded, or properly lubricated? Correct any problems found or notify unit maintenance. There are some common items to check on all equipment. These include the following:

1. Bolts, clamps, nuts, and screws: Continuously check for looseness. Look for chipped paint, bare metal, rust, or corrosion around bolt and screw heads and nuts. Tighten them when you find them loose. If tools are not available, notify unit maintenance.

2. Welds: Many items are welded. To check these welds, look for chipped paint, rust, corrosion, or gaps. When these conditions exist, notify unit maintenance on DA Form 2404.

3. Electrical wires, connectors, and harnesses: Tighten loose connectors. Look for cracked or broken insulation, bare wires, and broken connectors. If any are found, notify unit maintenance.

4. Hoses and fluid lines: Look for wear, damage, and leaks, and make sure clamps and fittings are tight. Wet spots mean a leak. A stain by a fitting or connector can also mean a leak. When you find a leak, notify unit maintenance.

4.1.10 GENERAL STATEMENT OF LUBRICATION REQUIREMENTS

Any lubricants called out by PMCS in this manual are identified by standard military symbols (MIL-HDBK-113 and MIL-HDBK-275).

4.1.11 LUBRICATION SERVICE INTERVALS - NORMAL CONDITIONS

For safer, more trouble free operations, make sure that the SCBA is serviced when needed. For the proper lubrication and service intervals, see table 4-1 and table 4-3.

4.1.12 LUBRICATION SERVICE INTERVALS - UNUSUAL CONDITIONS

The equipment may require extra service and care when operated under unusual conditions. High or low temperatures, long periods of hard use, or continued use in a dirty environment will break down the lubricants and fluids, requiring more frequent service.

4.1.13 LUBRICATION UNIVERSALS

1. Always clean fittings before lubricating them. Failure to do so can force contaminants into bearings.
2. Always use the PMCS work packages as the guide for lubrication.
3. Never use the wrong type/grade of lubricant.
4. Never use too much lubricant.

Table 4-1. Preventive Maintenance Checks and Services

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
1	Before	0.1	Remote Pressure Indicator	a. Verify that the glass on the remote pressure indicator is not cracked or broken.	The glass on the remote pressure indicator is cracked or broken.
				b. Verify that the needle is present and not bent.	The needle on the remote pressure indicator is missing or bent.
				c. Verify that the high-pressure hose is securely attached to the remote pressure indicator.	The high-pressure hose is not securely attached to the remote pressure indicator.

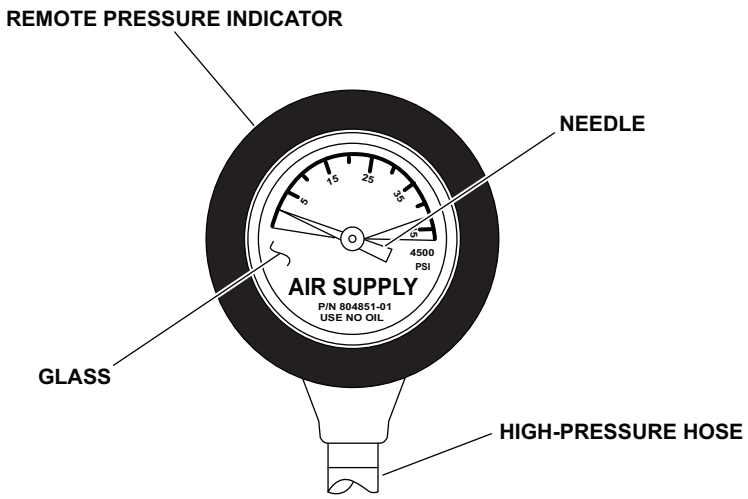
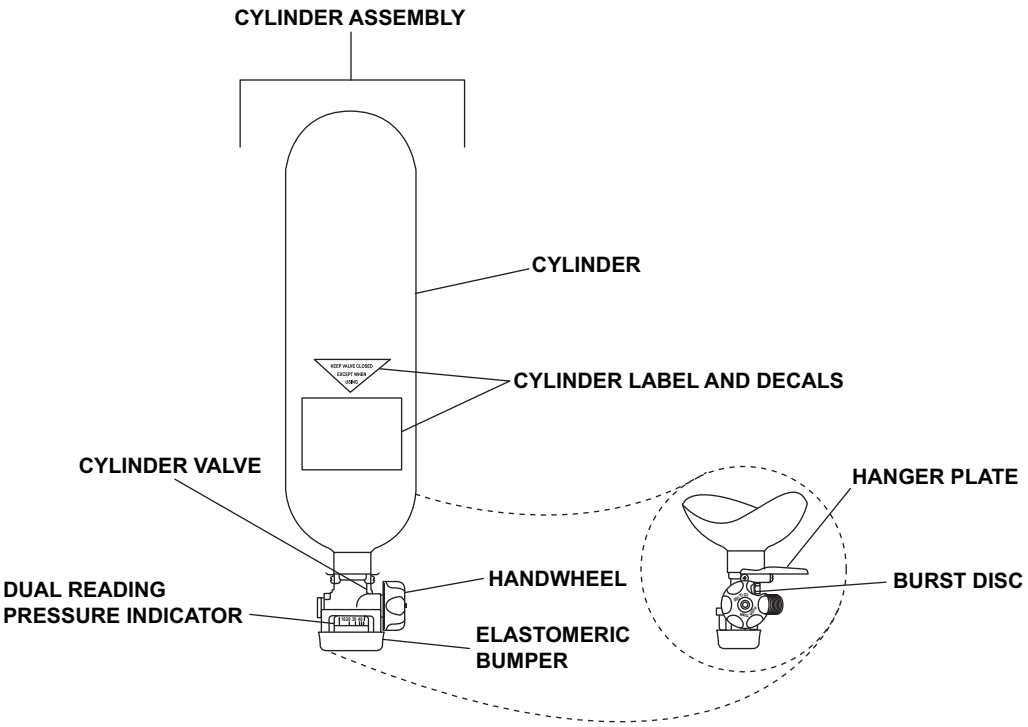


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
2	Before	0.1	Cylinder Assembly	a. Inspect cylinder label and decals to ensure that all information is legible and that the cylinder is within the hydrostatic test date. Refer to table 4-3.	The cylinder label and decals are not legible or the cylinder is not within the hydrostatic test date.
				b. Inspect the cylinder assembly exterior surface for cuts, gouges, abrasions, dents, corrosion, and discoloring, or damage that has caused the fiber overwrap to display exposed, broken, or loose fibers or has become separated, unraveled, or loose. Refer to Appendix C.	The cylinder assembly exterior surface has level 2 or level 3 damage as defined in Appendix C.
				c. Inspect the cylinder valve for external damage, thread damage, and proper handwheel operation.	The cylinder valve has damaged threads that prevent proper handwheel operation.
				d. Verify that the elastomeric bumper is present and not cracked or broken.	The elastomeric bumper is missing, cracked, or broken.
				e. Inspect the burst disc to ensure that it is not ruptured.	The burst disc is ruptured.
				f. Inspect the hanger plate to ensure it is not bent or broken. Ensure it is firmly secured with the locking tab and that the cylinder band clamp is tightened to properly secure the installed cylinder.	The hanger plate is bent or broken.
				g. Inspect the air cylinder pressure by performing the following steps: 1. Turn the handwheel on the cylinder valve to the fully OPEN position. 2. Verify that the remote pressure indicator displays a minimum of 4000 PSI. 3. Verify that the dual reading pressure indicator on the cylinder assembly displays a minimum of 4000 PSI. Refer to TM 10-4310-503-13&P for recharging instructions for the cylinder assembly.	Air cylinder pressure is less than 4000 PSI on the dual reading pressure indicator or the remote pressure indicator.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:



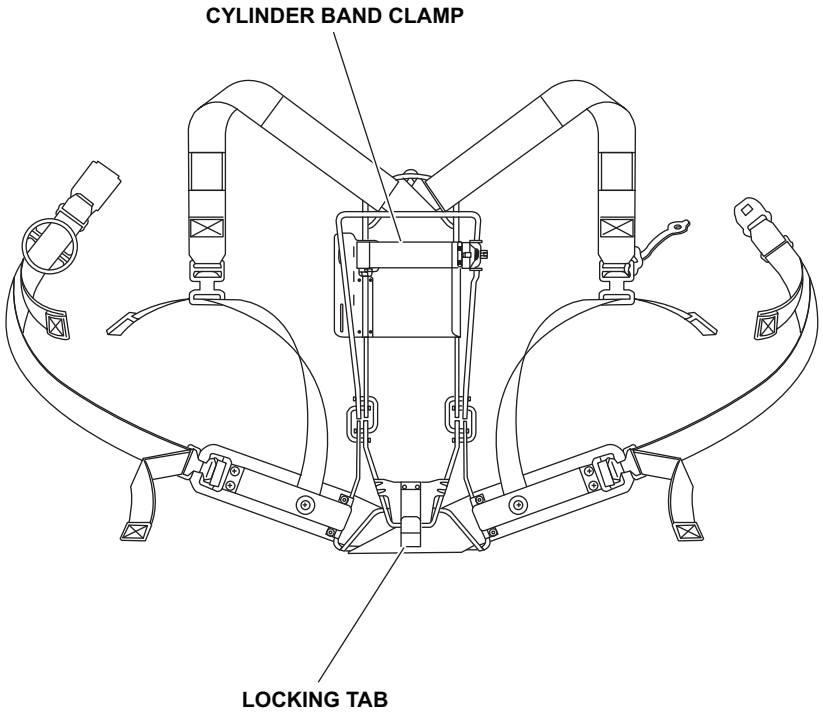


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
3	Before	0.1	Back Frame and Harness Assembly	a. Inspect the waist, side, and shoulder straps for cuts, rips, or tears.	The waist, side, or shoulder straps have cuts, rips, or tears that prevent the proper wearing of the back frame and harness assembly.
				b. Inspect buckles, cylinder band clamp, and the over center latch mechanism for proper operation.	The buckles, cylinder band clamp, or the over center latch mechanism fail to operate properly.
				c. Verify that the dust cap is on the quick disconnect fitting of the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) and that it is not cracked, dry rotted, cut, or missing.	

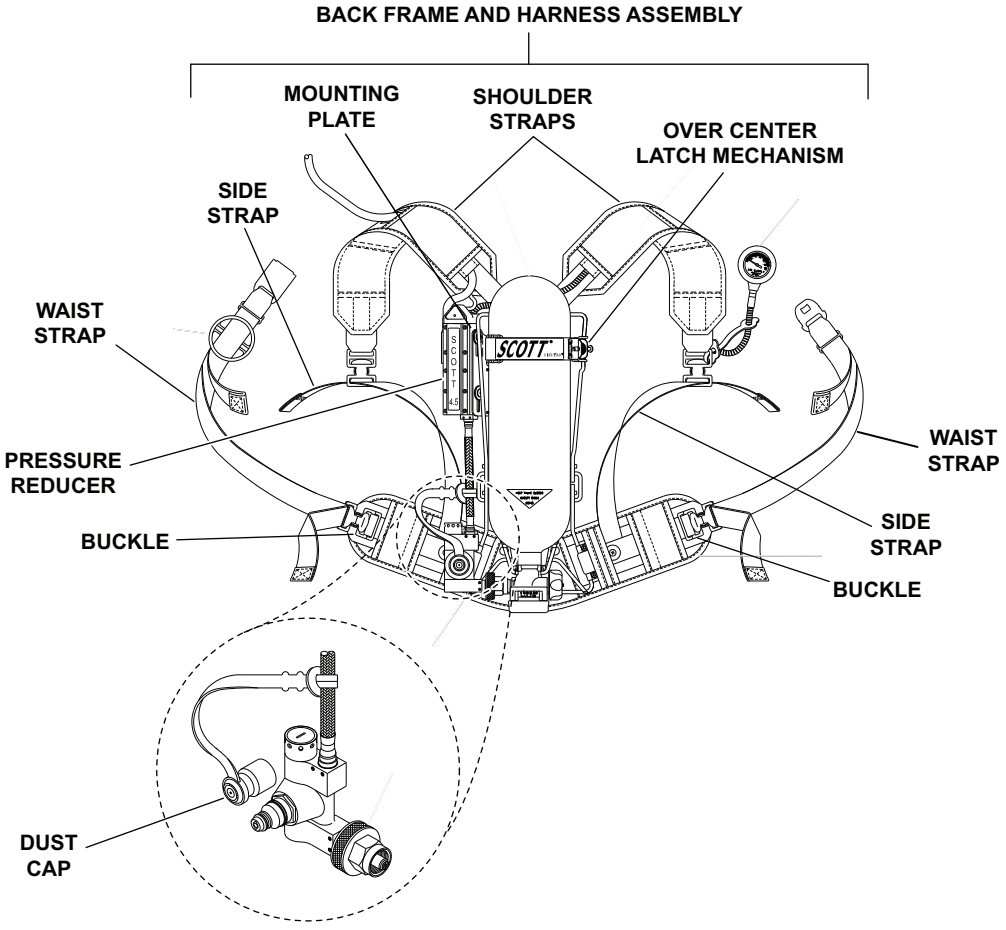


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
4	Before	0.1	Pressure Reducer and Visualert	a. Inspect the pressure reducer for corrosion and external damage.	The pressure reducer is corroded or has external damage.
				b. Verify that the remote high pressure hose, the low pressure hose, and the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) high pressure hose are securely attached to the pressure reducer and that the hoses are not cut, broken or dry rotted.	The remote high pressure hose, the low pressure hose, or the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) high pressure hose is not securely attached to the pressure reducer; the hoses are cut, broken, or dry rotted.
				c. Verify that the Heads-Up Display (HUD) electrical cable is securely attached to the Visualert mounting block on the pressure reducer and that the heads up display electrical cable is not cut or frayed.	The HUD electrical cable is not securely attached to the Visualert mounting block on the pressure reducer; or, the heads up display electrical cable is cut or frayed.

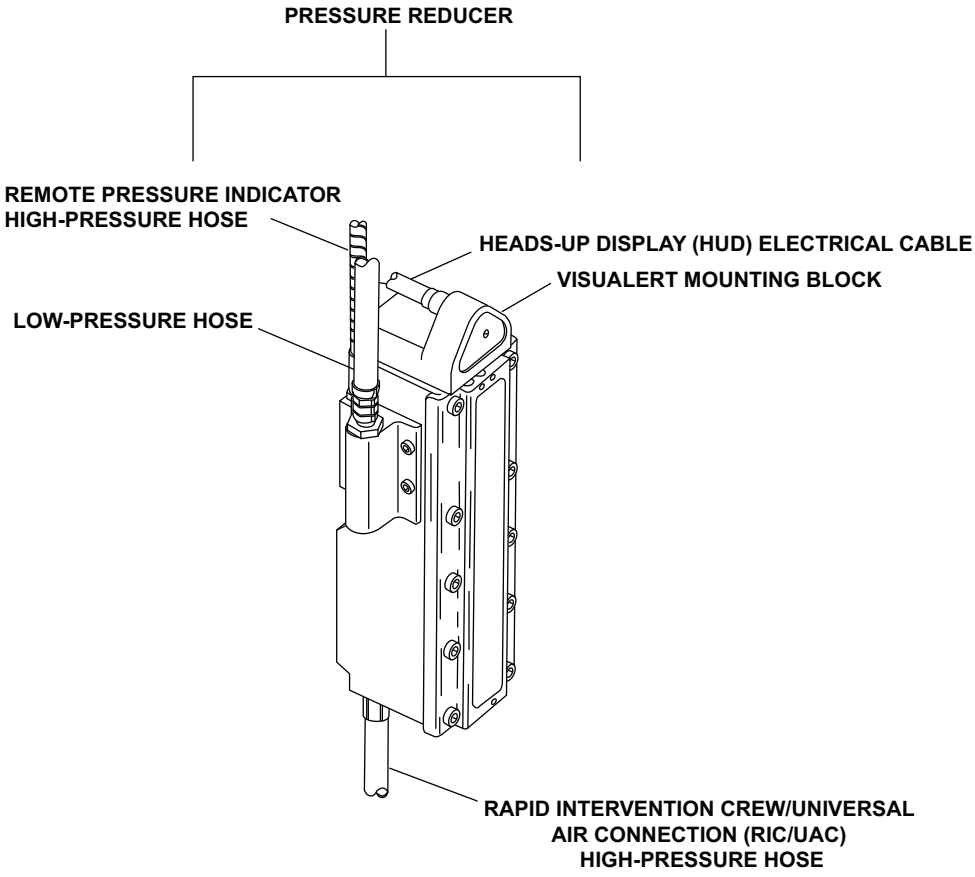


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
5	Before	0.2	Facepiece	a. Inspect the facepiece for rubber deterioration, dirt, cracks, holes, or tackiness.	The rubber on the facepiece is deteriorated, cracked, has holes or is tacky.
				b. Inspect the six point head harness for cuts, tears, abrasions, and signs of heat or chemical damage.	The six point head harness is cut, torn, has abrasions, or signs of heat and chemical damage.
				c. Inspect the temple and neck buckles for deformation, crushing, corrosion, and damaged or missing fasteners.	The temple and neck buckles are deformed, crushed, corroded, or have damaged or missing fasteners.
				d. Inspect the lens for cracks and loss of tightness with the facepiece rubber. Verify that the lens is not broken, cracked, or has scratches that would impair vision.	The lens is broken, cracked, has scratches that impair vision, or loses tightness with the facepiece rubber;
				e. Inspect the retaining ring for damage.	The retaining ring is damaged.
				f. Check that the inhalation valves are installed, the nosecup assembly is correctly positioned inside the faceseal chin cup, and that the nose cup is properly sealed between the flanges of the voicemitter ducts.	The inhalation valves are not installed; the nosecup assembly is not correctly positioned inside the faceseal chin cup; or, the nosecup assembly is not properly sealed between the flanges of the voicemitter ducts.
				g. Inspect the voice amplifier to verify that the batteries are present and that the voice amplifier turns on and off.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

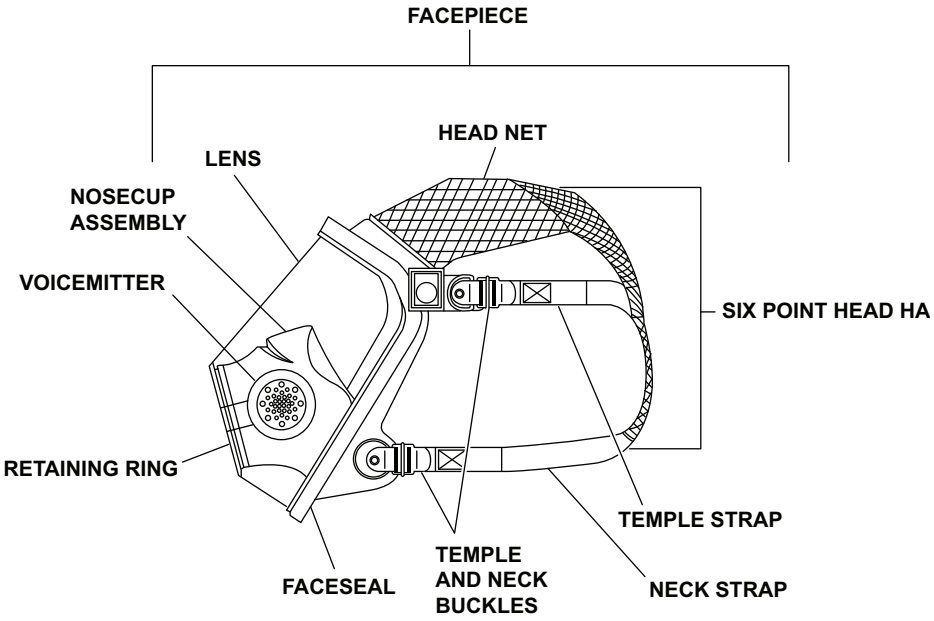
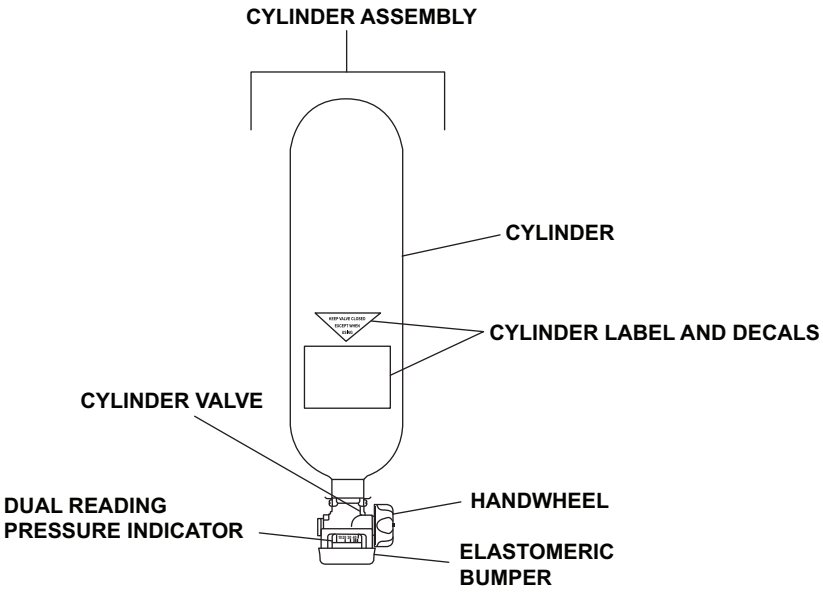
ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
					
6	Before	0.1	Mask-Mounted Regulator	a. Inspect the mask-mounted regulator for external damage.	The mask-mounted regulator is damaged.
				b. Verify that the purge valve can be rotated and that it is not cracked or deformed.	The purge valve cannot be rotated or it is cracked or deformed.
				c. Verify that there is no damage to the latch mechanism.	The latch mechanism is damaged.
				d. Verify that the mask-mounted regulator connects to the facepiece.	The mask-mounted regulator fails to connect to the facepiece.
				NOTE **If the SCBA will not be used immediately, turn the handwheel on the cylinder valve to the fully closed position. Operate the purge valve on the mask-mounted regulator to remove the air pressure from the SCBA.**	
				e. Turn the handwheel on the cylinder valve to the fully OPEN position. Verify that the Heads-Up Display (HUD) has two rectangular green Light-Emitting Diodes (LED) illuminated indicating that the cylinder is full.	The HUD does not have two rectangular green LEDs illuminated indicating that the cylinder is full; the heads up display indicates a low battery with one round red LED illuminated.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				f. Verify that the air saver switch is fully depressed and that air does not flow freely from the facepiece.	The air saver switch cannot be fully depressed, preventing the free flow of air from the facepiece.
				g. Verify that the vibralert is not activated.	The vibralert is activated.



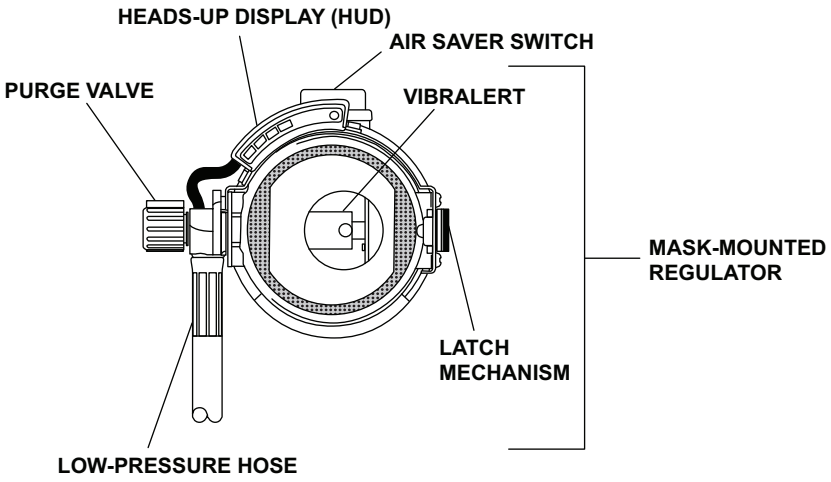


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
7	During	0.1	Remote Pressure Indicator	Verify that air pressure is indicated on the remote pressure indicator.	The remote pressure indicator fails to indicate air pressure.

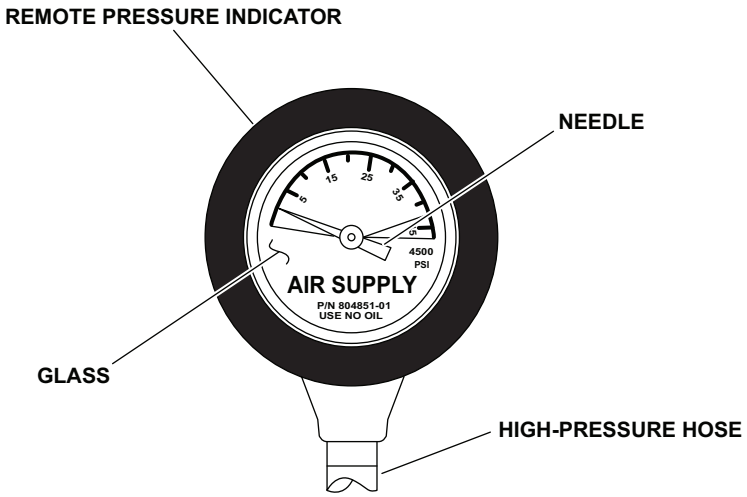


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
8	During	0.1	Mask-Mounted Regulator	a. Verify that there is a free flow of air once a face-to-mask seal has been established.	The mask mounted regulator fails to provide a free flow of air after a face- to-mask seal has been established.
				b. Verify that the Heads-Up Display (HUD) indicates the amount of air in the cylinder with the following LEDs: • Two rectangular green LEDs indicate the cylinder air pressure is full to ¾ full. • One rectangular green LED indicates the cylinder air pressure is ¾ full to ½ full. • One rectangular yellow slowly flashing LED indicates the cylinder air pressure is ½ full to ¼ full. • One rectangular red rapidly flashing LED indicates the cylinder air pressure is ¼ full.	The HUD fails to indicate the cylinder air pressure.

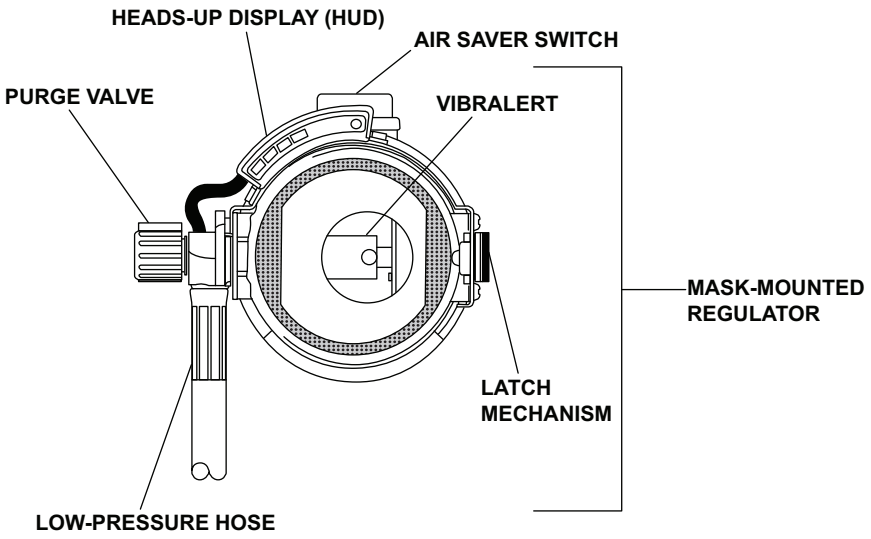


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
9	After	0.1	Remote Pressure Indicator	a. Verify that the cylinder valve on the cylinder assembly is OFF. Purge any remaining air pressure shown on the remote pressure indicator with the purge valve on the mask mounted regulator.	
				b. Verify that the glass on the remote pressure indicator is not cracked or broken.	The glass on the remote pressure indicator is cracked or broken.
				c. Verify that the needle is present and not bent.	The needle on the remote pressure indicator is missing or bent.
				d. Verify that the high pressure hose is securely attached to the remote pressure indicator.	The high pressure hose is not securely attached to the remote pressure indicator.

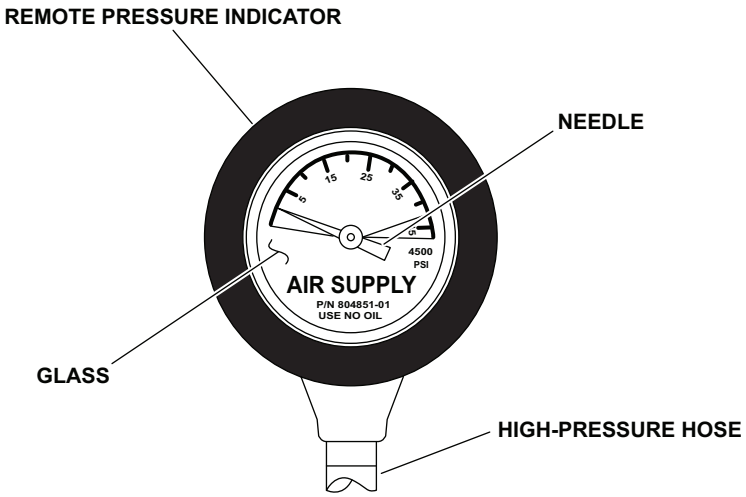
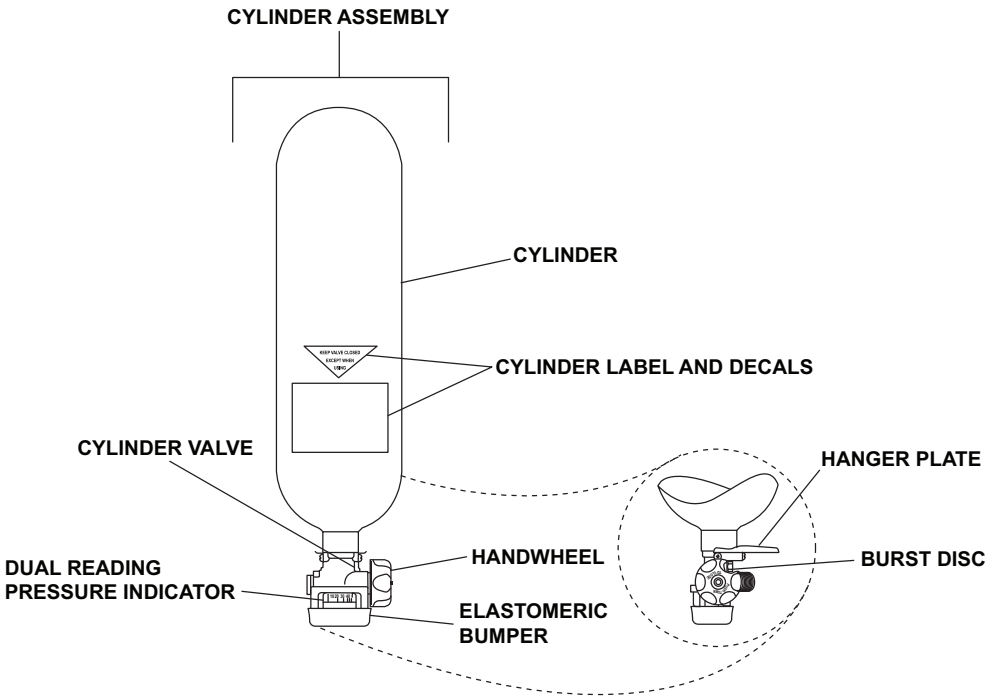


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
10	After	0.1	Cylinder Assembly	a. Inspect cylinder label and decals to ensure that all information is legible and that the cylinder is within the hydrostatic test date. Refer to table 4-3.	The cylinder label and decals are not legible or the cylinder is not within the hydrostatic test date.
				b. Inspect the cylinder assembly exterior surface for cuts, gouges, abrasions, dents, corrosion, and discoloring, or damage that has caused the fiber overwrap to display exposed, broken, or loose fibers or has become separated, unraveled, or loose. Refer to Appendix C.	The cylinder assembly exterior surface has level 2 or level 3 damage as defined in Appendix C.
				c. Inspect the cylinder valve for external damage, thread damage, and proper handwheel operation.	The cylinder valve has damaged threads that prevent proper handwheel operation.
				d. Verify that the elastomeric bumper is present and not cracked or broken.	The elastomeric bumper is missing, cracked, or broken.
				e. Inspect the burst disc to ensure that it is not ruptured.	The burst disc is ruptured.
				f. Inspect the hanger plate to ensure it is not bent or broken. Ensure it is firmly secured with the locking tab and that the cylinder band clamp is tightened to properly secure the installed cylinder.	The hanger plate is bent or broken.
				g. Charge the cylinder. Refer to TM 10-4310-503-13&P.	The cylinder fails to charge or will not hold a charge.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:



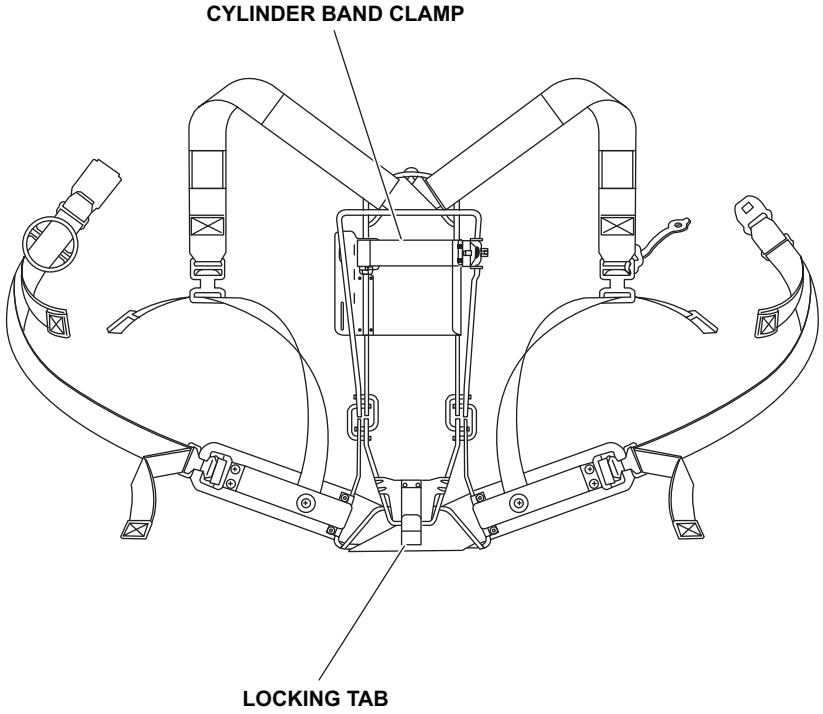


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
11	After	0.1	Back Frame and Harness Assembly	a. Inspect the waist, side, and shoulder straps for cuts, rips, or tears.	The waist, side, or shoulder straps have cuts, rips, or tears that prevent the proper wearing of the back frame and harness assembly.
				b. Inspect buckles, cylinder band clamp, and the over center latch mechanism for proper operation.	The buckles, cylinder band clamp, or the over center latch mechanism fail to operate properly.
				c. Verify that the dust cap is on the quick disconnect fitting of the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) and that it is not cracked, dry rotted, cut, or missing.	

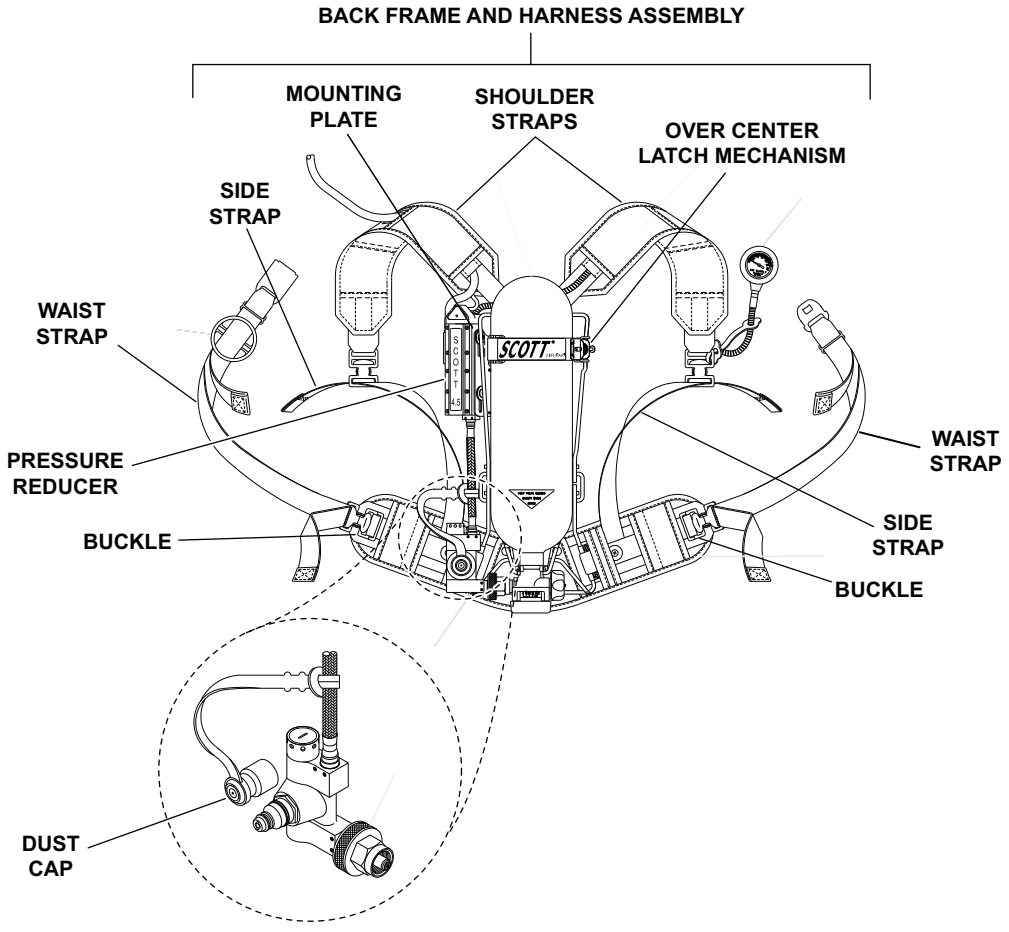


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
12	After	0.2	Facepiece	a. Inspect the facepiece for rubber deterioration, dirt, cracks, holes, or tackiness.	The rubber on the facepiece is deteriorated, cracked, has holes or is tacky.
				b. Inspect the six point head harness for cuts, tears, abrasions, and signs of heat or chemical damage.	The six point head harness is cut, torn, has abrasions, or signs of heat and chemical damage.
				c. Inspect the temple and neck buckles for deformation, crushing, corrosion, and damaged or missing fasteners.	The temple and neck buckles are deformed, crushed, corroded, or have damaged or missing fasteners.
				d. Inspect the lens for cracks and loss of tightness with the facepiece rubber. Verify that the lens is not broken, cracked, or has scratches that would impair vision.	The lens is broken, cracked, has scratches that impair vision, or loses tightness with the facepiece rubber;
				e. Inspect the retaining ring for damage.	The retaining ring is damaged.
				f. Check that the inhalation valves are installed, the nosecup assembly is correctly positioned inside the faceseal chin cup, and that the nosecup assembly is properly sealed between the flanges of the voicemitter ducts.	The inhalation valves are not installed; the nosecup assembly is not correctly positioned inside the faceseal chin cup; or, the nosecup assembly is not properly sealed between the flanges of the voicemitter ducts.
				g. Inspect the voice amplifier to verify that the batteries are present and that the voice amplifier turns on and off.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

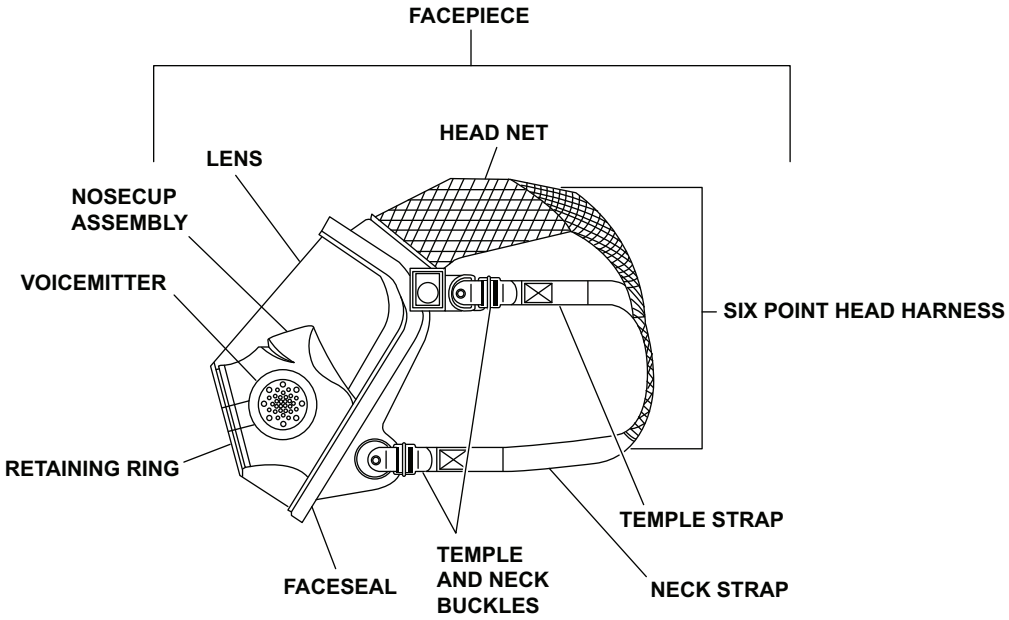
ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
					

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
13	After	0.1	Mask-Mounted Regulator	a. Inspect the mask-mounted regulator for external damage.	The mask-mounted regulator is damaged.
				b. Verify that the purge valve can be rotated and that it is not cracked or deformed.	The purge valve cannot be rotated, is cracked, or deformed.
				c. Verify that there is no damage to the latch mechanism.	The latch mechanism is damaged.
				d. Verify that the mask-mounted regulator connects to the facepiece.	The mask-mounted regulator fails to connect to the facepiece.
				e. Verify that the air saver switch is not cracked or deformed and that it does not bind when pressed.	The air saver switch is cracked, deformed, or binds when pressed.

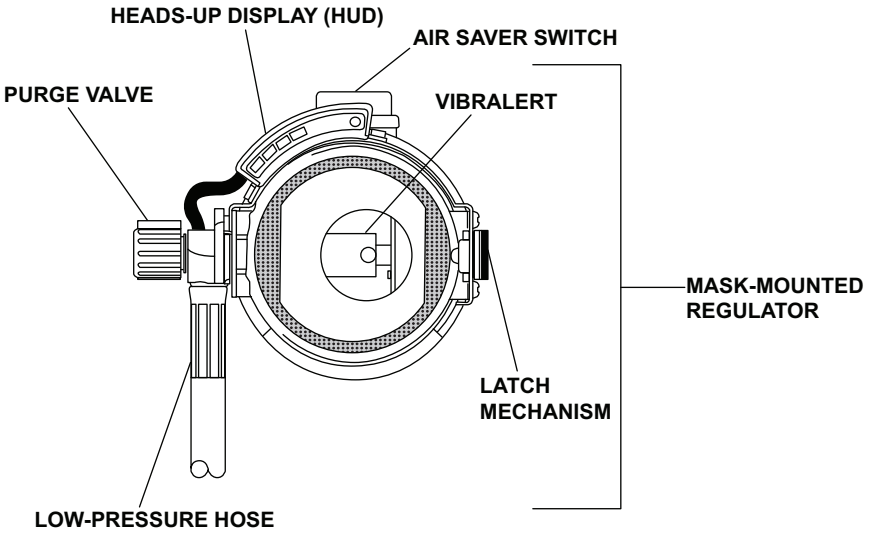


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
14	After	0.1	Pressure Reducer and Visualert	a. Inspect the pressure reducer for corrosion and external damage.	The pressure reducer is corroded or has external damage.
				b. Verify that the remote high-pressure hose, the low-pressure hose, and the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) high-pressure hose are securely attached to the pressure reducer and that the hoses are not cut, broken, or dry rotted.	The remote high-pressure hose, the low-pressure hose, or the Rapid Intervention Crew/Universal Air Connection (RIC/UAC) high-pressure hose is not securely attached to the pressure reducer; the hoses are cut, broken, or dry rotted.
				c. Verify that the Heads-Up Display (HUD) electrical cable is securely attached to the Visualert mounting block on the pressure reducer and that the heads up display electrical cable is not cut or frayed.	The HUD electrical cable is not securely attached to the Visualert mounting block on the pressure reducer; or, the heads up display electrical cable is cut or frayed.

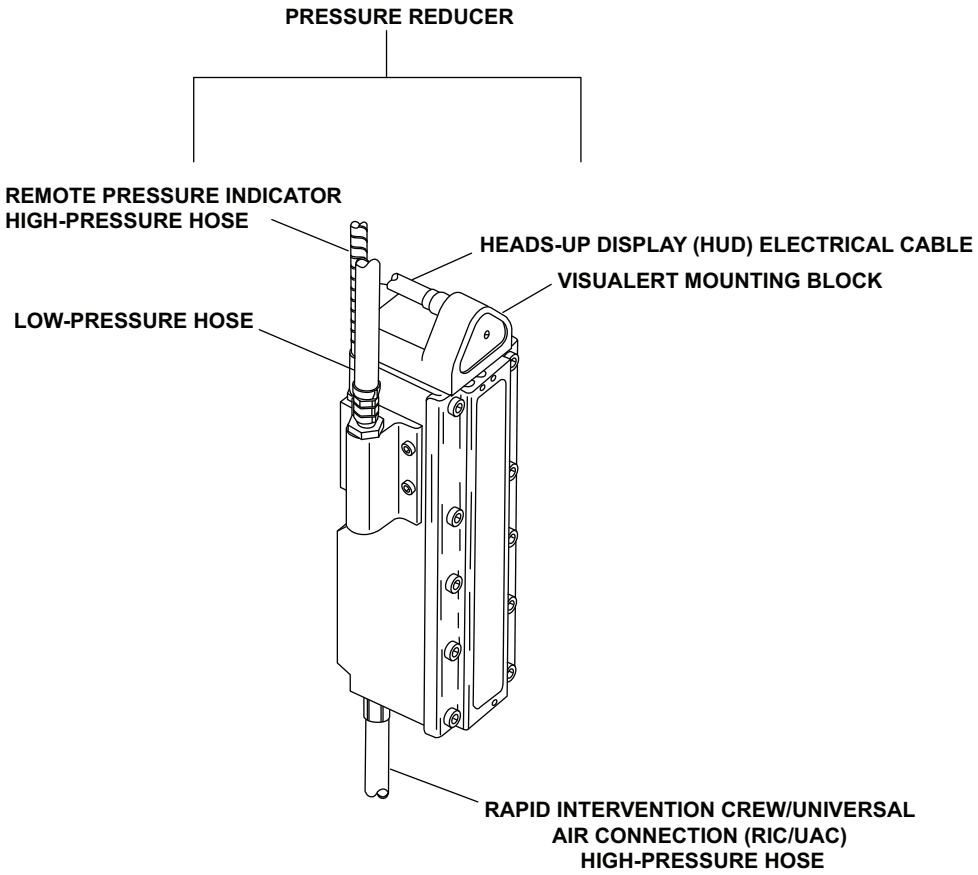


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
15	After	0.3	Facepiece	**NOTE** **To clean the facepiece, the crewmembers performing the task will need three buckets, each containing approximately 1½ gallons of warm freshwater. The water temperature shall not exceed 110°F. In one of the buckets, mix one tablespoon of Wescodyne-G or one tablespoon of sodium hypochlorite with the 1½ gallons of freshwater. This will be used as the sanitizing solution. The remaining two buckets of freshwater will be used for rinsing the facepiece. The sanitizing solution should be changed after cleaning 25 facepieces.** Perform the following steps to clean the facepiece. a. Remove the mask-mounted regulator from the facepiece. b. Remove the voice amplifier from the facepiece. c. Completely immerse the facepiece, including the nosecup assembly and six point head harness in the sanitizing solution. d. Thoroughly wash the facepiece with a sponge. e. Agitate the facepiece in the sanitizing solution for at least 15 seconds to sanitize all parts. f. Keep the facepiece in the sanitizing solution for at least two minutes to allow the sanitizing solution to stay in contact with all parts of the facepiece. g. Remove the facepiece from the sanitizing solution and shake lightly to remove any of the sanitizing solution trapped in the facepiece. h. Completely immerse the facepiece in the 1st bucket of rise water and agitate the facepiece for at least 15 seconds to thoroughly rinse off any sanitizing solution.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				i. Remove the facepiece from the first bucket of rinse water and shake lightly to remove any water trapped in the facepiece. j. Completely immerse the facepiece in the second bucket of rinse water and agitate the facepiece for at least 15 seconds to thoroughly rinse off any remaining sanitizing solution. k. Remove the facepiece from the second bucket of rinse water and shake lightly to remove any water trapped in the facepiece. **⚠ CAUTION** **Do not place the facepiece near a heater, a heat source, or in direct sunlight to dry. The rubber pieces of the facepiece may be damaged. Failure to comply with this caution may result in damage to the equipment.** l. Wipe the facepiece dry with a lint free rag and/or allow the facepiece to air dry. Do not dry the facepiece near a heater or in direct sunlight. m. Wipe the voice amplifier with a rag dampened with the sanitizing solution. n. Install the voice amplifier on the facepiece.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
16	After	0.3	Mask-Mounted Regulator	**NOTE** **To clean the mask-mounted regulator, the crewmembers performing the task will need three buckets, each containing approximately 1½ gallons of warm freshwater. The water temperature shall not exceed 110°F. In one of the buckets, mix one tablespoon of Wescodyne-G or one tablespoon of sodium hypochlorite with the 1½ gallons of freshwater. This will be used as the sanitizing solution. The remaining two buckets of freshwater will be used for rinsing the mask mounted regulator. The sanitizing solution should be changed after cleaning 25 mask mounted regulators.** a. Completely immerse the mask-mounted regulator and part of the low pressure hose in the sanitizing solution. b. Wash the mask-mounted regulator with a sponge. Agitate the mask-mounted regulator in the sanitizing solution for at least 15 seconds to sanitize all parts. c. Keep the mask-mounted regulator in the sanitizing solution for at least two minutes to allow the sanitizing solution to stay in contact with all parts of the mask-mounted regulator. d. Remove the mask-mounted regulator from the sanitizing solution and shake lightly to remove any of the sanitizing solution trapped in the mask-mounted regulator. e. Completely immerse the mask-mounted regulator in the first bucket of rinse water and agitate the mask-mounted regulator for at least 15 seconds to thoroughly rinse off any sanitizing solution.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				f. Remove the mask-mounted regulator from the first bucket of rinse water and shake lightly to remove any water trapped in the mask-mounted regulator. g. Completely immerse the mask-mounted regulator in the second bucket of rinse water and agitate the mask-mounted regulator for at least 15 seconds to thoroughly rinse off any remaining sanitizing solution. h. Remove the mask-mounted regulator from the second bucket of rinse water and shake lightly to remove any water trapped in the mask-mounted regulator. **⚠ CAUTION** **Do not place the mask-mounted regulator near a heater, a heat source, or in direct sunlight to dry. The mask-mounted regulator may be damaged. Failure to comply with this caution may result in damage to the equipment.** i. Wipe the mask-mounted regulator dry with a lint free rag and/or allow the mask-mounted regulator to air dry. Do not dry the mask-mounted regulator with a heater or in direct sunlight. j. When the mask-mounted regulator is dry, stow it in the back frame and harness assembly protective holder.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
17	After	0.3	Back Frame and Harness Assembly	**NOTE** **To clean the back frame and harness assembly, use the same sanitizing solution used for cleaning the facepiece and the mask-mounted regulator.** Clean the back frame and harness assembly components with a sponge dampened in the sanitizing solution used to clean the facepiece and mask-mounted regulator.	

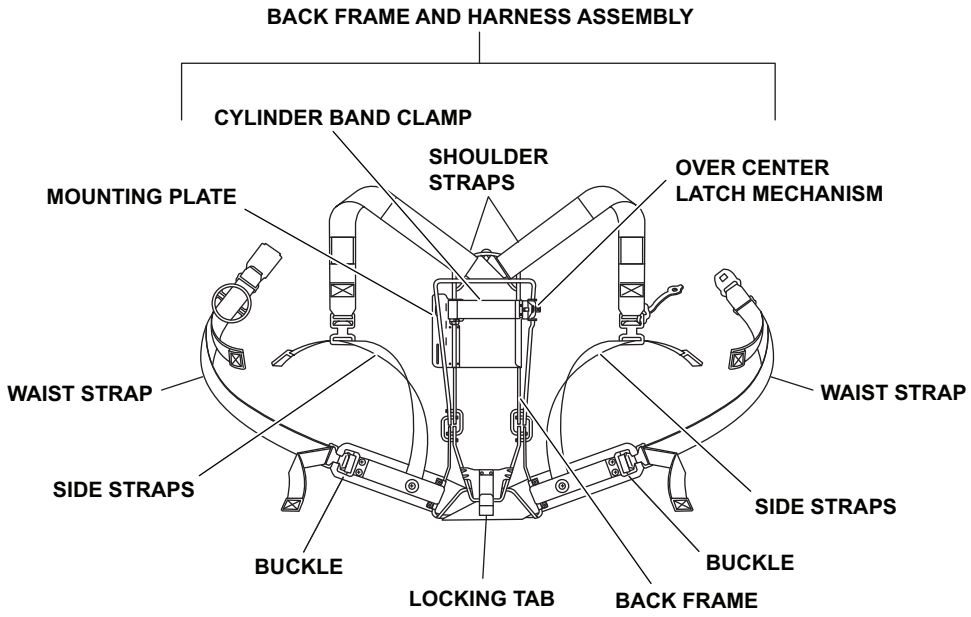


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
18	Weekly	0.1	Cylinder Assembly	a. Turn the handwheel on the cylinder valve to the fully OPEN position.	The handwheel on the cylinder valve will not turn to the fully OPEN position.
				b. Verify that the remote pressure indicator displays a minimum of 4000 PSI.	The pressure indicator displays less than 4000 PSI.
				c. Verify that the dual reading pressure indicator on the cylinder assembly displays a minimum of 4000 PSI.	The air cylinder pressure is less than 4000 PSI on the dual reading pressure indicator.
				d. Turn the handwheel on the cylinder valve to the fully CLOSED position.	The handwheel on the cylinder valve will not turn to the fully CLOSED position.
				e. Operate the purge valve on the mask-mounted regulator to remove the air pressure from the SCBA.	The purge valve fails to remove the air pressure from the the SCBA.

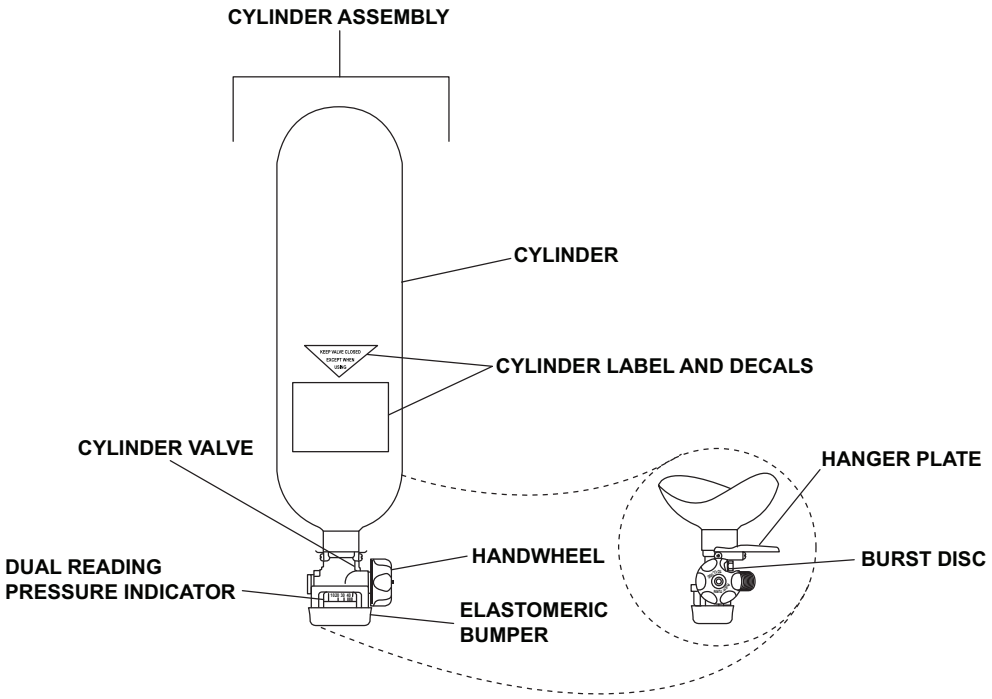


Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
19	Monthly	0.3	SCBA	Perform the following steps to test the SCBA for air leaks: a. Verify that the purge valve on the mask-mounted regulator is CLOSED. b. Turn the handwheel on the cylinder valve to the fully OPEN position then backoff 1/4 turn. **NOTE** **If the Light Emitting Diodes (LEDs) fail to illuminate or the low battery LED remains illuminated after initialization, replace the batteries and start the test again from step a.** c. Verify that all LEDs on the Heads-Up Display (HUD) illuminate and initialize for 20 seconds (after the cylinder valve is in the OPEN position). d. Wait 30 seconds and verify that the remote pressure indicator and the dual reading pressure indicator display a pressure of at least 4000 PSI and are within 500 PSI of each other. e. Turn handwheel on the cylinder valve to the fully CLOSED position. f. Record the pressure displayed on the remote pressure indicator and wait for one minute. After one minute has passed, record the pressure on the remote pressure indicator. If the pressure change is more than 500 PSI, perform the procedure again from step a until a pressure change of less than 500 PSI is observed or the test has been performed a total of three times.	The LEDs on the HUD fail to illuminate. The remote pressure indicator or the dual reading indicator displays a pressure of less than 4000 PSI. The pressure difference between the remote pressure indicator and the dual reading pressure indicator is greater than 500 PSI.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
20	Monthly	0.3	SCBA	Perform the following steps to test the SCBA end-of-service alarms: a. Test SCBA for air leaks (item 19). b. Verify that the remote pressure indicator displays at least 4000 PSI. c. Position the remote pressure indicator so that it can be observed while observing the Heads-Up Display (HUD) on the mask-mounted regulator. d. Slightly OPEN the purge valve on the mask mounted regulator to allow the air pressure in the cylinder to decrease. Verify that the Light-Emitting Diodes (LED) on the HUD illuminate as indicated in table 4-2 as the air pressure in the cylinder decreases. e. Verify that the Vibralert activates when the air pressure in the cylinder is between 800 PSI and 1300 PSI. f. Allow the remaining air pressure in the cylinder to vent and then CLOSE the purge valve. g. Charge the cylinder (TM 10-4310-503-13&P).	The LEDs on the HUD fail to illuminate as indicated in table 4-2. The Vibralert fails to activate between 800 PSI and 1300 PSI.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
21	Monthly	0.3	SCBA	Perform the following steps to test the SCBA for proper operation: a. Perform all Before PMCS (items 1 through 6). b. Test the SCBA for air leaks (item 19). c. Test the SCBA end of service alarms (item 20). d. Place the back frame and harness assembly with the cylinder assembly installed on a crewmember (paragraph 2.3.1.1). **NOTE** **The facepiece may not seal properly if the crewmember has a beard, gross sideburns, or similar facial characteristics.** **The crewmember can breathe normally with the facepiece on as long as the mask-mounted regulator is not installed.** e. Have the crewmember put the facepiece on and tighten the six point head harness to obtain a proper face seal (paragraph 2.3.1.1). **WARNING** **When the facepiece is worn with the mask-mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position the crewmember will not be able to breathe normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death.** f. Verify that the purge valve on the mask-mounted regulator is in the fully CLOSED position and install the mask-mounted regulator in the facepiece (paragraph 2.3.1.2).	Facepiece fails to seal properly. The purge valve on the mask-mounted regulator fails to operate properly.

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				g. Instruct the crewmember to inhale until the facepiece is drawn against the face and then hold their breath for 10 seconds. A leak-free facepiece will be drawn toward the face and remain in that position as long as negative pressure is maintained. If the facepiece does not seal, remove the mask-mounted regulator, adjust the six point head harness, and perform steps f and g. h. Turn the handwheel on the air cylinder valve to the fully OPEN position. i. Instruct the crewmember to inhale sharply to start the air flow into the facepiece. j. Instruct the crewmember to breathe normally(inhale through the nose and exhale through the mouth). Exhaled air should exit the facepiece through the exhalation valve in the mask-mounted regulator. Air should not exit via the facepiece face seal. k. Set the voice amplifier to ON. l. Instruct the crewmember to speak into the facepiece. m. Verify that the crewmember's voice can be heard clearly. n. If the crewmember's amplified voice output is low or distorted, replace the amplifier battery. o. Set the voice amplifier to OFF. p. OPEN the purge valve on the mask-mounted regulator. q. Verify that air rushes into the facepiece. r. CLOSE the purge valve on the mask-mounted regulator. s. Verify that the rush of air into the facepiece has stopped. t. Instruct the crewmember to insert two fingers between face seal of the facepiece and their face and slowly lift the facepiece away from their face.	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
				u. Verify that air flows outward from the opening between the face and the facepiece.	
				v. Press the air saver switch.	The air saver switch fails to operate properly
				w. Verify that the flow of air has stopped.	
				x. Remove the mask-mounted regulator from the facepiece and stow it in its protective holder.	
				y. Remove the facepiece and the back frame and harness assembly.	
				z. Perform all After PMCS (items 9 through 17).	

Table 4-1. Preventive Maintenance Checks and Services (continued)

ITEM NO.	INTERVAL	MAN-HOUR	ITEM TO BE CHECKED OR SERVICED	PROCEDURE	EQUIPMENT NOT READY/ AVAILABLE IF:
22	Monthly	0.1	Cylinder Assembly	**NOTE** **Cylinders that will be 15 years old should be removed from service at 14 years and 8 months. If cylinders will reach 15 years while deployed, they must be removed prior to deployment.** **The last hydrostatic test date for new cylinders is the date of manufacture.** **To determine when cylinders should be hydrostatically tested, refer to the Department Of Transportation (DOT) exemption number located on the cylinder label. Refer to table 4-3 for hydrostatic test intervals. Hydrostatic testing must be performed by a DOT approved facility using the methods of the Compressed Gas Association (CGA) Publication C-6.2 "Guidelines for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders.** **Cylinders will be scheduled for hydrostatic testing four months prior to the hydrostatic test expiration date. Cylinders that will require hydrostatic testing while deployed must have the cylinder hydrostatically tested prior to deployment.** **Refer to Appendix D for the location of DOT approved hydrostatic test facilities throughout the world.** Record the hydrostatic test and expiration dates. Refer to table 4-3.	Cylinder is 15 years old The cylinder is past its hydrostatic test expiration test date. The cylinder fails the hydrostatic test.
23	36 Months	0.5	SCBA	Schedule the SCBA for its 3-year functional test. The SCBA functional test must be performed by a certified technician utilizing a SCOTT SCBA test stand.	The SCBA fails the functional test.

Table 4-2. Pressure at HUD Indication Changes

Cylinder Pressure Transition	HUD Indicator	Pressure Reading On Remote Pressure Indicator PSI
Full to Three Quarter	Two Green LEDs to One Green LED	3200-3700
Three Quarter to One-Half	One Green LED to One Slowly Flashing Yellow LED	2000-2500
One-Half to One-Quarter	One Slowly Flashing Yellow LED to One Rapidly Flashing Red LED	800-1300

Table 4-3. Hydrostatic Test Intervals

DOT Exemption Number	Cylinder Type	Retest After 3 Years	Retest After 5 Years
10915*	Carbon Fiber Composite Wrapped	First Retest*	X
10945*	Carbon Fiber Composite Wrapped	First Retest*	X

* These cylinders require an initial hydrostatic retest at 3 years and then are scheduled for retesting at 5-year intervals.

Check for the latest hydrostatic test date (figure 4-1, item 1). If no label is affixed as shown, verify that the original hydrostatic test date (figure 4-1, item 2) is current.

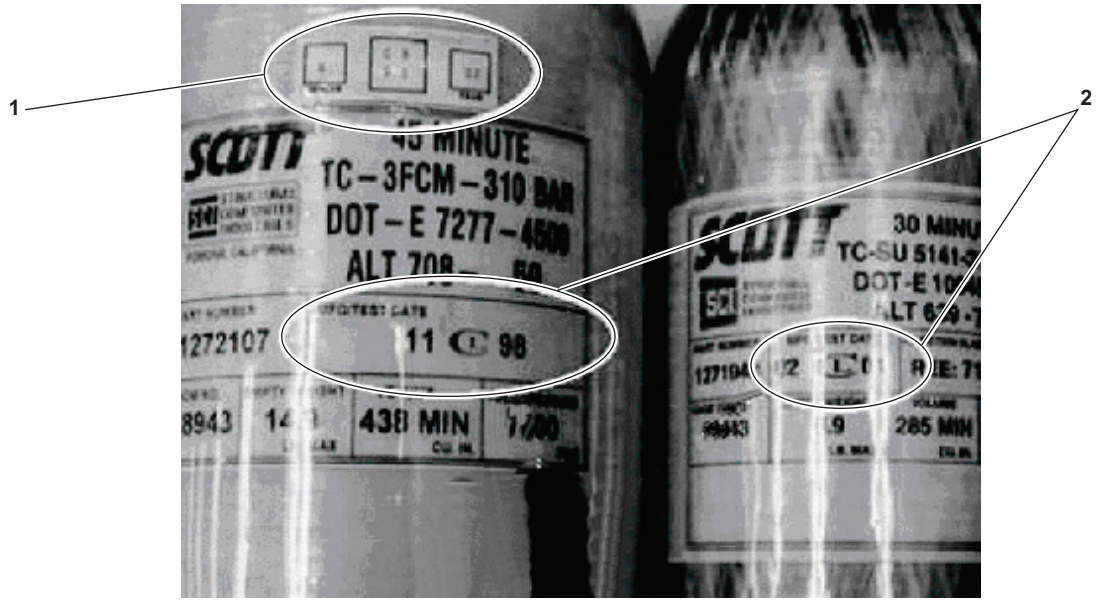


Figure 4-1. Hydrostatic Test Dates

CHAPTER 5
SELF-CONTAINED BREATHING APPARATUS (SCBA) TROUBLESHOOTING

5.1 INTRODUCTION

This chapter contains the troubleshooting procedures and data necessary to assist personnel in locating the source of equipment malfunction or performance degradation of the Self-Contained Breathing Apparatus (SCBA). Table 5-1 presents symptoms that may occur during operation of the SCBA and suggests possible causes and actions that should correct the problem. Removal and installation procedures are provided in Chapter 6.

5.2 GENERAL TROUBLESHOOTING INSTRUCTIONS

Troubleshooting is based on locating potential faults in the equipment and taking timely corrective action. This manual cannot possibly list all malfunctions that may occur nor all causes, tests, inspections, or corrective actions that may apply. If a malfunction is not listed or is not remedied by the suggested corrective action(s), notify the supervisor.

Prior to each use, inspect the SCBA In Accordance With (IAW) the Before Preventive Maintenance Checks and Services (PMCS), tables 4-1 through 4-3. If damage is noted, replace the component.

Table 5-1. Troubleshooting Guidelines

Symptom	Possible Cause(s)	Corrective Action(s)
Constant airflow with facepiece donned.	a. Purge valve open.	a. Close purge valve by turning fully clockwise.
	b. Facepiece not properly adjusted to face.	b. Readjust facepiece and head harness IAW-paragraph 2.3.1.1 steps f through l.
	c. Mask-mounted regulator malfunction.	c. Remove and install mask-mounted regulator IAWparagraph 6.7.2.
No air or excessive resistance upon inhalation.	a. Cylinder valve not fully open.	a. Open cylinder valve by turning handwheel fully counterclockwise.
	b. Cylinder empty.	b. Check dual-reading pressure indicator for correct pressure. If empty, replenish air IAW paragraph 2.3.2.
	c. Restriction in low-pressure hose.	c. Check for kink or obstruction in low-pressure hose.
	d. Mask-mounted regulator malfunction.	d. Open purge valve by turning fully counterclockwise. If free flow of air begins, remove and install mask-mounted regulator IAW paragraph 6.7.2.
	e. Pressure reducer malfunction.	e. If no free flow of air begins, remove and install pressure reducer IAW paragraph 6.8.5.
System Leakage.	a. Leakage at cylinder valve and hand coupling connection.	a. Tighten hand coupling (hand tighten only). If leakage continues, inspect respirator seat gasket for damage or excessive wear. Remove and install IAW paragraph 6.8.3.
	b. Leakage at RIC/UAC assembly and pressure reducer connection.	b. Remove RIC/UAC assembly from pressure reducer and install preformed packing and the packing retainer IAW paragraph 6.8.4.

Table 5-1. Troubleshooting Guidelines (continued)

Symptom	Possible Cause(s)	Corrective Action(s)
System Leakage (continued).	c. Leakage at Visualert mounting block and pressure reducer connection.	c. Remove mounting probe, inspect, and install Visualert mounting block IAW paragraph 6.8.1.
	d. Leakage at low-pressure hose and pressure reducer connection.	d. Remove, inspect, and install mask-mounted regulator IAW paragraph 6.7.2.
	e. Leakage in remote pressure indicator at Visualert mounting block connection.	e. Replace remote pressure indicator IAW paragraph 6.8.2.
	f. Leakage in RIC/UAC assembly.	f. Replace RIC/UAC assembly IAW paragraph 6.8.4.
	g. Leakage at remote pressure indicator and indicator line connection.	g. Replace remote pressure indicator IAW paragraph 6.8.2.
	h. Leakage around pressure reducer other than previously identified.	h. Replace pressure reducer IAW paragraph 6.8.5.
Facepiece leakage.	a. Facepiece not properly sealed to face.	a. Readjust facepiece and head harness IAW-paragraph 2.3.1.1 steps f through l.
	b. Leakage at facepiece and mask-mounted regulator connection.	b. Replace mask-mounting regulator sealing gasket IAW paragraph 6.7.1.
Excessive resistance on exhalation.	Sticking exhalation valve (mask-mounted regulator)	Clean mask-mounted regulator IAW PMCS. If problems persist, replace mask-mounted regulator IAW paragraph 6.7.2.
Airflow does not stop when air saver switch is fully depressed (closed).	Mask-mounted regulator malfunction.	Close purge valve by turning clockwise. If problem persists, replace mask-mounted regulator IAW paragraph 6.7.2.
Vibralert activates above 1,125 PSI.	Pressure reducer malfunction.	Replace pressure reducer IAW paragraph 6.8.5.
LED on HUD not functioning.	a. Low or depleted battery.	a. Replace battery.
	b. Loose cable connection.	b. Check HUD electrical cable connection at Visualert.
	c. Visualert malfunction.	c. Replace Visualert IAW paragraph 6.8.1.

CHAPTER 6
SELF-CONTAINED BREATHING APPARATUS (SCBA)
CORRECTIVE MAINTENANCE

6.1 GENERAL MAINTENANCE INSTRUCTIONS

WARNING

If in doubt about the serviceability of a part, replace it immediately. Worn or damaged parts shall be replaced with authorized replacement parts only. Failure to comply with this warning may result in serious injury or death to personnel.

Do not disassemble components or loosen or tighten fittings while the system is pressurized. Prior to performing maintenance, ensure high-pressure air supply has been shut down and all pressure has been bled from the system. Failure to comply with this warning may result in serious injury or death to personnel.

6.1.2 EQUIPMENT DISASSEMBLY AND PARTS REPLACEMENT

Disassemble the equipment only to the extent necessary to perform the required maintenance action. Ensure proper lockout and tagout (FM 4-01.502) (supersedes FM 55-502) procedures are performed prior to conducting maintenance. Once joints or connections have been opened, maintain cleanliness by capping or plugging all open ports, or by bagging all exposed components prior to performing maintenance.

If any component fails inspection or testing, replace the worn or damaged part with authorized replacement parts only (refer to the Repair Parts and Special Tools List (RPSTL), Appendix H). Approved general cleaning procedures, leak-detection compounds, and lubricants are listed in the following paragraphs, along with general O-ring removal and replacement procedures.

6.1.3 LEAK DETECTION

The use of MIL-L-25567D, Type 1 leak-detection compound is preferred for leak testing all SCBA air system connections that were broken for maintenance. MIL-D-16791, Type1, Non-Ionic Detergent (NID) may also be used for leak testing if necessary.

6.1.4 LUBRICANTS

Only use lubricants authorized in PMCS table 4-1 (Chapter 4). Apply lubricants sparingly.

6.1.5 O-RING REMOVAL AND INSTALLATION

If possible, visually inspect O-rings without removing them to avoid unnecessary disassembly that may cause undue wear.

6.1.5.1 INSPECTION

Exposed O-rings that are not removed shall be visually inspected for damage, and replaced if necessary.

⚠ CAUTION

To avoid damage to the O-ring groove, remove O-rings using the fingers only or the appropriate tool from an O-ring extractor kit. Failure to comply with this caution may result in damage to the equipment.

6.1.5.2 REMOVAL

If an O-ring cannot be removed with fingers, use an O-ring installation/removal tool. Scratching the O-ring groove may cause leakage or premature seal failure. Unless otherwise directed, all removed O-rings shall be cut and discarded.

6.1.5.3 INSTALLATION

Strict cleanliness and proper lubrication are essential during O-ring installation. Ensure new O-rings are of the proper size and material. To ensure correct installation, observe the following:

- Visually inspect new O-rings for deformities or compression set, hardening, or brittleness, nicks or cuts, pits or blisters, or any other signs of damage. Cut and discard damaged O-rings and obtain new O-rings for replacement.
- Ensure parts are clean throughout the installation procedure. Dirt, chips, or foreign particles in O-ring grooves can cause leakage or damage to O-rings.
- Lubricate O-rings before assembly. Use only approved lubricants for O-rings. Apply lubricant sparingly; excess lubricant can foul other components.
- Do not overstretch O-rings during installation. To avoid O-ring damage, stretch only as needed for proper installation.
- Ensure O-rings are not twisted in groove as twisting occurs easily during replacement of large O-rings with relatively small cross-sectional diameters.
- Do not force O-rings over corners, threads, splines, ports, or other sharp edges. Use thimble, support, cone, or other device to prevent O-rings from contacting sharp edges of parts.
- When reassembling Society of Automotive Engineers/Military Specification (SAE/MIL-SPEC) straight-thread connections, ensure O-rings are not pinched or exposed.
- When reassembling components, apply closing force to produce straight, longitudinal movement. Rotating or twisting movements should be avoided to prevent bunching, cutting, or tearing of seals.

WARNING

Omission or negligent performance of corrective maintenance procedures on this equipment could result in equipment failure. Failure to comply with this warning may result in serious injury or death to personnel.

6.2 SCOPE

The corrective maintenance information presented in this chapter includes the actions and procedures required to restore the Self-Contained Breathing Apparatus (SCBA) equipment to a fully operable condition. This chapter provides general maintenance information and specific maintenance procedures to assist maintenance personnel in the removal and replacement of inoperative parts or assemblies. The corrective maintenance procedures identify maintenance actions; provide safety precautions; list tools, parts, and materials; and present step-by-step instructions with supporting illustrations. The corrective maintenance procedures in this chapter are provided for qualified maintenance personnel working at the organizational level.

The procedures included in this chapter are prescribed in the interest of safety and optimum service life of the equipment. Components requiring corrective maintenance beyond the limits described in this document must be returned to the depot (in accordance with [IAW] paragraph 1.9) for repair or overhaul. The information in the remainder of this chapter is arranged in the following sequence:

- Adjustments and Alignments
- General Maintenance Information
- General Maintenance Procedures
- SCBA Corrective Maintenance

6.2.1 SAFETY REQUIREMENTS

Before performing corrective maintenance on the SCBA, maintenance personnel shall review and become thoroughly familiar with the general safety notices and precautions listed in the Safety Summary. Replacement procedures, along with the associated warnings and cautions, shall be read in full before beginning corrective maintenance.

6.3 ADJUSTMENTS AND ALIGNMENTS

There are no adjustments or alignments required.

6.4 GENERAL MAINTENANCE INFORMATION

WARNING

If in doubt about the serviceability of a part, replace it immediately. Worn or damaged parts shall be replaced with authorized replacement parts only. Failure to comply with this warning may result in serious injury or death to personnel.

6.4.1 MAINTENANCE PARTS

Only approved replacement parts listed in Appendix H shall be used on the SCBA.

6.4.2 RELATED MAINTENANCE

Related corrective maintenance actions may include inspection, removal, and replacement of O-rings, as well as inspection and cleaning of component parts. O-ring inspection, removal, and replacement procedures are provided in paragraph 6.1.5. Refer to Chapter 4 for specific guidance on installation of positionable fittings, component cleaning procedures and materials. Refer to paragraph 6.1.3 for approved leak-detection compounds. Ensure cleanliness of the system is maintained at all times IAW the requirements in PMCS tables 4-1 through 4-3.

6.5 GENERAL MAINTENANCE PROCEDURES

WARNING

Disassembly of the SCBA components beyond the procedures described in this manual shall not be performed. Additional disassembly may cause component failure. Failure to comply with this warning may result in serious injury or death to personnel.

6.5.1 BLEED THE SYSTEM

a. Tools, Parts, and Materials

(1) None

b. Procedure

⚠ CAUTION

Before performing any maintenance, bleed the system of air to ensure that the internal system air pressure, not including the cylinder assembly, is equal to room (ambient) pressure. Failure to comply with this caution may result in damage to equipment.

(1) Close the cylinder valve (figure 6-1, item 1) by rotating the handwheel (figure 6-1, item 2) fully clockwise.

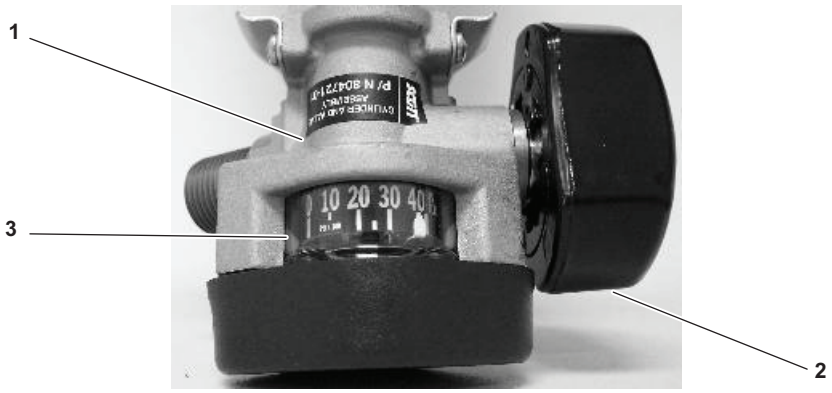


Figure 6-1. Cylinder Valve and Handwheel

(2) Open the purge valve (figure 6-2, item 1) on the mask-mounted regulator (figure 6-2, item 2) by turning it fully counterclockwise.

(3) When airflow stops, close the purge valve (figure 6-2, item 1) by turning it fully clockwise.

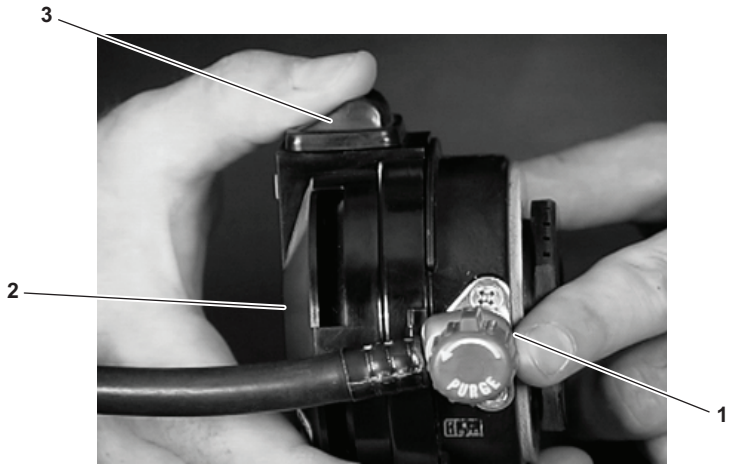


Figure 6-2. Purge Valve

6.5.2 LEAK CHECK

a. Tools, Parts, and Materials

(1) Cloth, lint-free, clean
(2) Compound, leak detection, MIL-L-25567D, Type I
(3) Water, fresh

b. Procedure

(1) Ensure that a minimum of 4,000 PSI reading is on the dual-reading pressure indicator (figure 6-1, item 3). If it is below 4,000 PSI, replace with a fully charged cylinder assembly IAW paragraph 2.3.2.1.

(2) Ensure the air saver switch (figure 6-2, item 3) is fully depressed and that the purge valve (figure 6-2, item 1) is rotated fully clockwise until closed.

(3) Rotate the handwheel (figure 6-1, item 2) fully counterclockwise, then back off 1/4 turn, to open the cylinder valve (figure 6-2, item 1).

(4) Apply leak detection compound to the repaired areas.

(5) Inspect the repaired areas treated with leak detection compound. If bubbles (figure 6-3, item 1) are present, ensure proper assembly of all components and perform the leak check again. If the leak persists, tag out (FM 4-01.502) (supersedes FM 55-502) affected components for repair.

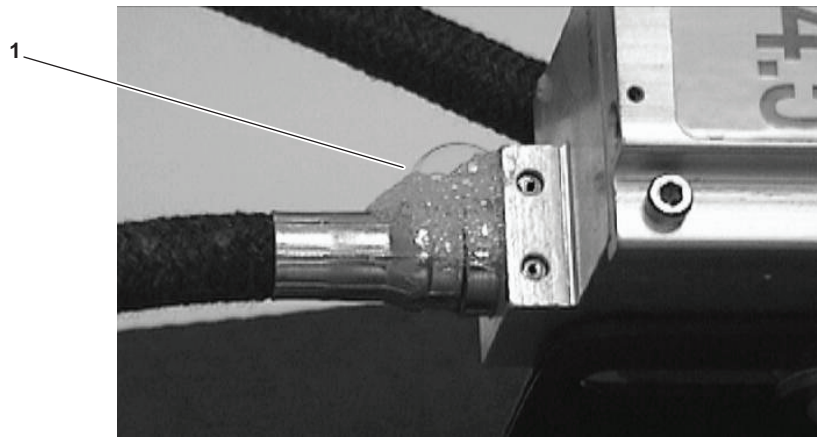


Figure 6-3. Bubbles Indicate Leakage

(6) Remove all traces of leak detection compound with a damp, clean, lint-free cloth.

(7) Bleed the system IAW paragraph 6.5.1.

6.5.3 NEGATIVE PRESSURE CHECK

a. Tools, Parts, and Materials
(1) Tags, Shipping

b. Procedure

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

NOTE

Ensure facepiece is completely assembled and all components have been inspected, cleaned, and replaced as necessary before conducting a negative-pressure check.

(1) Bleed the system IAW paragraph 6.5.1.

NOTE

Ensure the facepiece is the correct size.

(2) Don the facepiece IAW paragraph 2.3.1.1 steps f through l.

(3) Secure the mask-mounted regulator to the facepiece.

NOTE

Do not pressurize SCBA.

(4) When the facepiece is sealed to the face, inhale gently.

(5) If a leak is detected, ensure that the corrective maintenance procedure has been properly performed, and repair as required.

(6) Perform steps b.(2) through b.(5).

(7) If the leak persists, remove the facepiece from service and tag out (FM 4-01.502) (supersedes FM 55-502) for repair or replacement.

(8) Clean facepiece IAW PMCS (Chapter 4).

6.6 AV-3000® FACEPIECE CORRECTIVE MAINTENANCE

6.6.1 VOICE AMPLIFIER REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials
(1) Screwdriver, Phillips, No. 1

b. Removal

(1) Depress the locking lever (figure 6-4, item 1) and rotate the voice amplifier (figure 6-4, item 2) clockwise to remove.

(2) Using a No. 1 Phillips screwdriver, remove the long screw (figure 6-5, item 1). Set aside for installation.

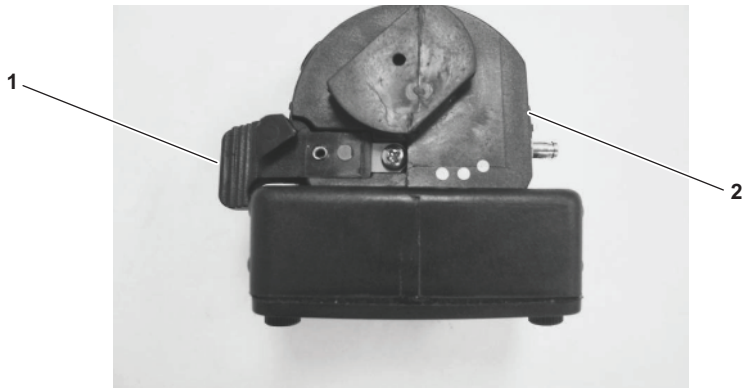


Figure 6-4. Voice Amplifier Removal

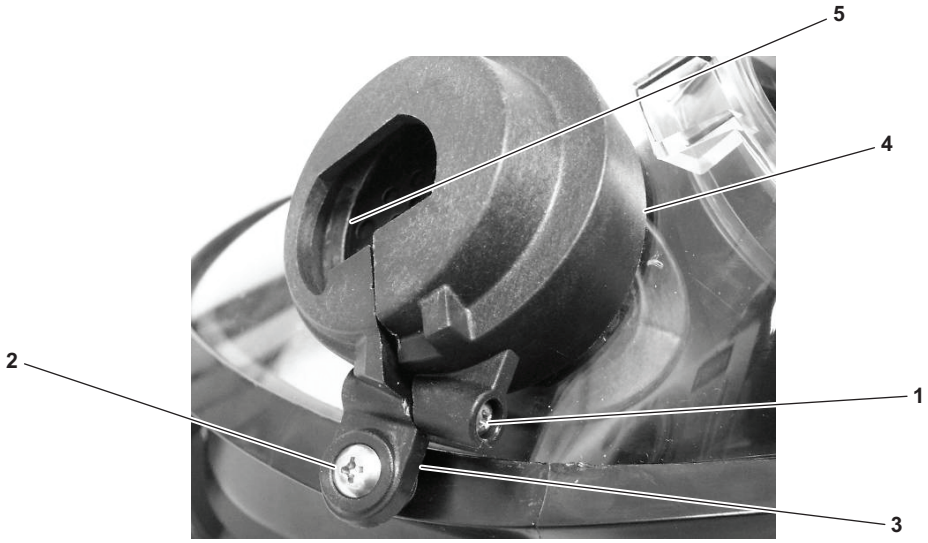


Figure 6-5. AV-3000® Mounting Bracket

(3) Using a No. 1 Phillips screwdriver, remove the short screw (figure 6-5, item 2) from the screw tab (figure 6-5, item 3). Set the screw aside for installation.

(4) Separate the mounting bracket (figure 6-5, item 4) and remove it from the exterior flap (figure 6-5, item 5).

c. Installation

(1) Visually inspect the mounting bracket (figure 6-5, item 4) and the voice amplifier (figure 6-4, item 2) for heat damage, cracks, discoloration, cuts, or abrasions. If damage is noted, replace as required.

(2) Inspect the mounting bracket (figure 6-5, item 4) and the voice amplifier (figure 6-4, item 2) for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

NOTE

Wetting the exterior flap and the mounting bracket with water may aid in installing mounting bracket properly. Do not use lubricants.

(3) Spread apart the mounting bracket (figure 6-5, item 4) and place over the right side (as worn) exterior flap (figure 6-5, item 5). Ensure that the hole in the screw tab (figure 6-5, item 3) is positioned over the threaded insert in the lower bezel.

(4) Ensure that the mounting bracket (figure 6-5, item 4) is completely seated over the exterior flap (figure 6-5, item 5).

(5) Thread the short screw (figure 6-5, item 2) through the hole in the screw tab (figure 6-5, item 3) and into the threaded insert in the lower bezel.

(6) Tighten the short screw (figure 6-5, item 2) using a No. 1 Phillips screwdriver. Do not over tighten.

(7) Using a No. 1 Phillips screwdriver, install the long screw (figure 6-5, item 1) into the mounting bracket (figure 6-5, item 4). Do not over tighten.

(8) Align the voice amplifier (figure 6-4, item 2) with the mounting bracket (figure 6-5, item 4) and turn clockwise until the locking lever (figure 6-4, item 1) engages.

(9) Perform a negative pressure check IAW paragraph 6.5.3.

6.6.2 HEAD HARNESS REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Position a finger under the detent (figure 6-6, item 1) and lift the temple snap (figure 6-6, item 2) from the receptacle. Perform step b.(1) again for the other side.

Figure 6-6. AV-3000® Temple Snap

NOTE

The temple and neck strap buckles are integrated on the faceseal.

(2) Push down on the roller bar (figure 6-7, item 1) of the temple strap buckle (figure 6-7, item 2) and feed the folded tab (figure 6-7, item 3) of the temple strap back through the portion of the temple strap buckle above the roller bar.

Figure 6-7. Remove Head Harness Temple Strap

(3) Push up on the roller bar (figure 6-7, item 1) and feed the folded tab (figure 6-7, item 3) of the temple strap back through the portion of the temple strap buckle below the roller bar.

(4) Perform steps b.(2) and b.(3) for the other temple strap and the two neck straps.

c. Installation

(1) Visually inspect the head harness for damage. If damage is noted, replace as required.

(2) Inspect the head harness for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

NOTE

Perform steps c.(3) through c.(5) only if the temple or neck strap has been removed from the head net. If not, continue with step c.(6).

(3) To install the temple or the neck strap within the head net, lay the head net on a flat surface with the temple snaps (figure 6-8, item 1) facing the surface.

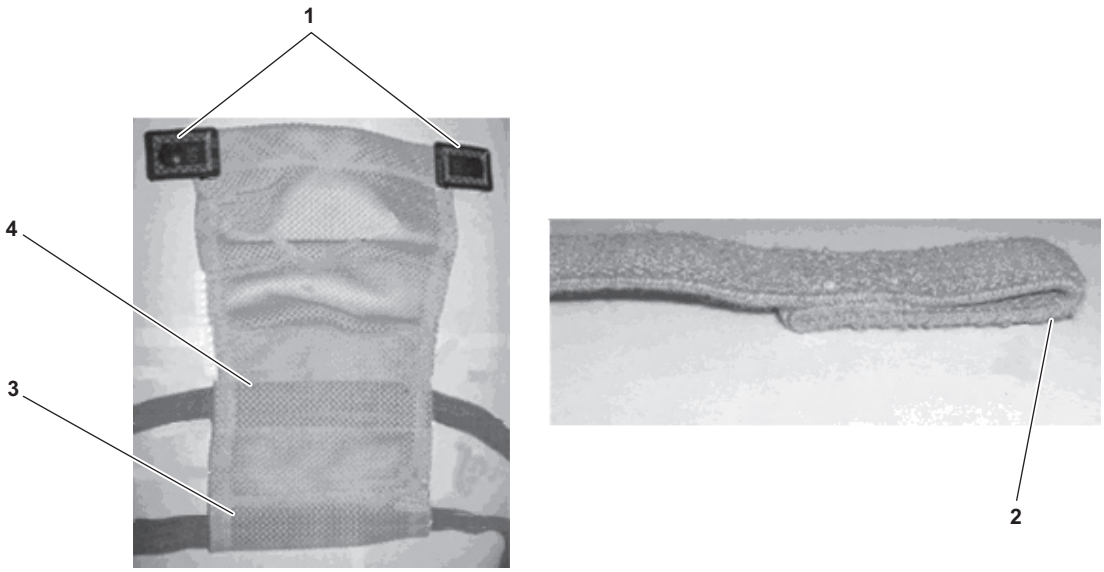


Figure 6-8. Position Head and Neck Strap

NOTE

The neck strap is slightly longer than the temple strap.

(4) With the folded tab (figure 6-8, item 2) of the neck strap facing the flat surface, thread the neck strap through the bottom-most pocket (figure 6-8, item 3).

NOTE

When installing the temple strap to the head net, two adjustment positions are available. The lower of the two positions as shown in figure 6-8 is standard.

(5) With the folded tab of the temple strap facing the flat surface, thread the temple strap through the lower empty pocket (figure 6-8, item 4).

(6) Lay the head harness on the facepiece so that the temple snaps (figure 6-8, item 1) are in position over the snap receptacles.

(7) Lift up on the roller bar (figure 6-9, item 1). With the folded tab (figure 6-9, item 2) facing downward, feed the temple strap under the roller bar. Ensure that the temple strap has enough slack for threading it back through the buckle (figure 6-9, item 3).

Figure 6-9. Thread Temple Strap

(8) Slide the roller bar (figure 6-9, item 1) down to meet the temple strap, then feed the temple strap back over the roller bar and through the buckle (figure 6-9, item 3). The folded tab (figure 6-9, item 2) will now face up.

(9) Pull the folded tab (figure 6-9, item 2) through to tighten.

(10) Perform steps c.(7)through c.(9) for the remaining temple strap and the two neck straps.

(11) Secure the temple snap (figure 6-6, item 2) onto the temple receptacle by positioning temple snap over the temple receptacle. Starting on the side of the temple snap opposite of the detent (figure 6-6, item 1), roll the thumb toward the detent until the temple snap engages. Perform step c.(11) again for other the temple snap.

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(12) Perform a negative-pressure check IAW paragraph 6.5.3.

6.6.3 NOSECUP ASSEMBLY REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

NOTE

Head harness does not have to be removed to remove nosecup assembly.

(1) Position the head harness out of the way.

⚠ CAUTION

The procedures in this section must be carried out by hand, without the aid of tools. Using tools to pry or pull components may damage rubber parts.

(2) From the outside of the facepiece, use the thumb to dislodge the retaining ring (figure 6-10, item 1) from the adaptor port (figure 6-10, item 2) and the nosecup assembly (figure 6-10, item 3).

(3) From inside the facepiece, separate the nosecup assembly (figure 6-11, item 1) from the voicemitter duct groove (figure 6-11, item 2).

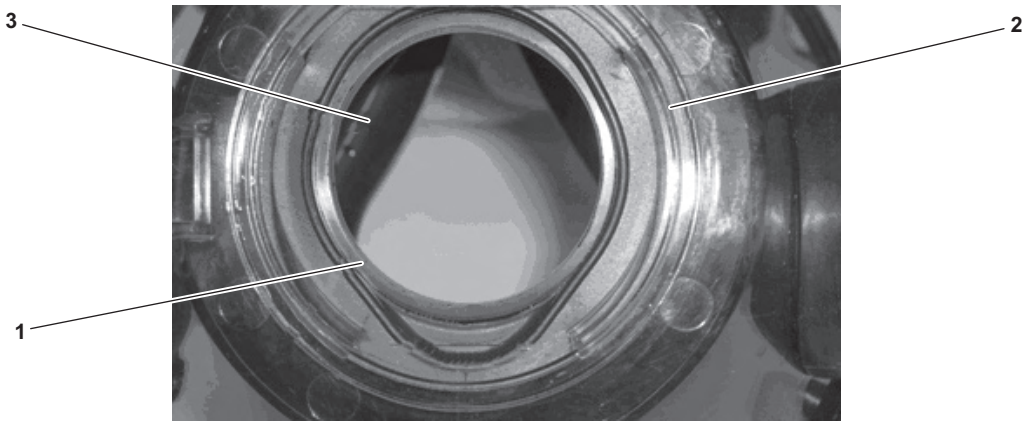


Figure 6-10. Retaining Ring Removal

(4) Carefully pull the nosecup assembly (figure 6-11, item 1) to remove it from the other voicemitter duct groove (figure 6-11, item 2).

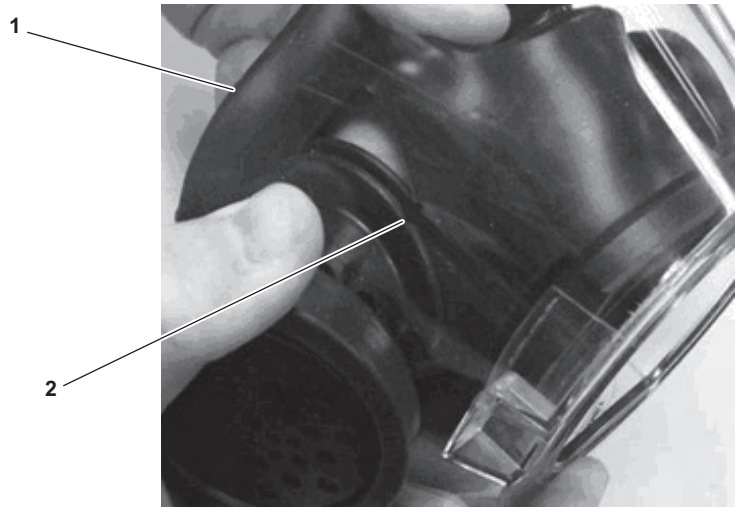


Figure 6-11. Remove AV-3000® Nosecup Assembly

c. Installation

(1) Visually inspect the nosecup assembly (figure 6-11, item 1) for heat damage, cracks, discoloration, cuts or abrasions. If damage is noted, replace as required.

(2) Inspect the nosecup assembly (figure 6-11, item 1) for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

(3) Insert the nosecup assembly (figure 6-12, item 1) into the facepiece. Fit the tabs (figure 6-12, item 2) of the nosecup assembly into the cutouts (figure 6-12, item 3) of the adaptor port.

(4) Ensure that the nosecup assembly (figure 6-12, item 1) is fully seated in the adaptor port (figure 6-12, item 3) and that it is not distorted.

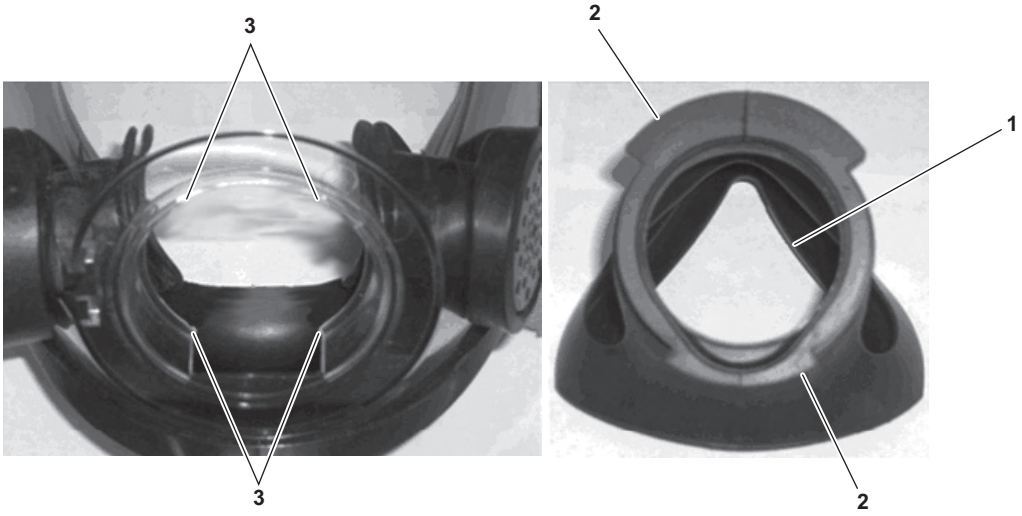


Figure 6-12. Align Tabs with Cutouts

(5) From inside the facepiece, firmly seat the small diameter of the retaining ring (figure 6-13, item 1) into the nosecup assembly (figure 6-13, item 2) as shown in figure 6-13. Ensure that the retaining ring fully seats in the groove of the nosecup assembly.

(6) Install the nosecup assembly (figure 6-11, item 1) into the voicemitter duct groove (figure 6-11, item 2). Perform step c.(6) again to install in the other voicemitter duct groove.

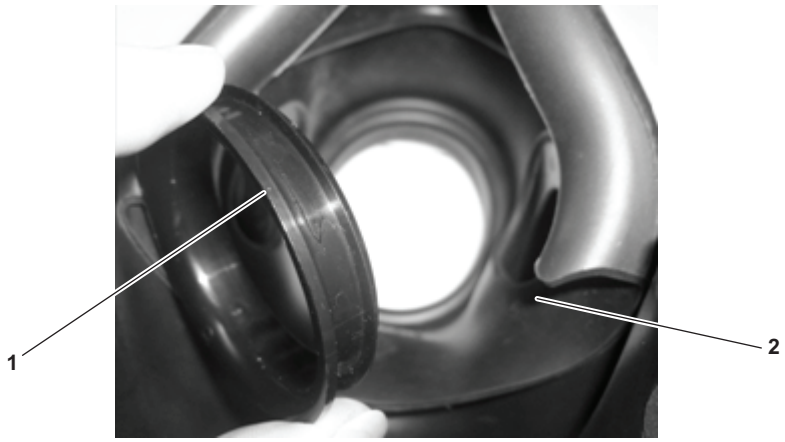


Figure 6-13. Install Retaining Ring

(7) Verify that the nosecup assembly (figure 6-14, item 1) is not distorted. Ensure that the bottom of the nosecup assembly is behind chin pocket (figure 6-14, item 2).

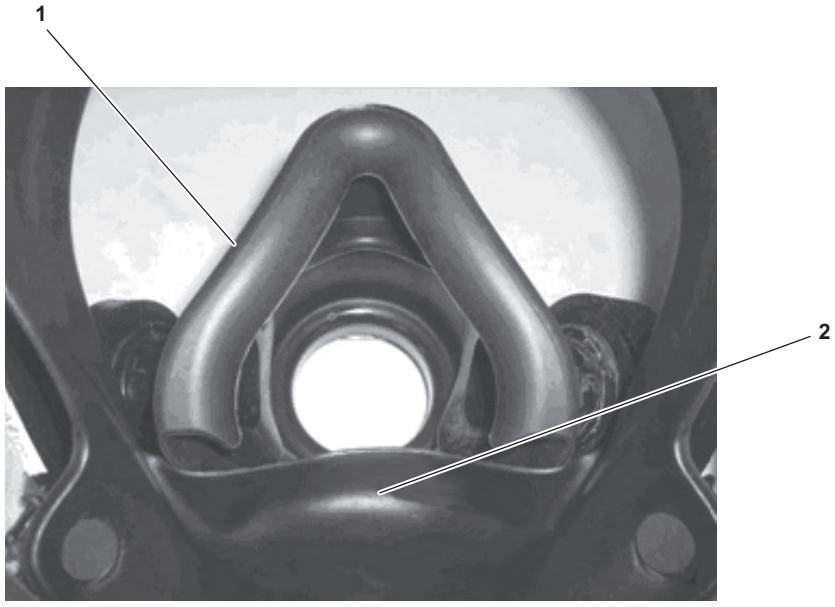


Figure 6-14. AV-3000® Chin Pocket Replacement

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(8) Perform a negative-pressure check IAW paragraph 6.5.3.

6.6.4 VOICEMITTER DUCT REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Remove the voice amplifier and mounting bracket IAW paragraph 6.6.1 step b.

⚠ CAUTION

Do not use tools to pry or pull components during removal. Failure to comply with this caution will result in damage to the equipment.

(2) Remove the nosecup assembly IAW paragraph 6.6.3 step b.

(3) To remove the voicemitter (figure 6-15, item 1), carefully roll back the exterior flap (figure 6-15, item 2) with the thumb and forefinger of one hand and, with the index finger of the other hand, pull the voicemitter free.

(4) Perform step b.(3) for the other voicemitter.

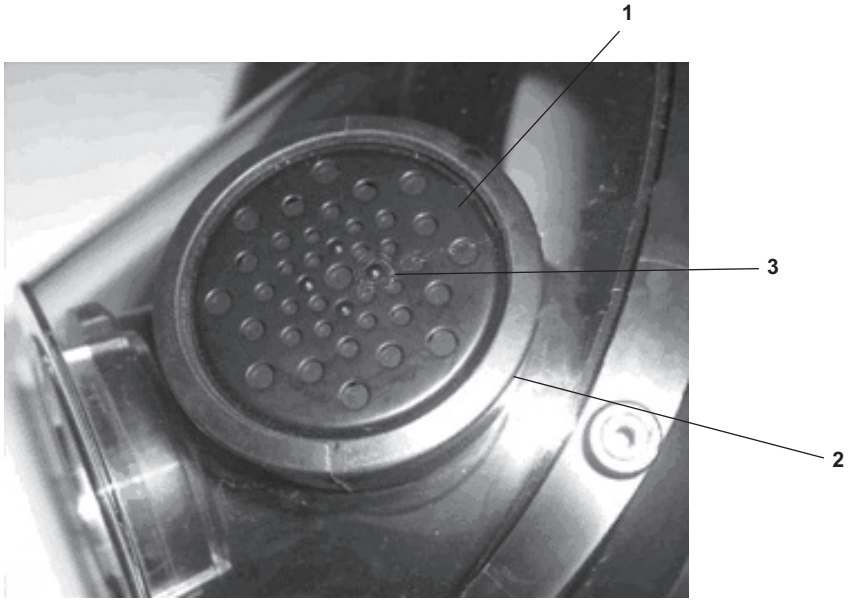


Figure 6-15. AV-3000® Voicemitter Removal and Installation

(5) To remove the voicemitter duct, collapse the voicemitter duct outside of the facepiece and remove it from the lens.

(6) Perform step b.(5) for the other voicemitter duct.

c. Installation

(1) Visually inspect the voicemitters and the voicemitter ducts for heat damage, cracks, discoloration, cuts, or abrasions. If damage is noted, replace as required.

(2) Inspect the voicemitter and the voicemitter ducts for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

NOTE

An L or R is molded into the AV-3000® voicemitter ducts, signifying left-side or right-side of facepiece as worn.

(3) Collapse the round end of the voicemitter duct and insert it through the hole in the lens, from inside the facepiece. Ensure that the correct voicemitter duct is installed.

(4) Ensure that the exterior flap (figure 6-15, item 2) is on the outside of the lens and that the lens is fully seated in the exterior flap groove.

(5) Perform steps c.(3) and c.(4) on the remaining voicemitter duct.

(6) Ensure the L and R molded into the voicemitter ducts are visible when looking into the facepiece as worn. See figure 6-16 for proper alignment (L and R highlighted for clarity).

Figure 6-16. Proper Position of AV-3000® Voicemitter Duct

(7) With the four raised dots (figure 6-15, item 3) facing up, insert the voicemitter (figure 6-15, item 1) into the exterior flap (figure 6-15, item 2) until it is fully seated.

(8) Perform step c.(7) for the other voicemitter.

NOTE

Perform negative-pressure check only after complete assembly of facepiece.

(9) Install the nosecup assembly IAW paragraph 6.6.3 step c.

(10) Install the voice amplifier and mounting bracket IAW paragraph 6.6.1 step c.

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(11) Perform a negative-pressure check IAW paragraph 6.5.3.

6.6.5 INHALATION CHECK VALVE REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) Water, fresh

b. Removal

(1) Remove the voicemitters and the voicemitter ducts IAW paragraph 6.6.4 step b.

(2) From inside the voicemitter duct (figure 6-17, item 1), grasp the rectangular portion of the inhalation check valve (figure 6-17, item 2) and pull the inhalation check valve free. Perform step b.(2) on the remaining inhalation check valve.

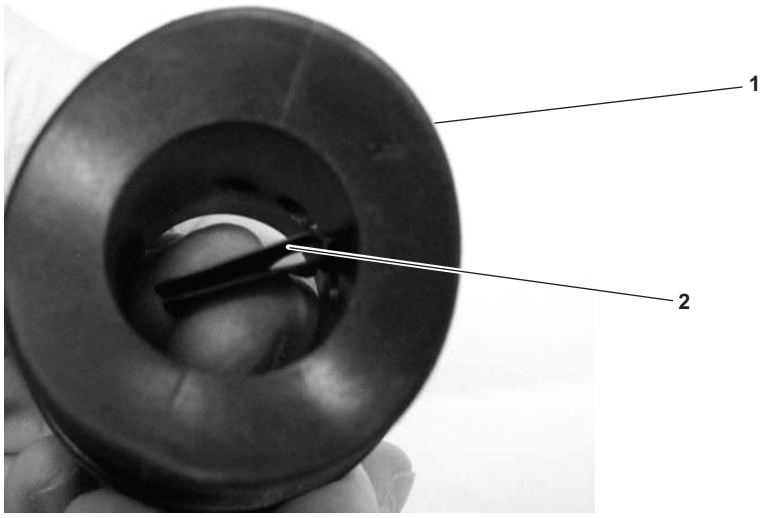


Figure 6-17. AV-3000® Inhalation Check Valve Removal

c. Installation

(1) Inspect the inhalation check valves (figure 6-17, item 2) for cuts, nicks, tears, and other damage. If damage is noted, replace as required.

(2) Inspect the inhalation check valves (figure 6-17, item 2) for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

(3) Moisten the inhalation check valve tips (figure 6-18, item 1) and the stems (figure 6-18, item 2) with water.

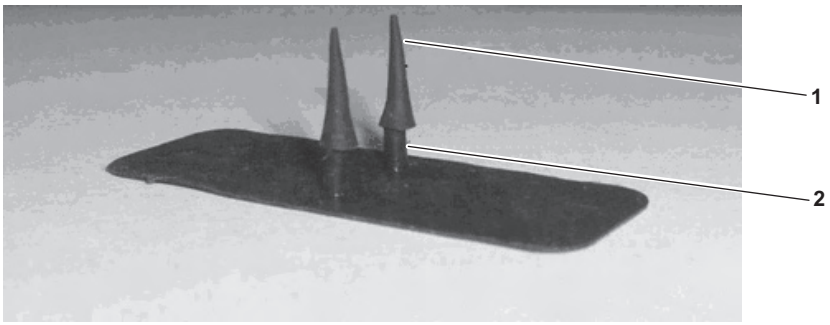


Figure 6-18. AV-3000® Inhalation Check Valve

(4) From inside of the voicemitter duct (figure 6-19, item 1), insert both inhalation check valve tips (figure 6-19, item 2) into the small holes of the voicemitter duct.

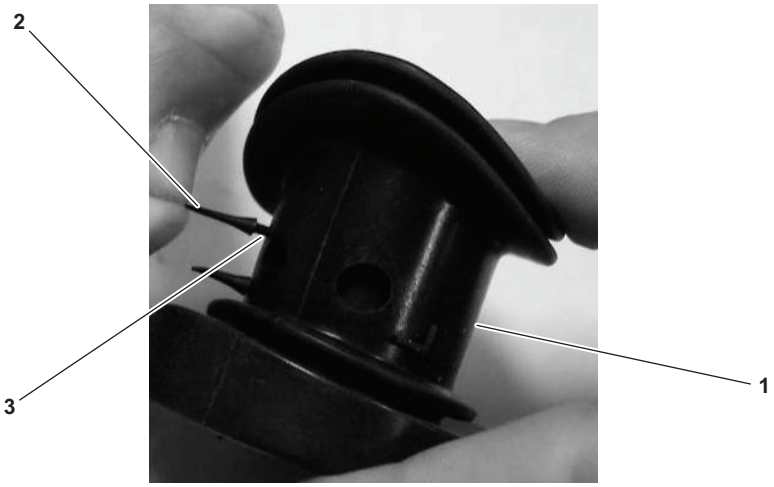


Figure 6-19. AV-3000® Inhalation Check Valve Installation

NOTE

When the inhalation check valve is properly installed, the rectangular portion of the inhalation check valve will lie flat against the inside of the voicemitter duct and the stems will be captured in the small holes.

(5) From outside of the voicemitter duct, gently pull the inhalation check valve tips (figure 6-19, item 2) until the stems (figure 6-19, item 3) are seated.

(6) Trim the excess check valve tips (figure 6-19, item 2) as required.

(7) Perform steps c.(3) through c.(6) for the other inhalation check valve (figure 6-17, item 2).

NOTE

Perform a negative-pressure check only after complete assembly of facepiece.

(8) Install the voicemitter and the voicemitter ducts IAW paragraph 6.6.4 step c.

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(9) Perform a negative-pressure check IAW paragraph 6.5.3.

6.6.6 BEZEL AND FACESEAL REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials
(1) Allen wrench, 7/64 in.
(2) Water, fresh

b. Removal

(1) Remove the voice amplifier and the mounting bracket IAW paragraph 6.6.1 step b.

(2) With a 7/64 in. Allen wrench, remove the bezel screws (figure 6-20, item 1). Set aside for installation.

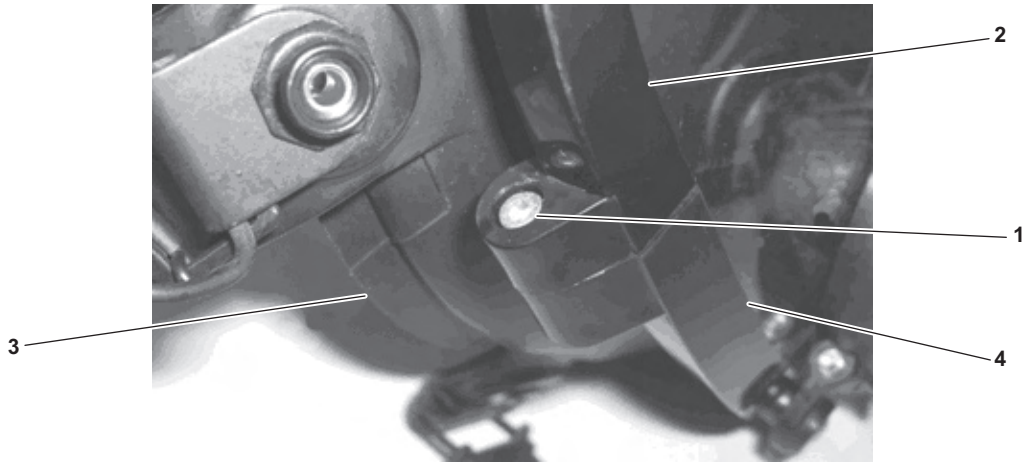


Figure 6-20. Removal of Bezel Screws

(3) Pull the upper bezel (figure 6-20, item 2) away from the faceseal (figure 6-20, item 3).

(4) Pull the lower bezel (figure 6-20, item 4) away from the faceseal (figure 6-20, item 3).

(5) Remove the faceseal (figure 6-20, item 3) from the lens, working symmetrically from the chin area to the forehead area. Use the fingers to work the faceseal from the lens.

(6) If replacing the faceseal (figure 6-20, item 3), remove the head harness IAW paragraph 6.6.2 step b. Set aside for installation.

c. Installation

NOTE

Faceseals are available in three sizes. The size is molded onto the chin area of the faceseal. Ensure that the correct size faceseal is used.

(1) Visually inspect the bezels (figure 6-20, items 2 and 4) and the faceseal (figure 6-20, item 3) for heat damage, cracks, discoloration, cuts, or abrasions. If damage is noted, replace as required.

(2) Inspect the bezels (figure 6-20, items 2 and 4) and the faceseal (figure 6-20, item 3) for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

(3) Align the forehead centerline mark on the faceseal (figure 6-21, item 1) with the forehead alignment mark on the lens (figure 6-21, item 2).

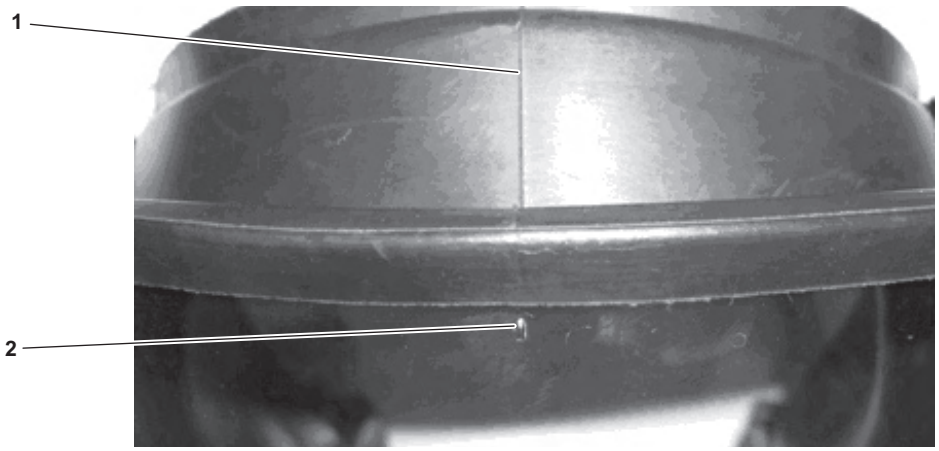


Figure 6-21. AV-3000® Faceseal Alignment with Lens

(4) Insert the lens (figure 6-21, item 2) fully into the groove of the faceseal (figure 6-21, item 1).

⚠ CAUTION

Applying fresh water to the bezels and the faceseal will aid in assembly of these components. To avoid equipment damage, commercial lubricants must not be used in assembly of facepiece components. Failure to comply with this caution may result in damage to the equipment.

(5) Align the chin centerline mark on the faceseal (figure 6-22, item 1) with the chin alignment mark on the lens (figure 6-22, item 2). Ensure that the lens is fully seated in the faceseal, and that the chin alignment mark on the lens and the chin centerline mark on the faceseal align.

(6) Align the centerline mark on the lower bezel (figure 6-23, item 1) with the chin centerline marks on the lens (figure 6- 23, item 2). Install the lower bezel (figure 6-20, item 4).

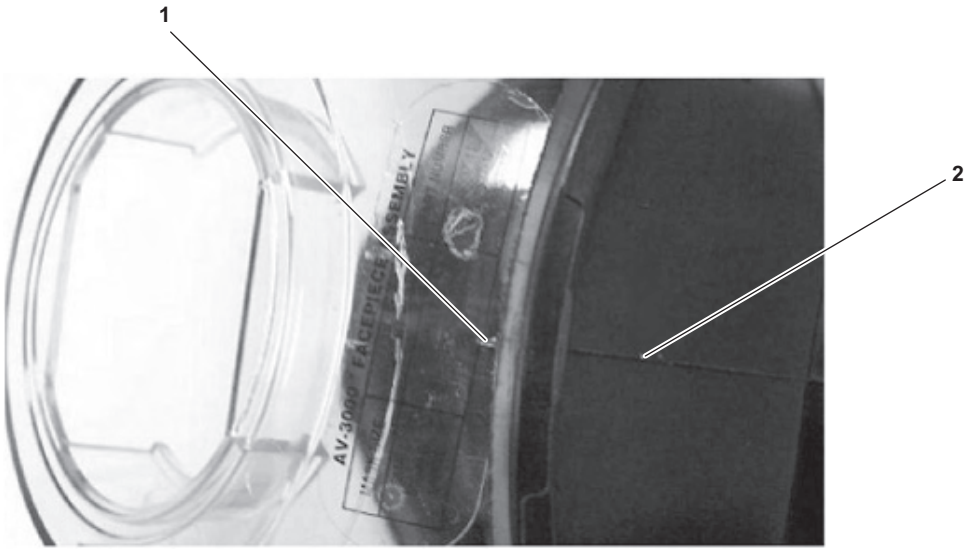


Figure 6-22. AV-3000® Chin Centerline Marks

Figure 6-23. AV-3000® Lower Bezel Alignment

(7) Install the upper bezel (figure 6-20, item 2) onto the faceseal (figure 6-20, item 1).

(8) Ensure that both bezels (figure 6-20, items 2 and 4) are fully seated and that all centerline marks align.

(9) Install the bezel screws (figure 6-20, item 1). Using a 7/64 in. Allen wrench, tighten the screws evenly, alternating from one side to the other until tightened.

NOTE

Perform a negative-pressure check only after complete assembly of facepiece.

(10) If applicable, install the head harness IAW paragraph 6.6.2 step c.

(11) Install the voice amplifier and mounting bracket IAW paragraph 6.6.1 step c.

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(12) Perform a negative-pressure check IAW paragraph 6.5.3.

6.6.7 LENS REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Remove the voicemitters and voicemitter ducts IAW paragraph 6.6.4 step b.

(2) Remove the bezel and the faceseal IAW paragraph 6.6.6 step b.

c. Installation

(1) Visually inspect all components for heat damage, cracks, discoloration, cuts, or abrasions. If damage is noted, replace as required.

(2) Inspect all components for cleanliness. If dirt or other foreign matter is found, clean IAW PMCS (Chapter 4).

NOTE

Perform a negative-pressure check only after complete assembly of facepiece.

(3) Install the bezel and the faceseal IAW paragraph 6.6.6 step c.

(4) Install the voicemitters and the voicemitter ducts IAW paragraph 6.6.4 step c.

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(5) Perform a negative-pressure check IAW paragraph 6.5.3.

6.7 MASK-MOUNTED REGULATOR CORRECTIVE MAINTENANCE

6.7.1 RESPIRATOR GASKET REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) Gasket, Respirator, PN 10005368
(2) Scraper, Plastic
(3) Tape, Masking

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove mask-mounted regulator from the regulator holder.

(3) Cover the mask-mounted regulator outlet (figure 6-24, item 1) with masking tape.

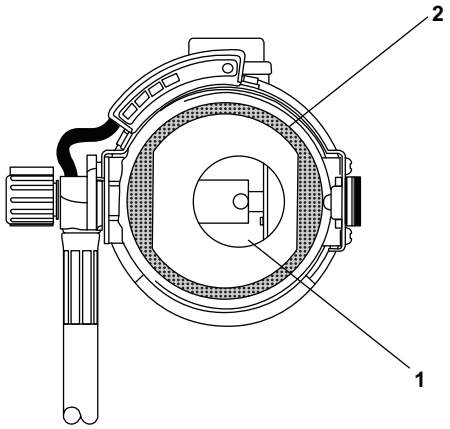


Figure 6-24. Mask-Mounted Regulator (Reverse Side)

(4) Without using tools, remove the respirator gasket (figure 6-24, item 2) from around the mask-mounted regulator outlet (figure 6-24, item 1).

⚠ CAUTION

Only use a plastic scraper to remove the remaining portions of the respirator gasket. Failure to comply with this caution may result in damage to the equipment.

(5) Carefully remove any remaining portions of the respirator gasket (figure 6-24, item 2) with a plastic scraper.

c. Installation

(1) Ensure that the replacement respirator gasket (figure 6-24, item 2) is free of cuts, nicks, or other damage. Replace as required.

(2) Position the mask-mounted regulator outlet (figure 6-24, item 1) facing up.

NOTE

Do not remove the peel-away paper from the back of the respirator gasket.

(3) With the peel-away paper facing the mask-mounted regulator outlet (figure 6-24, item 1), gently stretch the respirator gasket (figure 6-24, item 2) over the mask-mounted regulator outlet.

NOTE

Ensure that the mask-mounted regulator respirator gasket lays flat before removing any peel-away paper.

(4) Fold back the respirator gasket (figure 6-24, item 2) and remove one-half of the peel-away paper.

(5) Press the portion of the respirator gasket (figure 6-24, item 2) with the exposed adhesive into place around the mask-mounted regulator outlet (figure 6-24, item 1).

(6) Perform steps c.(4) and c.(5) for the remaining half of the respirator gasket (figure 6-24, item 2).

(7) Remove the masking tape covering the mask-mounted regulator outlet (figure 6-24, item 1).

WARNING

When the facepiece is worn with the mask mounted regulator installed, the purge valve in the CLOSED position, and the handwheel on the cylinder valve in the CLOSED position, the crewmember will not be able to breath normally. Do not wear the facepiece in this configuration longer than the crewmember can hold their breath. Failure to comply with this warning may result in serious injury or death to personnel.

Failure to successfully perform a negative-pressure check may allow exposure to hazardous substances. Failure to comply with this warning may result in serious injury or death to personnel.

(8) Perform a negative-pressure check IAW paragraph 6.5.3.

(9) Install the mask-mounted regulator in the regulator holder.

6.7.2 MASK-MOUNTED REGULATOR REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) Ring, Respirator, PN 1.8002-00
(2) Pliers, soft-jawed
(3) Screwdriver, Phillips, No. 2
(4) Threadlocker, Loctite®, Grade 222
(5) Wrench, open-end, 5/8 in.

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) If the Heads-up Display (HUD) is installed on the mask-mounted regulator, remove the HUD electrical cable (figure 6-25, item 1) from the Visualert (figure 6-25, item 2) by rotating the knurled connector (figure 6-25, item 3) fully counterclockwise by hand. If necessary, use soft-jawed pliers.

Figure 6-25. Visualert and Low-Pressure Hose

(3) Using a 5/8 in. open-end wrench, remove the low-pressure hose (figure 6-25, item 4) by rotating the low-pressure hose coupling (figure 6-25, item 5) fully counterclockwise. Ensure cleanliness is maintained IAW PMCS (Chapter 4).

c. Installation

(1) Visually inspect the respirator ring (figure 6-26, item 1) on the low-pressure hose (figure 6-26, item 2) for nicks, cuts, wear and tear, or foreign debris. If necessary, remove and replace IAW paragraph 6.1.5.

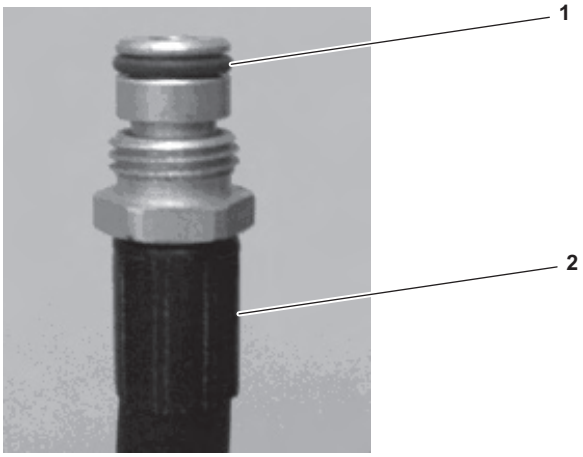


Figure 6-26. Low-Pressure Hose Respirator Ring

(2) Insert the low-pressure hose (figure 6-25, item 4) into the low-pressure hose outlet and rotate the low-pressure hose coupling (figure 6-25, item 5) clockwise with a 5/8 in. open-end wrench to tighten. Do not over tighten.

⚠ CAUTION

If the HUD is installed, ensure that the HUD electrical cable connector holes and the Visualert pins are aligned prior to connecting them together. Failure to comply with this caution may result in damage to the equipment.

.

(3) If the HUD is installed, align the HUD electrical cable connector holes (figure 6-27, item 1) with the Visualert pins (figure 6-27, item 2).

Figure 6-27. HUD Electrical Cable Connection

(4) Rotate the knurled connector (figure 6-25, item 3) clockwise by hand to tighten.

(5) Leak check the area of repair IAW paragraph 6.5.2. Ensure that the HUD initiates. If the HUD does not initiate, perform steps c.(5) and c.(6) and retest.

6.8 PRESSURE REDUCER AND SUPPORTED COMPONENTS CORRECTIVE MAINTENANCE

6.8.1 VISUALERT REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials
(1) Packing, Preformed, PN 55810-00
(2) Pliers, needle nose
(3) Pliers, soft-jawed
(4) Retainer, packing, PN 18071-00
(5) Wrench, Allen, 3/32 in.
(6) Wrench, Allen, 5/32 in.

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(3) Using a 5/32 in. Allen wrench, remove the mounting screws, sliding washers, and spacers (figure 6-28, item 1) securing the Visualert bracket (figure 6-28, item 2) to the pressure reducer (figure 6-28, item 3) and mounting plate (figure 6-28, item 4). Set aside for installation.

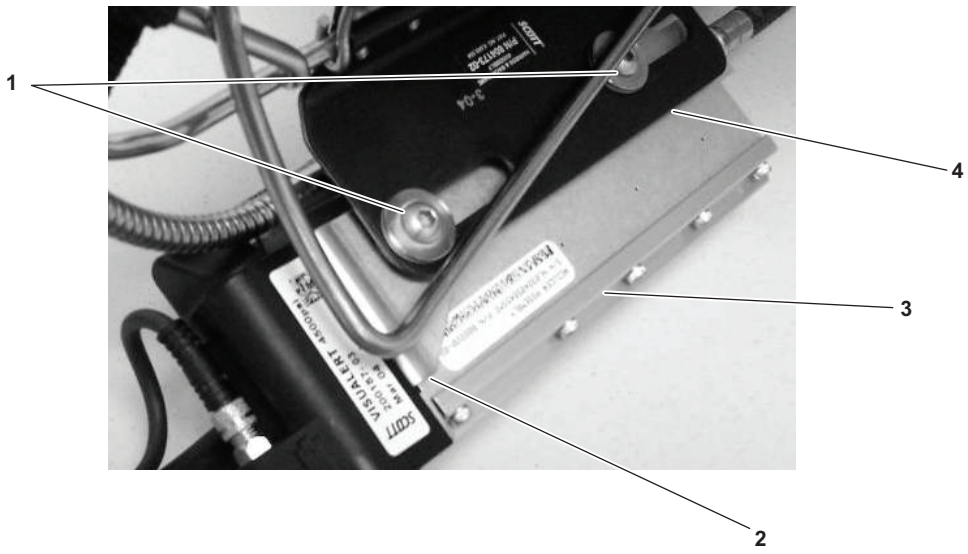


Figure 6-28. Visualert Removal

(4) Disconnect the HUD electrical cable (figure 6-29, item 1) from the Visualert (figure 6-29, item 2) by rotating the knurled connector (figure 6-29, item 3) fully counterclockwise by hand. If necessary, use soft-jawed pliers.

Figure 6-29. Visualert and HUD Electrical Cable

(5) Using 3/32 in. Allen wrench, loosen the two screws (figure 6-30, item 1) from the Visualert mounting block (figure 6-30, item 2).

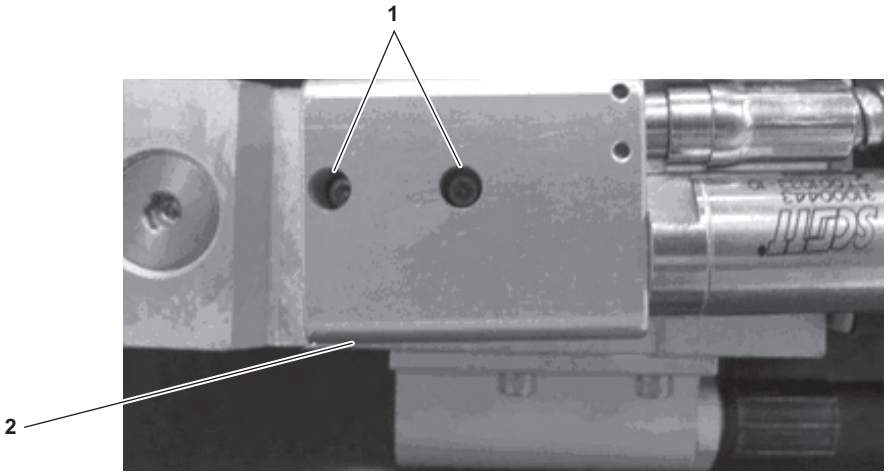


Figure 6-30. Visualert Mounting Block Removal

(6) Lift the Visualert mounting block (figure 6-30, item 2) from the pressure reducer (figure 6-28, item 3). Set the screws (figure 6-30, item 1) aside for installation.

NOTE

Take care not to drop the mounting probe, which may stay attached to the Visualert mounting block.

(7) Remove the mounting probe (figure 6-31) from the pressure reducer (figure 6-28, item 3) or the Visualert mounting block (figure 6-30, item 2), as applicable. Ensure cleanliness is maintained IAW PMCS (Chapter 4).

Figure 6-31. Mounting Probe

NOTE

If replacing the Visualert or the remote pressure indicator, continue with steps b.(8) and b.(9). If not, proceed to step c.(1).

(8) Remove the retaining clip (figure 6-32, item 1) securing the remote pressure indicator high-pressure hose (figure 6-32, item 2) to the Visualert mounting block (figure 6-32, item 3) with needle nose pliers.

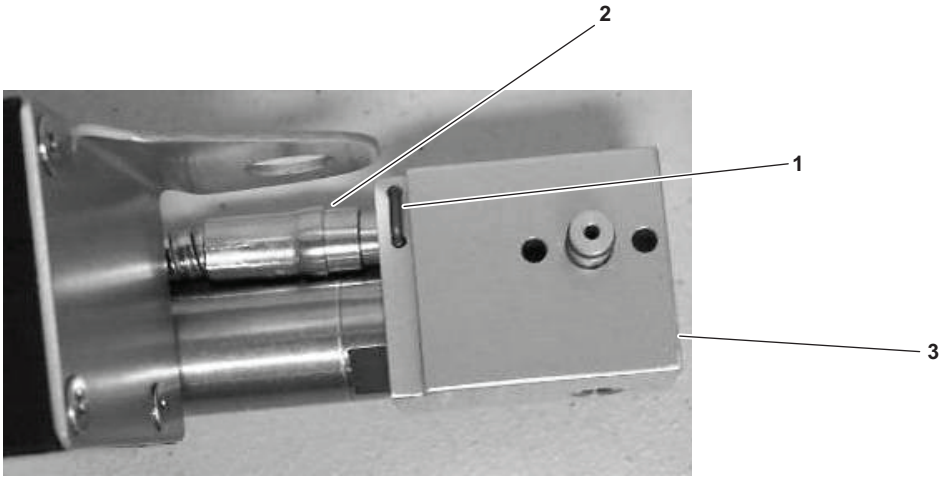


Figure 6-32. Remove Remote Pressure Indicator High-Pressure Hose

(9) Remove the remote pressure indicator high-pressure hose (figure 6-32, item 2) from the Visualert mounting block (figure 6-32, item 3). Ensure that cleanliness is maintained IAW PMCS (Chapter 4).

c. Installation

(1) Inspect the Visualert for any visible sign of damage. Replace as required.

NOTE

If the remote pressure indicator has been removed, perform steps c.(2) through c.(5). If not, proceed to step c.(6).

(2) Inspect the retaining clip (figure 6-32, item 1) for cracks, bends, or mushroomed ends. Replace as required.

NOTE

The packing retainer ring is a split ring.

(3) Inspect the preformed packing (figure 6-33, item 1) and the packing retainer ring (figure 6-33, item 2) on the remote pressure indicator high- pressure hose for nicks, cuts, wear and tear, or foreign debris. As necessary, remove and replace IAW paragraph 6.1.5.

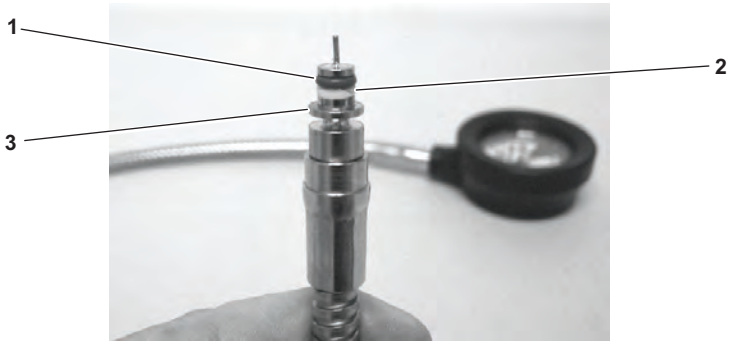


Figure 6-33. Remote Pressure Indicator Preformed Packing and Packing Retainer

⚠ CAUTION

Ensure that the Visualert outlet port is free of foreign matter before inserting the remote pressure indicator high-pressure hose. Failure to comply with this caution may result in damage to the equipment.

(4) Install the remote pressure indicator high-pressure hose (figure 6-34, item 1) fully into the Visualert mounting block (figure 6-34, item 2). Ensure that the hose groove (figure 6-33, item 3) is aligned with retaining clip holes (figure 6-34, item 3) and that the retaining clip holes are unobstructed.

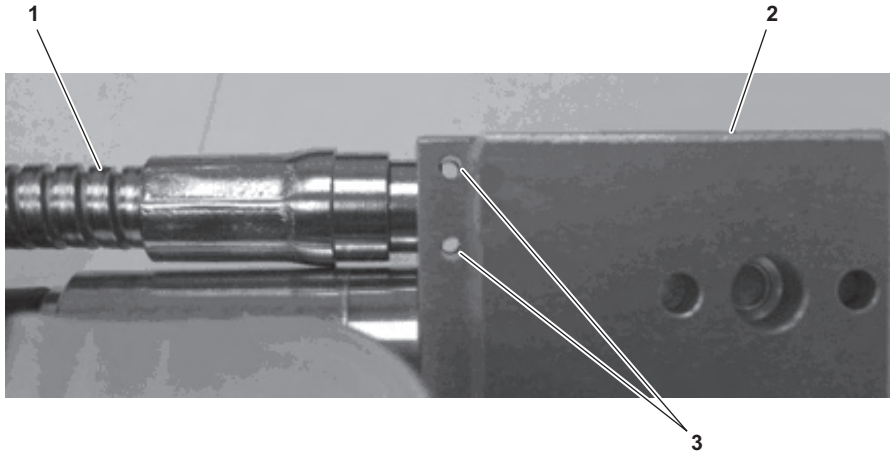


Figure 6-34. Retaining Clip Holes

⚠ CAUTION

Install the retaining clip into bottom of the Visualert mounting block as shown in figure 6-32. Failure to comply with this caution may result in damage to the equipment.

(5) Install the retaining clip (figure 6-32, item 1) into the retaining clip holes (figure 6-34, item 3) to secure the remote pressure indicator high-pressure hose (figure 6-34, item 1).

NOTE

The packing retainers on the mounting probe are split rings.

(6) Inspect the preformed packing (figure 6-35, item 1) and the packing retainers (figure 6-35, item 2) on the mounting probe (figure 6-35, item 3) for nicks, cuts, wear and tear, or foreign debris. As necessary, remove and replace IAW paragraph 6.1.5.

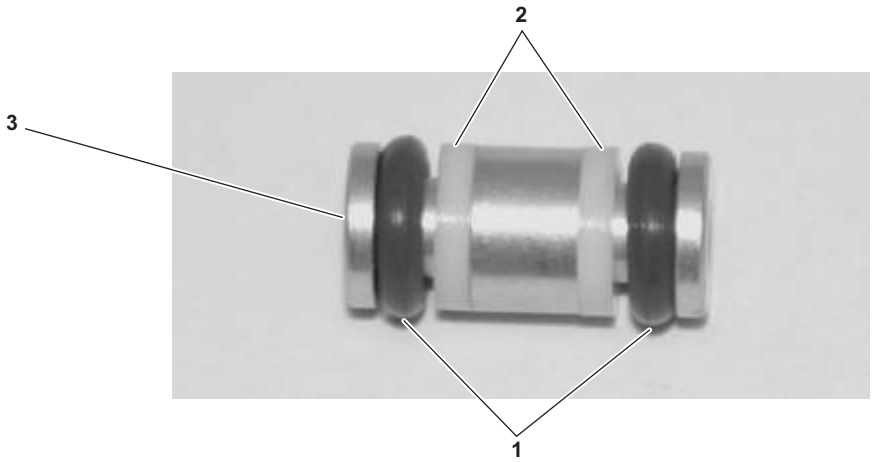


Figure 6-35. Mounting Probe Preformed Packing and Packing Retainers

(7) Install the mounting probe (figure 6-35, item 3) into the pressure reducer.

(8) Carefully place the Visualert mounting block (figure 6-36, item 1) over the mounting probe (figure 6-36, item 2) and onto the pressure reducer (figure 6-36, item 3).

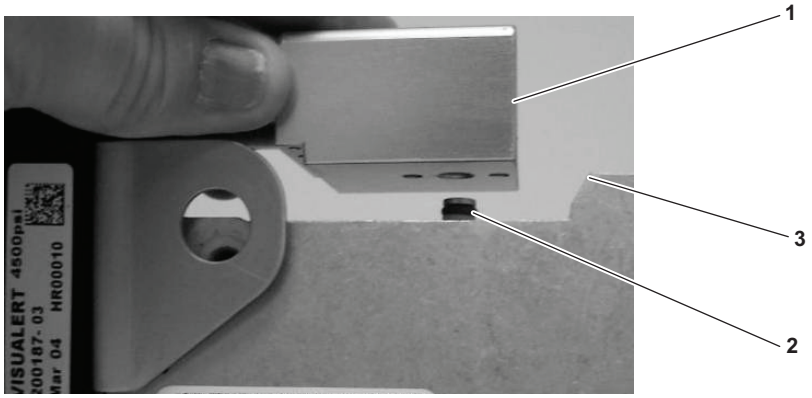


Figure 6-36. Position Visualert Mounting Block

(9) Using 3/32 in. Allen wrench, install two Allen screws (figure 6-30, item 1) to secure Visualert mounting block (figure 6-30, item 2) to pressure reducer.

⚠ CAUTION

Ensure that the HUD electrical cable connector holes and the Visualert pins are aligned prior to connecting them. Failure to comply with this caution may result in damage to the equipment.

(10) Align the HUD electrical cable connector holes (figure 6-37, item 1) with the Visualert pins (figure 6-37, item 2).

Figure 6-37. HUD Electrical Cable Connection

(11) Rotate the knurled connector (figure 6-38, item 1) clockwise by hand to tighten.

(12) Position the Visualert mounting bracket (figure 6-38, item 2) between the pressure reducer (figure 6-38, item 3) and the mounting plate (figure 6-38, item 4).

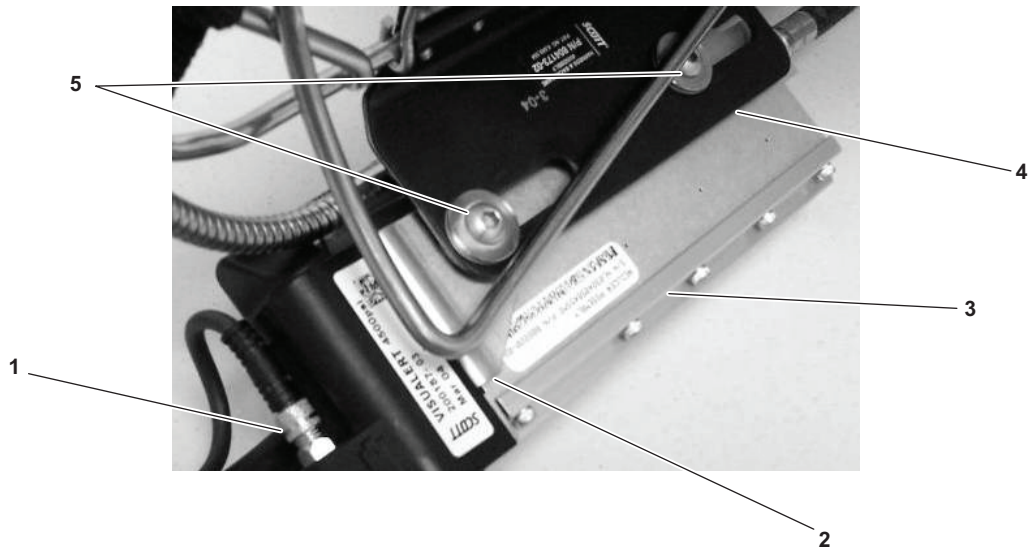


Figure 6-38. Visualert Placement

(13) Using a 5/32 in. Allen wrench, install the mounting screws, sliding washers, and spacers (figure 6-38, item 5) securing the Visualert mounting bracket (figure 6-38, item 2) to the pressure reducer (figure 6-38, item 3) and the mounting plate (figure 6-38, item 4).

(14) Replace the cylinder assembly IAW paragraph 2.3.2.1 step b.

(15) Leak check the area of repair IAW paragraph 6.5.2. Ensure that the HUD initiates. IF the HUD does not initiate, repeat steps c.(10) and c.(11) and retest.

6.8.2 REMOTE PRESSURE INDICATOR REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(3) Remove the Visualert and the remote pressure indicator IAW paragraph 6.8.1 step b.

(4) Carefully remove the remote pressure indicator high-pressure hose (figure 6-39, item 1) from the right shoulder strap (figure 6-39, item 2) and the rubber retaining strap (figure 6-39, item 3).

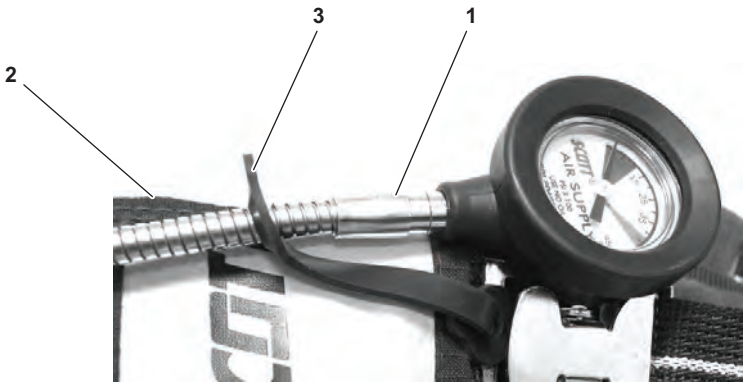


Figure 6-39. Remove Remote Pressure Indicator High-Pressure Hose

c. Installation

NOTE

Ensure that the remote pressure indicator high-pressure hose is threaded between the Kevlar® straps within the right shoulder strap, as worn.

(1) Guide the end of the remote pressure indicator high-pressure hose (figure 6-39, item 1) through the rubber retaining strap (figure 6-39, item 3) and the right shoulder strap (figure 6-39, item 2) from the bottom and out the top, as worn.

NOTE

Perform a leak check after all components have been installed.

(2) Install the remote pressure indicator and the Visualert IAW paragraph 6.8.1 step c.

(3) Install the cylinder assembly IAW paragraph 2.3.2.1 step b.

(4) Leak check the area of repair IAW paragraph 6.5.2.

6.8.3 RIC/UAC ASSEMBLY RESPIRATOR SEAT GASKET REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) Gasket, Seat, Respirator, PN 57264-00
(2) Wrench, Allen, 1/8 in.
(3) Wrench, open-end, 7/16 in.

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Rotate the hand coupling (figure 6-40, item 1) counterclockwise and remove the RIC/UAC assembly from the cylinder valve.

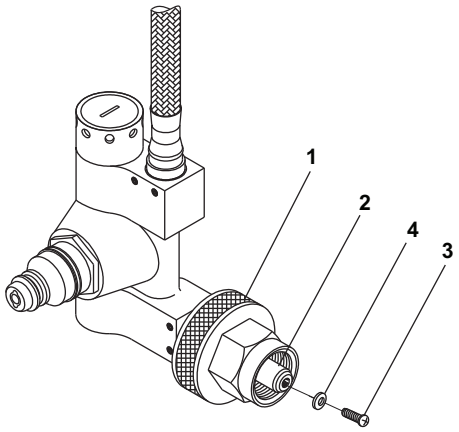


Figure 6-40. RIC/UAC Assembly

NOTE

Do not remove the hand coupling from the RIC/UAC assembly when replacing the respirator seat gasket. Only remove the retaining screw and the respirator seat gasket.

(3) Hold the respirator seat gasket shaft (figure 6-40, item 2) under the hand coupling (figure 6-40, item 1) with a 7/16 in. open-end wrench while using a 1/8 in. Allen wrench to remove the retaining screw (figure 6-40, item 3) from the center of the respirator seat gasket shaft and set aside for installation.

(4) Remove the respirator seat gasket (figure 6-40, item 4) and discard.

c. Installation

(1) Inspect the new respirator seat gasket (figure 6-40, item 4) for any damage. Replace as required.

(2) Install the respirator seat gasket (figure 6-40, item 4) onto center of respirator seat gasket shaft (figure 6-40, item 2).

(3) Hold the respirator seat gasket shaft (figure 6-40, item 2) under the hand coupling (figure 6-40, item 1) with a 7/16 in. open-end wrench and use a 1/8 in. Allen wrench to install the retaining screw (figure 6-40, item 3) into the center of the respirator seat gasket shaft.

(4) Rotate the hand coupling (figure 6-40, item 1) clockwise to connect the RIC/UAC assembly to the cylinder valve.

(5) Perform a leak check IAW paragraph 6.5.2.

6.8.4 RIC/UAC ASSEMBLY REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) Hammer, hand machinist's ballpeen, 8 oz.
(2) Packing, preformed, PN 55622-00
(3) Punch, pin 1/8 in.
(4) Retainer, packing, PN 18071-02

b. Removal

(1) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(2) Lay the backframe and harness assembly on a clean work surface with the cylinder band clamp facing down.

(3) Using pin punch and hammer, tap out the two roll pins (figure 6-41, item 1) securing the RIC/UAC assembly (figure 6-41, item 2) to the pressure reducer (figure 6-41, item 3).

(4) Remove the RIC/UAC assembly (figure 6-41, item 2) from the pressure reducer (figure 6-41, item 3).

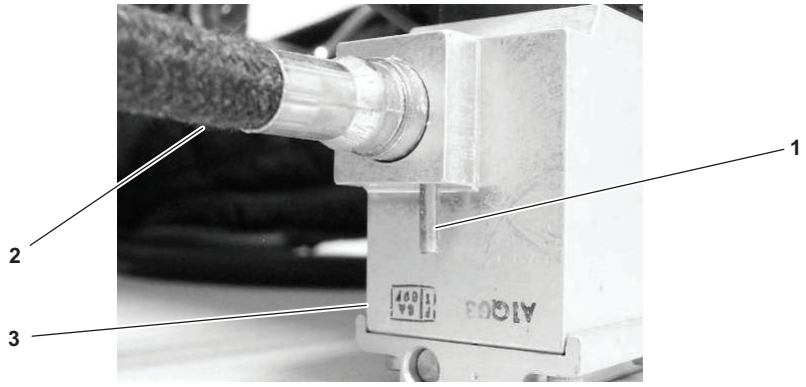


Figure 6-41. RIC/UAC Assembly Removal

c. Installation

(1) Inspect the preformed packing (figure 6-42, item 1) and the packing retainer (figure 6-42, item 2) on the RIC/UAC assembly (figure 6-41, item 2) for nicks, cuts, wear and tear, or foreign debris. If necessary, remove and replace IAW paragraph 6.1.5.

Figure 6-42. RIC/UAC Assembly Preformed Packing and Packing Retainer

(2) Inspect the roll pins (figure 6-41, item 1) for cracks, bends, or mushroomed ends. Replace as required.

⚠ CAUTION

Ensure that the RIC/UAC assembly inlet port is free of foreign matter before installing the RIC/UAC assembly. Failure to comply with this caution may result in damage to the equipment.

(3) Install the RIC/UAC assembly (figure 6-41, item 2) into the pressure reducer (figure 6-41, item 3). Ensure that the RIC/UAC assembly groove (figure 6-42, item 3) aligns with the pinholes and that the pinholes are unobstructed.

⚠ CAUTION

Ensure that the RIC/UAC assembly groove aligns with the pin holes prior to connecting them together. Failure to comply with this caution may result in damage to the equipment.

(4) While holding the RIC/UAC assembly (figure 6-41, item 2) firmly in place, insert the roll pins (figure 6-41, item 1) and lightly tap them into place with a hammer until the roll pins are flush with the pressure reducer (figure 6-41, item 3).

(5) Replace the cylinder assembly IAW paragraph 2.3.2.1 step b.

(6) Perform a leak check IAW paragraph 6.5.2.

6.8.5 PRESSURE REDUCER REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(3) Remove the RIC/UAC assembly IAW paragraph 6.8.4 step b.

(4) Using a 5/8 in. open-end wrench, remove the low-pressure hose (figure 6-43, item 1) by rotating the low-pressure hose coupling (figure 6-43, item 2) fully counterclockwise.

(5) Remove the pressure reducer and the Visualert mounting block IAW paragraph 6.8.1 step b.

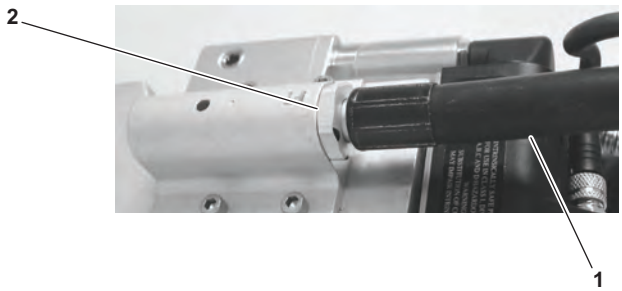


Figure 6-43. Low-Pressure Hose

c. Installation

(1) Inspect the pressure reducer for any visible sign of damage. Replace as required.

(2) Install the Visualert mounting block and pressure reducer IAW paragraph 6.8.1 step c.

NOTE

Perform a leak check after all components have been installed.

(3) Using a 5/8 in. open end wrench, install the low-pressure hose (figure 6-43, item 1) by rotating the low pressure hose coupling (figure 6-43, item 2) fully clockwise.

(4) Install the RIC/UAC assembly IAW paragraph 6.8.4 step c.

(5) Install the cylinder assembly IAW paragraph 2.3.2.1 step b.

(6) Perform a leak check IAW paragraph 6.5.2.

6.9 BACKFRAME AND HARNESS ASSEMBLY CORRECTIVE MAINTENANCE

6.9.1 HIP PAD ASSEMBLY REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(3) Remove the side straps (figure 6-44, item 1) from the shoulder strap spring-action buckles (figure 6-44, item 2).

(4) Remove the waist adjustment straps (figure 6-44, item 3) from the waist strap spring-action buckles (figure 6-44, item 4).

(5) Unsnap the hip pad assembly (figure 6-44, item 5) from the backframe.

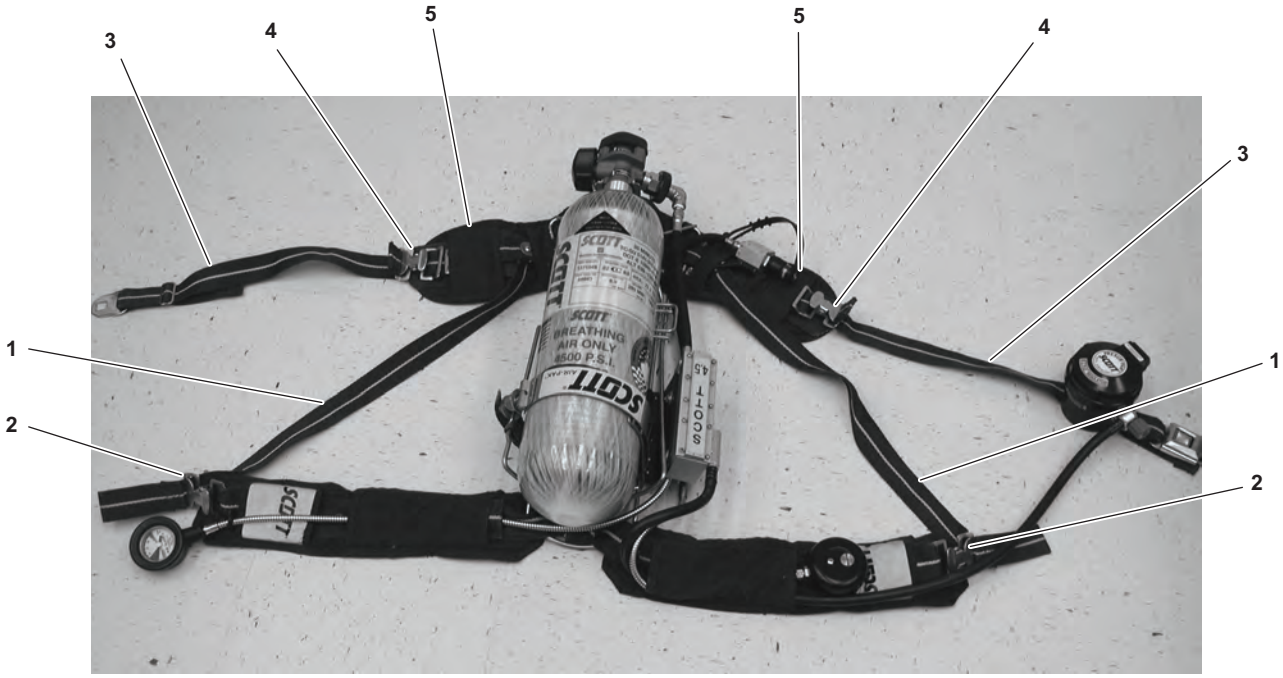


Figure 6-44. Remove Hip Pad Assembly

⚠ CAUTION

Do not use tools to remove the hip pad assembly. Failure to comply with this caution may result in damage to the equipment.

(6) Remove the hip pad assemblies (figure 6-44, item 5) from the waist strap spring-action buckles (figure 6-44, item 4) and the side straps (figure 6-44, item 1).

c. Installation

(1) Inspect the hip pad assembly (figure 6-44, item 5) for any visible sign of damage. Replace as required.

(2) Position the hip pad assembly (figure 6-44, item 5) with the snap receptacles facing up as shown in figure 6-45.

Figure 6-45. Hip Pad Assembly Installation

(3) Feed the waist strap spring-action buckles (figure 6-44, item 4) and the side straps (figure 6-44, item 1) through the hip pad assembly (figure 6-44, item 5); position the side straps.

(4) Snap the hip pad assembly (figure 6-44, item 5) to the backframe.

(5) Feed the side straps (figure 6-44, item 1) through the shoulder strap spring-action buckles (figure 6-44, item 2). The folded seams will face the teeth of the buckles.

(6) Perform step c.(5) for the waist adjustment straps (figure 6-44, item 3) and the waist strap spring-action buckles (figure 6-44, item 4).

(7) Replace the cylinder assembly IAW paragraph 2.3.2.1 step b.

(8) Leak check the area of repair IAW paragraph 6.5.2.

6.9.2 SHOULDER PAD ASSEMBLY REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

NOTE

Remove only those components necessary to replace the affected shoulder pad.

(2) Remove the mask-mounted regulator IAW paragraph 6.7.2 step b.

(3) Remove the remote pressure indicator IAW paragraph 6.8.2 step b.

(4) Unsnap the shoulder strap from shoulder pad assemblies (figure 6-46, item 1).

(5) Remove the side straps (figure 6-46, item 2) from shoulder strap spring-action buckles (figure 6-46, item 3).

(6) Remove shoulder pad assembly (figure 6-46, item 1).

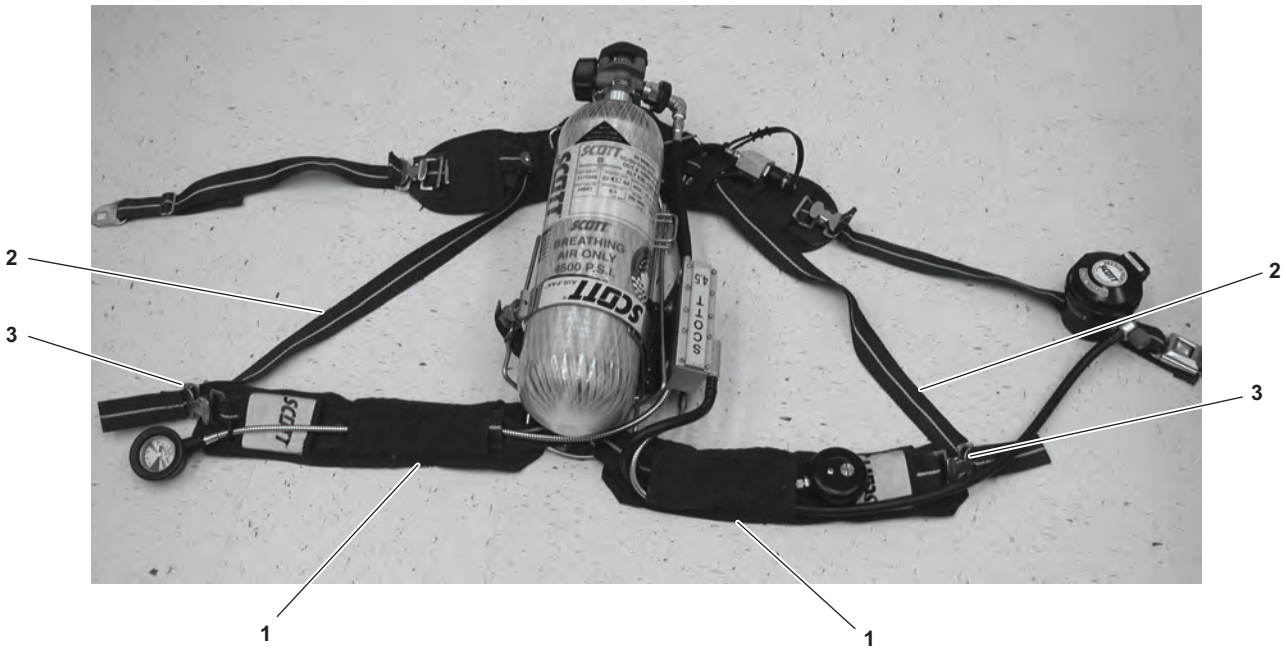


Figure 6-46. Remove Shoulder Pad Assembly

c. Installation

(1) Inspect the shoulder pad assembly (figure 6-46, item 1) for any visible sign of damage. Replace as required.

(2) Position the shoulder pad assembly (figure 6-46, item 1) with the label facing up.

(3) Feed the shoulder strap spring-action buckle (figure 6-46, item 3) through the shoulder pad assembly (figure 6-46, item 1).

(4) Snap the shoulder strap to the shoulder pad assembly (figure 6-46, item 1).

(5) Feed the side strap (figure 6-46, item 2) through the shoulder strap spring-action buckle (figure 6-46, item 3). The folded seam will face the teeth of the buckle.

NOTE

Perform a leak check after all components have been installed.

(6) Install the remote pressure indicator IAW paragraph 6.8.2 step c.

(7) Install the mask-mounted regulator IAW paragraph 6.7.2 step c.

(8) Leak check all areas IAW paragraph 6.5.2.

6.9.3 BACKFRAME AND HARNESS ASSSEMBLY REMOVAL AND INSTALLATION

a. Tools, Parts, and Materials

(1) None

b. Removal

(1) Bleed the system IAW paragraph 6.5.1.

(2) Remove the cylinder assembly IAW paragraph 2.3.2.1 step a.

(3) Remove the mask-mounted regulator IAW paragraph 6.7.2 step b.

(4) Remove the remote pressure indicator IAW paragraph 6.8.2 step b.

(5) Using a 5/32 in. Allen wrench, remove the mounting screws and the sliding washers (figure 6-47, item 1) from the mounting plate (figure 6-47, item 2). Set aside for installation.

(6) Remove the pressure reducer (figure 6-47, item 3) from the mounting plate (figure 6-47, item 2).

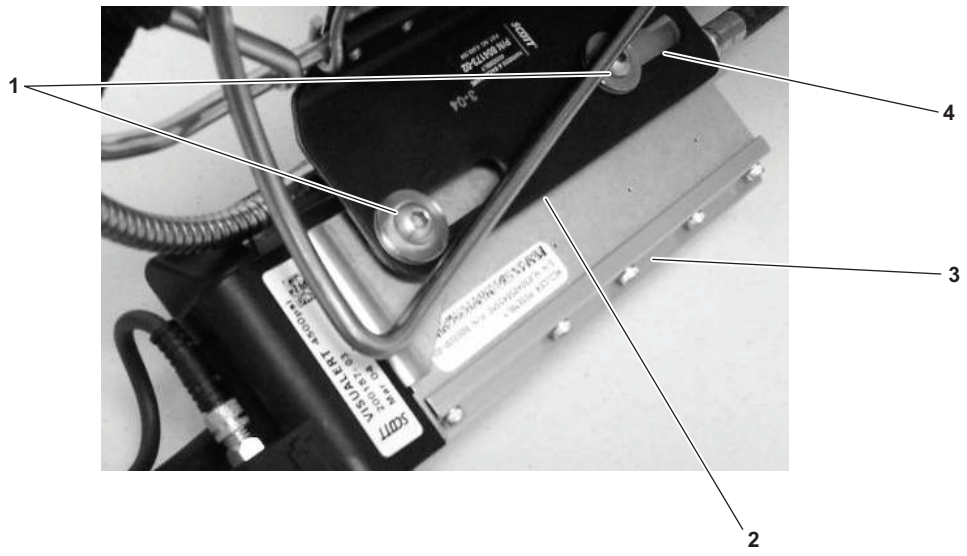


Figure 6-47. Remove Pressure Reducer

c. Installation

(1) Inspect the backframe and harness assembly for any visible sign of damage. Replace as required.

(2) Inspect the pressure reducer (figure 6-47, item 3) for any visible sign of damage. Replace as required.

(3) Align the screw holes in the side of the pressure reducer (figure 6-47, item 3) with the slots (figure 6-47, item 4) in the mounting plate (figure 6-47, item 2).

(4) Using a 5/32 in. Allen wrench, install the mounting screws and sliding washers (figure 6-47, item 1).

NOTE

Perform a leak check after all components have been installed.

(5) Install the remote pressure indicator IAW paragraph 6.8.2.

(6) Install the mask-mounted regulator IAW paragraph 6.7.2 step c.

(7) Replace the cylinder assembly IAW paragraph 2.3.2.1 step b.

(8) Leak check all areas IAW paragraph 6.5.2.

APPENDIX A
SELF-CONTAINED BREATHING APPARATUS (SCBA)
OPERATIONAL CHECKLISTS

A.1 INTRODUCTION

The checklists provided in this Appendix should be completed while performing the same procedures in Chapter 2 Operating Procedures. Copy and complete the checklists as needed.

A.2 CHECKLISTS PROVIDED

The following checklists are provided in this Appendix:

- Table A-1 – Donning Checklist
- Table A-2 – Go-on Air Checklist
- Table A-3 – Doffing Checklist
- Table A-4 – Cylinder Assembly Removal and Replacement Checklist

Table A-1. Donning Checklist (Sheet 1 of 2)
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.1.1

PREPARER'S NAME:			**DATE:**
WARNING **Prior to donning the SCBA, ensure that the immediate area provides adequate space to safely don SCBA. Failure to comply with this warning may result in injury or death to personnel.**			
a. (1) Coat-Style Method:			b. (2) Over-the-Head Method:
☐	(a) Position backframe and harness assembly with cylinder valve on deck, cylinder assembly facing user, and fully extended side straps facing away.		☐ (a) Position backframe and harness assembly with cylinder valve facing up, cylinder assembly away from user, and fully extended side straps facing away.
☐	(b) Grasp shoulder straps.		☐ (b) While on one knee, grasp sides of backframe.
☐	(c) Swing backframe and harness assembly over and onto back, sliding shoulder strap over arm. Extend both arms through shoulder straps.		☐ (c) Lift backframe and harness assembly up and over head, making sure elbows extend through loop formed by shoulder strap
☐	(d) Lean forward and pull down on both side straps to tighten.	**OR**	☐ (d) Pull down on side straps to tighten. Stand up.
☐	(e) Buckle quick-release buckle.		☐ (e) Buckle quick-release buckle.
☐	(f) Simultaneously pull waist adjustment straps forward to tighten.		☐ (f) Simultaneously pull waist adjustment straps forward to tighten.
☐	(g) Readjust side straps to ensure most of SCBA weight is on hips.		☐ (g) Readjust side straps to ensure most of SCBA weight is on hips.
☐	(h) Lift hands straight up to ensure comfortable fit and proper adjustment.		☐ (h) Lift hands straight up to ensure comfortable fit and proper adjustment.
☐	b. Ensure air saver switch is fully depressed and purge valve is rotated fully clockwise until closed.		
WARNING **For proper SCBA operation, the cylinder valve must be fully opened. SCBA use with the cylinder valve partially opened may cause a reduction or sudden loss of air supply. Failure to comply with this warning may result in injury or death to personnel.**			
☐	c. Open cylinder valve by slowly turning handwheel fully away from user, then back off 1/4 turn.		
WARNING **If the Vibralert does not actuate or the HUD (if attached) does not initialize as described, remove the SCBA from service and tag for repair. Failure to comply with this warning may result in injury or death to personnel.**			
☐	d. The Vibralert shall actuate then stop. The HUD, if attached, shall initialize with all five LEDs on for approximately 20 seconds then display cylinder air pressure as percentage of air remaining.		
☐	e. Ensure remote pressure indicator reading is greater than 0 PSI. If 0 PSI, replace cylinder assembly IAW paragraph 2.3.2.1.		
☐	f. Extend head harness straps. Ensure head harness straps are not twisted and lay flat against head.		

Table A-1. Donning Checklist-Continued (Sheet 2 of 2)
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.1.1

PREPARER'S NAME:		DATE:
☐	g.	Place chin in chin pocket and pull head harness straps over head.
☐	h.	Simultaneously pull back on ends of temple straps to tighten for a comfortable fit.
☐	i.	Simultaneously pull back on ends of neck straps to tighten for a comfortable fit.
☐	j.	Feel crown of head with one hand to ensure proper head harness strap placement. Readjust temple and neck straps as necessary until comfortable fit and proper placement is achieved.
☐	k.	Perform a seal check by placing palm of hand over adapter port on facepiece.
☐	l.	Inhale and hold breath for a second or so facepiece can seal to face. If facepiece does not seal to face, repeat steps f through l.
☐	m.	If equipped, turn on voice amplifier and check for operation.
☐	n.	Don protective head gear, and properly position and close any required protective clothing such as turn-out gear to place SCBA in standby condition but not in operational use.

Table A-2. Go-On Air Checklist
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.1.2

PREPARER'S NAME:		**DATE:**
☐	a.	Remove mask-mounted regulator from regulator holder.
☐	b.	From perspective of user, orient purge valve at 12 o'clock and air saver switch at 3 o'clock, insert mask-mounted regulator into adapter port and rotate counterclockwise 1/4 turn until latch mechanism engages.
☐	c.	Attempt to rotate mask-mounted regulator to ensure latch mechanism is engaged.
☐	d.	Inhale sharply to release air saver switch and start airflow.
☐	e.	Breathe normally.
		WARNING **Should the Vibralert, or HUD activate during operational use, immediately leave area requiring SCBA protection. Failure to comply with this warning may result in injury or death to personnel.**
☐	f.	Proceed with use of SCBA.

Table A-3. Doffing Checklist
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.1.3 and 2.3.1.4

PREPARER'S NAME:	**DATE:**

Go-Off Air Procedures

☐	a. Depress air saver switch until click is heard, then release.
☐	b. Pull out on latch mechanism and rotate mask-mounted regulator 1/4 turn clockwise and remove from adapter port.
☐	c. Stow mask-mounted regulator in holder to return to standby condition.

Doffing Procedures

WARNING

Doffing the SCBA must be performed only when the user is in a safe environment that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

☐	a. Perform Go-Off Air Procedures
☐	b. Fully close cylinder valve by rotating handwheel toward user.
☐	c. Fully open purge valve by rotating counterclockwise and bleed residual air from SCBA.
☐	d. When airflow stops, close purge valve by rotating clockwise.
☐	e. Lift each buckle on temple and neck straps and remove facepiece from head.
☐	f. Depress waist strap spring-action buckles and fully extend waist adjustment straps.
☐	g. Unbuckle quick-release buckle.
☐	h. Depress shoulder strap spring-action buckle and fully extend side straps.

⚠ CAUTION

Ensure positive control is maintained during removal of the backframe and harness assembly to prevent equipment damage. Failure to comply with this caution may result in damage to the equipment.

☐	i. Maintain firm grip of shoulder straps while removing SCBA.

Table A-4. Cylinder Assembly Removal and Replacement Checklist (Sheet 1 of 2)
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.2.1

PREPARER'S NAME:	DATE:

Removal Procedures

WARNING

Cylinder assembly removal must be performed only when the user is in a safe environment-that does not require SCBA protection. Failure to comply with this warning may result in serious injury or death to personnel.

☐	a. Fully close cylinder valve.
☐	b. Fully open purge valve on mask-mounted regulator and bleed residual air from SCBA.
☐	c. When airflow stops, close purge valve.
☐	d. Check remote pressure indicator for no air pressure.

WARNING

Verify that the remote pressure indicator shows no sign of air pressure prior to removing the RIC/UAC assembly. High-pressure air may cause damage to the equipment and cause serious injury or death to personnel.

☐	e. Rotate hand coupling to remove from cylinder valve.
☐	f. Unsnap and pull up on over-center latch mechanism to release cylinder band clamp.

WARNING

Do not grab the handwheel when preparing to remove the cylinder assembly from the back frame. Ensure that the hand grasps the cylinder valve. Failure to comply with this warning may result in serious injury or death to personnel.

☐	g. With one hand grab cylinder valve and press on locking tab with other hand.
☐	h. Push up on cylinder assembly until disengaged from backframe hook. Pull cylinder assembly down and out of backframe and harness assembly.

Table A-4. Cylinder Assembly Removal and Replacement Checklist-Continued (Sheet 2 of 2)
FOR DETAILED PROCEDURES, REFER TO PARAGRAPH 2.3.2.1

PREPARER'S NAME:	DATE:

Replacement Procedures

WARNING

Never use a cylinder assembly with a damaged cylinder valve or a cylinder valve with damaged threads. Leakage may occur, which could cause loss of breathing air or a sudden release of high-pressure air. Failure to comply with this warning may result in serious injury or death to personnel.

☐	a. Conduct visual inspection of cylinder assembly IAW Appendix C.
☐	b. Ensure dual-reading pressure indicator indicates a minimum of 4,000 PSI.
☐	c. Position cylinder band clamp on bail for different sized cylinder assemblies IAW procedures.
☐	d. Guide dome end of cylinder assembly upward through cylinder band clamp.
☐	e. Turn cylinder assembly so hanger plate points toward backframe and aligns with center of backframe hook in bottom of backframe.
☐	f. Push cylinder assembly down until backframe hook engages with hanger plate.
☐	g. Adjust cylinder band clamp to compensate for small variations in cylinder size if necessary.
☐	h. Push down on over-center latch mechanism until locked firmly in place and snap.
☐	i. Connect, but do not tighten, hand coupling to cylinder valve.

⚠ CAUTION

Do not use a wrench to tighten the hand coupling to cylinder valve. Overtightening may damage the hand coupling and the cylinder valve. Failure to comply with this caution may result in damage to the equipment.

☐	j. Hand-tighten hand coupling by turning clockwise until seated.

APPENDIX B
SELF-CONTAINED BREATHING APPARATUS (SCBA)
DEPARTMENT OF TRANSPORTATION CYLINDER EXEMPTIONS

B.1 INTRODUCTION

This appendix provides a list of the Department of Transportation (DOT) cylinder exemptions.

B.2 EXEMPTIONS

Refer to Appendix D for the cylinder exemptions website.

The individual exemptions are:

Carbon-Fiber Cylinder Assembly

- E10915
- E10945

APPENDIX C
SELF-CONTAINED BREATHING APPARATUS (SCBA)
SCBA CYLINDER INSPECTION GUIDE

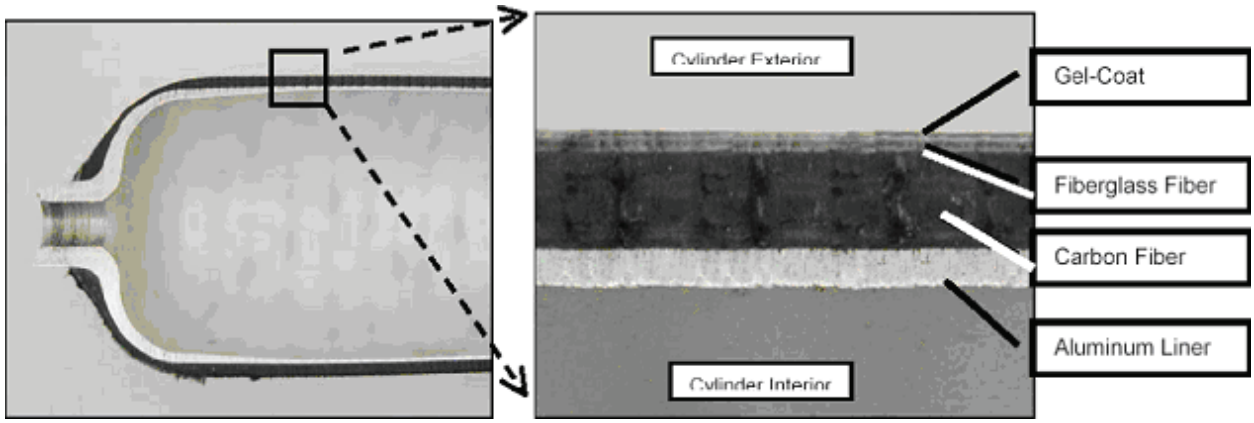
C.1 CARBON-FIBER COMPOSITE CYLINDERS

Do not refill any cylinder that is damaged. Damaged cylinders may suddenly leak or rupture if charged with compressed air. Failure to carefully inspect for damage following these and the manufacturer's instructions, and to empty the air from damaged cylinders and remove them from service may result in injury or death.

The purpose of this document is to supplement, not replace, the inspection procedures recommended by the manufacturer of the cylinders. It is limited to a discussion of the outside wall of the cylinder. Refer to the cylinder manufacturer's instructions for inspection of cylinder neck, threads, and the interior. If you have any questions regarding this document or regarding a cylinder's condition, refer to the cylinder manufacturer's instructions or contact Scott Health and Safety at 800-217-7257.

CYLINDER CONSTRUCTION

Carbon-fiber composite breathing air cylinders used with the SCBA are made up of an aluminum alloy liner, covered with a layer of black, carbon-fiber composite, which is covered with a layer of light grey, composite glass fiber which is finally covered with a clear gel coat. See figure C-1.



Side View of Cylinder (Cut-away) **Magnified View of Cylinder Side Wall (Cut-away)**

Figure C-1. Carbon-Fiber Cylinder Construction

CYLINDER INSPECTION

Cylinder damage or defects are categorized in three levels, identified as Level 1, Level 2, or Level 3. These levels of damage and the actions you must take, are discussed below.

Level 1 Damage/Defects

Level 1 damage or defects are identified by scratches or minor damage to the outer coating of the cylinder, the gel coat. The cylinder may also exhibit a slight discoloration of the outer coating, particularly if the cylinder has been exposed to high levels of heat, such as a fire. Typically, the discoloration will be amber or light brown in color. This level damage or defect does not require the cylinder to be removed from service. Slight discoloration of the outer coating does not require removal of the cylinder from service unless the labeling of the cylinder in the gel coat has also turned brown or black, or the labels on the surface of the gel coat are slightly charred. Then the cylinder should be classified as Level 2. See the photograph in figure C-2. Areas of the cylinder exhibiting Level 1 damage are to be monitored for possible additional damage.

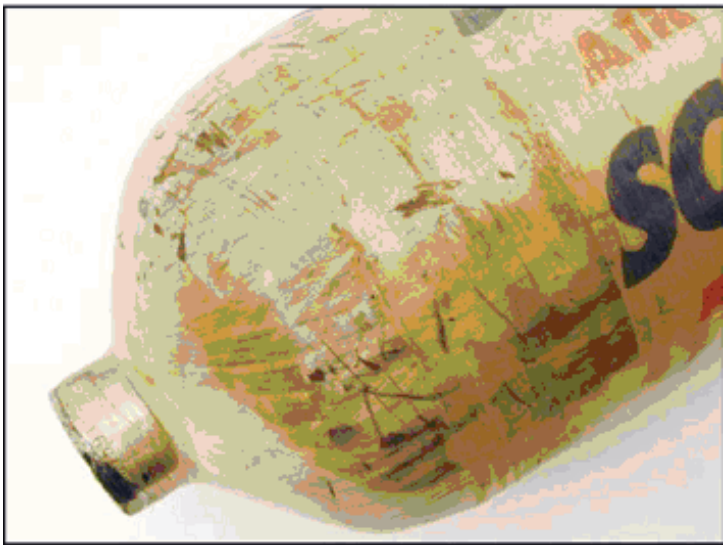


Figure C-2. Level 1 Damage/Defects (Typical)
Scratches in the outer coating or gel coat of the cylinder.

Level 2 Damage/Defects

Level 2 damage or defect of the cylinder constitutes damage beyond Level 1, affecting the fiberglass composite of the cylinder. This damage will expose the fiberglass composite layer ad may further exhibit fraying of the exposed fiberglass composite. See the three photographs in figure C-3. Cylinders exhibiting Level 2 damage should be removed from service and forwarded to a U.S. Department of Transportation (DOT) authorized hydrostatic testing facility for further inspection or repair. A listing of the USDOT authorized hydrotesting facilities can be found on their website (refer to Appendix D).

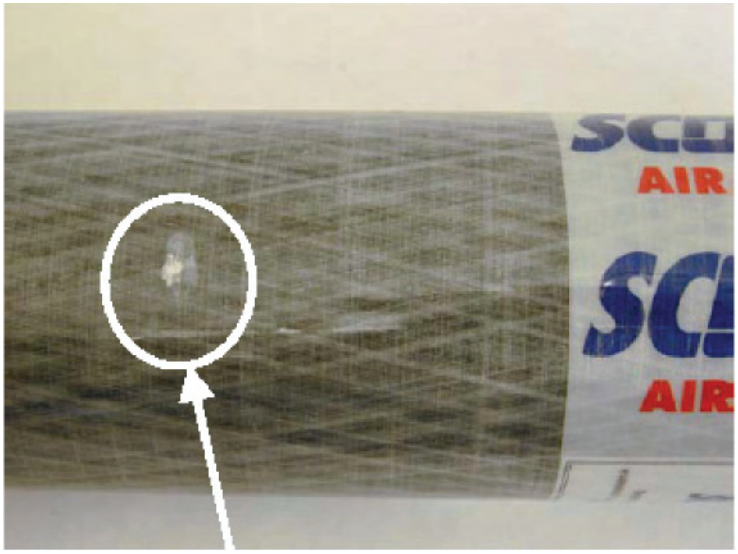


Figure C-3. Level 2 Damage/Defects: Penetration of Gel Coat (photo 1 of 3)
Level 2 damage on side wall of cylinder (highlighted by circle).

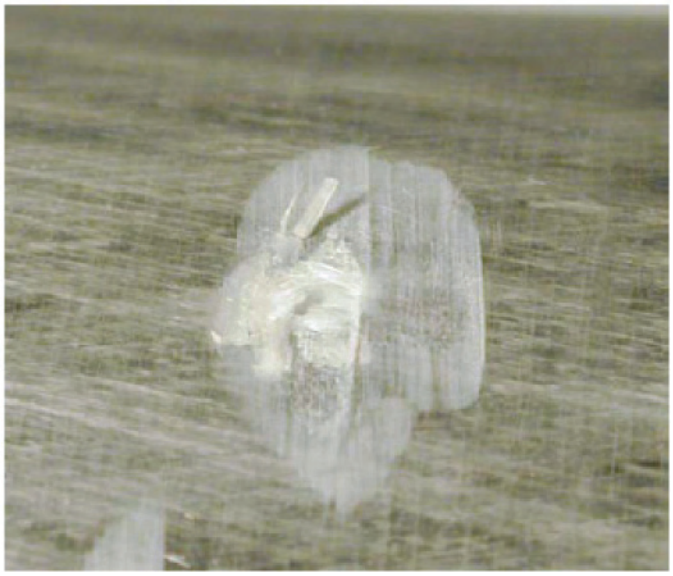


Figure C-3. Level 2 Damage/Defects: Penetration of Gel Coat (photo 2 of 3)
Area in above photo (1 of 3) magnified - note penetration of gel coat (typical).

Figure C-3. Level 2 Damage/Defects: Penetration of Gel Coat (photo 3 of 3)
Side view of damaged area showing some fiber breakage.

Level 3 Damage/Defects

Level 3 damage/defect is typified by exposure of the black carbon composite layer. Level 3 damage can also be identified as severe discoloration of the cylinder with the labeling bubbled and charred due to exposure to high heat. See figure C-4. Frosting of the gel coat or visible breakage of the fibers as seen through the gel coat may mean the cylinder is bent, dented or bulging. This can generally be verified by rolling the cylinder along a hard flat surface and carefully examining the contact between the cylinder and the surface. Bent, dented, or bulging cylinders should be classified as Level 3 damage/defect. Signs of corrosion or other form of chemical attack can be evidenced by changes in color or surface (e.g., bubbling, or "melting/dissolving") or the deposition of a foreign substance. These cylinders should be classified as Level 3 Damage/Defect.

Cylinders exhibiting Level 3 damage should be depressurized of air and removed from service.

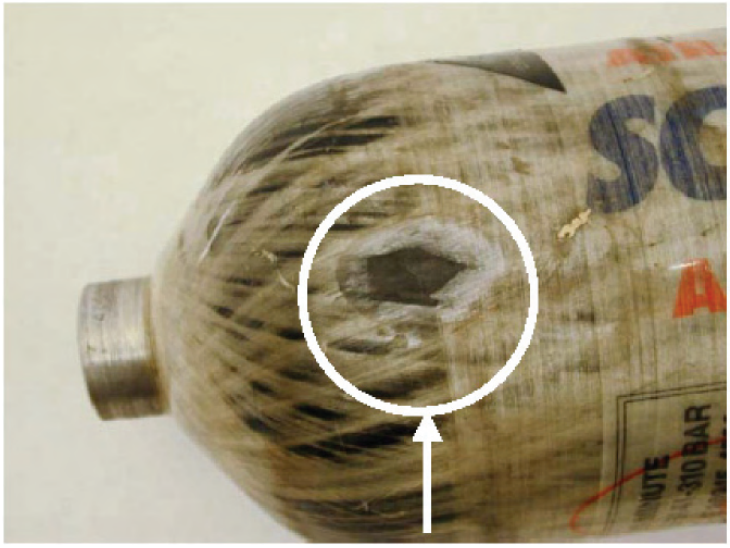


Figure C-4. Level 3 Damage/Defects: Exposure of the Carbon Composite Layer (photo 1 of 2)
Level 3 damage on cylinder crown - see area in circle.

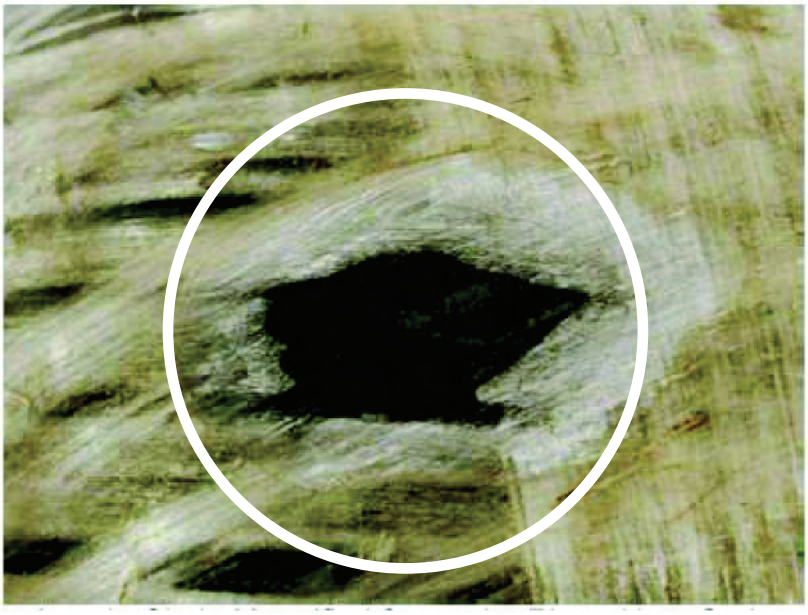


Figure C-4. Level 3 Damage/Defects: Exposure of the Carbon Composite Layer (photo 2 of 2)
Level 3 damage on cylinder crown - see area in circle.

APPENDIX D
SELF-CONTAINED BREATHING APPARATUS (SCBA)
SCBA WEBSITE REFERENCES

SCOTT® HEALTH & SAFETY

Scott® Health & Safety Originial Equipment Manufacturer (OEM) Website
http://www.scotthealthsafety.com/

Scott® Service Department Return to OEM
srossi@tycoint.com OR hsservice@tycoint.com

Scott Health & Safety
scottmarketing.scotths.us@tycoint.com

Health & Safety Customer Service
domcustsrv.scotths.us@tycoint.com

Health & Safety Service Support
servicesupport.scotths.us@tycoint.com

Technical Assistance
techsupport.scotths.us@tycoint.com

International Service
intlcustsrv.scotths.us@tycoint.com

U.S. DEPARTMENT OF TRANSPORTATION PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMINISTRATION (DOT PHMSA)

http://www.phmsa.dot.gov/

CYLINDER EXEMPTIONS (PHMSA HAZMAT LIST OF SPECIAL PERMITS)

http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm

AUTHORIZED DOT CYLINDER RETESTERS - U.S. AND INTERNATIONAL

http://hazmat.dot.gov/sp_app/approvals/hydro/hydro_retesters.htm

APPENDIX E
SELF-CONTAINED BREATHING APPARATUS (SCBA)
SCBA STOWAGE INSTRUCTIONS

E.1 STOWAGE

The following method for stowage helps keep the facepiece stowed with the apparatus. Remember the SCBA must always be inspected and the lines purged prior to stowage.

a. Make sure the cylinder assembly is the proper size (i.e. 45-minute cylinder) for the locker or wall mount. The lockers are labeled according to the size cylinders the brackets are designed to hold. Many lockers pair an SCBA and a spare bottle as shown in figure E- 1.

Figure E-1. Locker Designs Often Alternate Between SCBA and a Spare Cylinder of a Different Size

b. Extend the shoulder and waist straps on the SCBA and ensure the retention strap in the stowage assembly rests outside the cylinder clasps. To secure the SCBA in the clasps, grasp the wireframe through the shoulder straps and rest the cylinder valve on the bracket hang plate. Then, gently push the cylinder into the clasps as shown in figure E-2.

Figure E-2. Once Placed in the Clasps, the SCBA Should Look Like the Unit on the Right

c. Fold the waist straps up into the center of the apparatus and hold as shown in figure E-3.

Figure E-3. Left Waist Straps

d. Similarly, fold the mask-mounted regulator up with the rest of the straps. Note that the regulator remains stowed in the regulator holder. Place the faceseal of the facepiece against the black plate on frame of backpack and hold waist straps, regulator and facepiece as shown in figure E-4.

Figure E-4. Mask-Mounted Regulator and Facepiece

e. Pull the shoulder straps over the facepiece and mask-mounted regulator while folding any loose straps up into the center of the apparatus. While keeping one hand (or forearm) in place to hold this, reach behind SCBA and grab the retention strap from both sides. Clasp the retention strap together as shown in figure E-5 and tighten.

Figure E-5. Clasping Retention Strap

f. The SCBA is now properly and securely stowed with the mask-mounted regulator. See figure E-6.

Figure E-6. Stowed SCBA.

APPENDIX F
SELF-CONTAINED BREATHING APPARATUS (SCBA)
REFERENCES

ARMY REGULATIONS

AR 700-138	Army Logistics Readiness and Sustainability

FIELD MANUALS

FM 4-25.11	First Aid
FM 4-01.502 (supersedes FM 55-502)	Watercraft Safety

TECHNICAL MANUALS

TM 10-4310-503-13&P	Field Maintenance Manual Including Repair Parts and Special Tools List for Emergency Breathing Apparatus Compressor/Stainless Steel (E-BAC/SS)
TM 38-470	Storage and Maintenance of Army Prepositioned Stock Materiel
TM 750-244-6	Procedures for Destruction of Tank-Automotive Equipment to Prevent Enemy Use

TECHNICAL BULLETINS

TB 43-0218	Inspection, Use and Tightening of Metal Fasteners Used on Tank-Automotive Equipment
TB 740-97-4	Preservation of Vessels for Storage

FORMS AND PAMPHLETS

DA Form 2028	Recommended Changes to Equipment Technical Publications
DA Form 2404	Equipment Inspection and Maintenance Worksheet
DA Form 2407	Maintenance Request
DA Form 2408-9	Equipment Control Record
DA Form 4640	Harbor Boat Deck Department Log for Class A&B Vessels
DA Form 4993	Harbor Boat Engine Department Log for Class A and C-1 Vessels
DA PAM 750-8	Functional Users Manual for The Army Maintenance Management System (TAMMS)
SF 368	Product Quality Deficiency Report

HANDBOOKS AND STANDARDS

MIL-HDBK- 113	Guide for the Selection of Lubricants, Functional Fluids, Preservatives, and Specialty Products for Use in Ground Equipment Systems
MIL-HDBK-275	Guide for the Selection of Lubricant Fluids and Compounds for Use in Flight Vehicles and Components

SAFETY PUBLICATIONS AND GUIDELINES

CGA C-6.2	Guidelines for Visual Inspection and Requalification of Fiber Reinforced High-Pressure Cylinders
NFPA 1981, 1992 Ed.	National Fire Protection Association
NFPA 1981, 1997 Ed.	National Fire Protection Association
NFPA 1981, 2002 Ed.	National Fire Protection Association
42 CFR Part 84	National Institute of Occupational Safety and Health, Code of Federal Regulations

APPENDIX G
SELF-CONTAINED BREATHING APPARATUS (SCBA)
MAINTENANCE ALLOCATION CHART (MAC)

THE ARMY MAINTENANCE SYSTEM MAC

This introduction provides a general explanation of all maintenance and repair functions authorized at various maintenance levels under the standard Army Maintenance System concept.

The MAC (immediately following the introduction) designates overall authority and responsibility for the performance of maintenance functions on the identified end item or component. The application of the maintenance functions to the end item or component shall be consistent with the capacities and capabilities of the designated maintenance levels, which are shown on the MAC in column (4) as:

Field — includes three subcolumns: C (Crew), O (Service), and F (Field)
Sustainment — includes two subcolumns: H (Below Depot) and D (Depot)

The tools and test equipment requirements (immediately following the MAC) list the tools and test equipment (both special tools and common tool sets) required for each maintenance function as referenced from the MAC.

The remarks (immediately following the tools and test equipment requirements) contain supplemental instructions and explanatory notes for a particular maintenance function.

MAINTENANCE FUNCTIONS

Maintenance functions are limited to and defined as follows:

1. Inspect. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination (e.g., by sight, sound, or feel). This includes scheduled inspection and gagings and evaluation of cannon tubes.

2. Test. To verify serviceability by measuring the mechanical, pneumatic, hydraulic, or electrical characteristics of an item and comparing those characteristics with prescribed standards on a scheduled basis, i.e., load testing of lift devices and hydrostatic testing of pressure hoses.

3. Service. Operations required periodically to keep an item in proper operating condition; e.g., to clean (includes decontaminate, when required), to preserve, to drain, to paint, or to replenish fuel, lubricants, chemical fluids, or gases. This includes scheduled exercising and purging of recoil mechanisms.

4. Adjust. To maintain or regulate, within prescribed limits, by bringing into proper position, or by setting the operating characteristics to specified parameters.

5. Align. To adjust specified variable elements of an item to bring about optimum or desired performance.

6. Calibrate. (To determine and cause corrections to be made or to be adjusted on instruments of test, measuring, and diagnostic equipment used in precision measurement). Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

7. Remove/Install. To remove and install the same item when required to perform service or other maintenance functions. Install may be the act of emplacing, seating, or fixing into position a spare, repair part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

8. Replace. To remove an unserviceable item and install a serviceable counterpart in its place. “Replace” is authorized by the MAC and assigned maintenance level is shown as the third position code of the Source, Maintenance and Recoverability (SMR) code.

9. Repair. The application of maintenance services, including fault location/troubleshooting, removal/installation, disassembly/assembly procedures, and maintenance actions to identify trouble and restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

NOTE

The following definitions are applicable to the "repair" maintenance function:

Services. Inspect, test, service, adjust, align, calibrate, and/or replace.

Fault location/troubleshooting. The process of investigating and detecting the cause of equipment malfunctioning; the act of isolating a fault within a system or Unit Under Test (UUT).

Disassembly/assembly. The step-by-step breakdown (taking apart) of a spare/functional group coded item to the level of its least component, that is assigned an SMR code for the level of maintenance under consideration (i.e., identified as maintenance significant).

Actions. Welding, grinding, riveting, straightening, facing, machining, and/or resurfacing.

10. Overhaul. That maintenance effort (service/action) prescribed to restore an item to a completely serviceable/operational condition as required by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

11. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (e.g., hours/miles) considered in classifying Army equipment/components.

EXPLANATION OF COLUMNS IN THE MAC

Column (1) Group Number. Column (1) lists FGC numbers, the purpose of which is to identify maintenance significant components, assemblies, subassemblies, and modules with the Next Higher Assembly (NHA).

Column (2) Component/Assembly. Column (2) contains the item names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

Column (3) Maintenance Function. Column (3) lists the functions to be performed on the item listed in column (2). (For a detailed explanation of these functions refer to "Maintenance Functions" outlined above.)

Column (4) Maintenance Level. Column (4) specifies each level of maintenance authorized to perform each function listed in column (3), by indicating work time required (expressed as manhours in whole hours or decimals) in the appropriate subcolumn. This work time figure represents the active time required to perform that maintenance function at the indicated level of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance levels, appropriate work time figures are to be shown for each level. The work time figure represents the average time required to restore an item (assembly, subassembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time (including any necessary disassembly/assembly time), troubleshooting/fault location time, and quality assurance time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the MAC. The symbol designations for the various maintenance levels are as follows:

C Crew or Operator maintenance
O Service maintenance
F Field maintenance
L Specialized Repair Activity (SRA)
H Below Depot maintenance
D Depot maintenance

NOTE

The "L" maintenance level is not included in column (4) of the MAC. Functions to this level of maintenance are identified by a work time figure in the "H" column of column (4), and an associated reference code is used in the REMARKS column (6). This code is keyed to the remarks and the SRA complete repair application is explained there.

Column (5) Tools and Equipment Reference Code. Column (5) specifies, by code, those common tool sets (not individual tools), common Test, Measurement and Diagnostic Equipment (TMDE), and special tools, special TMDE and special support equipment required to perform the designated function. Codes are keyed to the entries in the tools and test equipment table.

Column (6) Remarks Code. When applicable, this column contains a letter code, in alphabetical order, which is keyed to the remarks table entries.

EXPLANATION OF COLUMNS IN THE TOOLS AND TEST EQUIPMENT REQUIREMENTS

Column (1) Tool or Test Equipment Reference Code. The tool or test equipment reference code correlates with a code used in column (5) of the MAC.

Column (2) Maintenance Level. The lowest level of maintenance authorized to use the tool or test equipment.

Column (3) Nomenclature. Name or identification of the tool or test equipment.

Column (4) National Stock Number (NSN). The NSN of the tool or test equipment.

Column (5) Tool Number. The manufacturer's part number, model number, or type number.

EXPLANATION OF COLUMNS IN THE REMARKS

Column (1) Remarks Code. The code recorded in column (6) of the MAC.

Column (2) Remarks. This column lists information pertinent to the maintenance function being performed as indicated in the MAC.

Table 1. MAC for Self-Contained Breathing Apparatus (SCBA)

(1) GROUP NUMBER	(2) COMPONENT/ ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE LEVEL					(5) TOOLS AND EQUIP	(6) REMARKS
			FIELD			SUSTAINMENT			
			CREW	SERVICE	FIELD	BELOW DEPOT	DEPOT		
			C	O	F	H	D		
00	SCBA (45 MINUTE)	TEST	0.9		0.5				A
01	CYLINDER	TEST			1.0				B
		INSPECT	0.5						
		SERVICE	0.2						C
		REPLACE	0.1						D
02	VOICE AMPLIFIER	REPLACE	0.1					1	E
03	FACEPIECE, AV-3000	INSPECT	0.2						
		SERVICE	0.3						
		REPAIR	0.3					1	E
		REPLACE	0.1					1	
04	MASK-MOUNTED REGULATOR	INSPECT	0.3						
		SERVICE	0.3						
		REPAIR	0.2					1	E
		REPLACE	0.1						
05	PRESSURE REDUCER AND VISUALERT	INSPECT	0.2						
		REPAIR	0.1					1	F
		REPLACE	0.4					1	E
06	REMOTE PRESSURE INDICATOR	INSPECT	0.3						
		REPAIR	0.1					1	
		REPLACE	0.2					1	E
07	RIC/UAC ASSEMBLY	REPAIR	0.1					1	
		REPLACE	0.2					1	E
08	BACKFRAME AND HARNESS ASSEMBLY	INSPECT	0.2						
		SERVICE	0.3						
		REPLACE	0.2						E

Table 2. Tools and Test Equipment for Self-Contained Breathing Apparatus (SCBA)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE LEVEL	NOMENCLATURE	NATIONAL STOCK NUMBER	TOOL NUMBER
1	O	Tool Kit, General Mechanic's	5180-00-629-9783	SC 5180-90-CL-N55

Table 3. Remarks for Self-Contained Breathing Apparatus (SCBA)

REMARKS CODE	REMARKS
A	SCBA functional test must be performed by a certified technician utilizing a SCOTT SCBA test stand.
B	Cylinder hydrostatic test must be performed by a DOT approved facility using the methods of the Compressed Gas Association (CGA) publication C-6.2 "Guidelines for visual inspection and requalification of fiber reinforced high pressure cylinders. "Three years after initial hydrostatic test date and then in five year intervals there after.
C	Charge the cylinder after use or if the pressure is below 4000 PSI. Refer to TM 10-4310-503-13&P.
D	Cylinders must be removed from service after 15 years.
E	Refer to the warranty information (Paragraph 1.7) before the component is repaired/replaced.
F	Repair of the Visualert is limited to replacing the batteries.

APPENDIX H
SELF-CONTAINED BREATHING APPARATUS (SCBA)
REPAIR PARTS AND SPECIAL TOOLS LIST (RPSTL)

INTRODUCTION

SCOPE

This RPSTL lists and authorizes spares and repair parts; special tools; special test, measurement, and diagnostic equipment (TMDE); and other special support equipment required for field maintenance of the Self-Contained Breathing Apparatus (SCBA). It authorizes the requisitioning, issue, and disposition of spares, repair parts, and special tools as indicated by the source, maintenance, and recoverability (SMR) codes.

GENERAL

In addition to the Introduction work package, this RPSTL is divided into the following work packages.

1. Repair Parts List Work Packages. Work packages containing lists of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. These work packages also include parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending alphanumeric sequence, with the parts in each group listed in ascending figure and item number sequence. Sending units, brackets, filters, and bolts are listed with the component they mount on. Bulk materials are listed by item name in FIG. BULK at the end of the work packages. Repair parts kits are listed separately in their own functional group and work package. Repair parts for reparable special tools are also listed in a separate work package. Items listed are shown on the associated illustrations.

2. Special Tools List Work Packages. Work packages containing lists of special tools, special TMDE, and special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in the DESCRIPTION AND USABLE ON CODE (UOC) column). Tools that are components of common tool sets and/or Class VII are not listed.

3. Cross-Reference Indexes Work Packages. There are two crossreference indexes work packages in this RPSTL: the National Stock Number (NSN) Index work package and the Part Number (P/N) Index work package. The National Stock Number Index work package refers you to the figure and item number. The Part Number Index work package refers you to the figure and item number.

EXPLANATION OF COLUMNS IN THE REPAIR PARTS LIST AND SPECIAL TOOLS LIST WORK PACKAGES

ITEM NO. (Column (1)). Indicates the number used to identify items called out in the illustration.

SMR CODE (Column (2)). The SMR code containing supply/requisitioning information, maintenance level authorization criteria, and disposition instruction, as shown in the following breakout:

Source Code	**Maintenance Code**		**Recoverability Code**
XX 1st two positions: How to get an item.	XX 3rd position: Who can install, replace, or use the item.	4th position: Who can do complete repair* on the item.	X 5th position: Who determines disposition action on unserviceable items.

*Complete Repair: Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

Source Code. The source code tells you how you get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follow:

Source Code	Application/Explanation
PA PB PC PD PE PF PG	Stock items; use the applicable NSN to requisition/request items with these source codes. They are authorized to the level indicated by the code entered in the 3rd position of the SMR code. **NOTE** Items coded PC are subject to deterioration.
KD KF KB	Items with these codes are not to be requested/requisitioned individually. They are part of a kit which is authorized to the maintenance level indicated in the 3rd position of the SMR code. The complete kit must be requisitioned and applied.
MO-Made at unit/AVUM level MF-Made at DS/AVIM level MH-Made at GS level ML-Made at SRA MD-Made at depot	Items with these codes are not to be requisitioned/requested individually. They must be made from bulk material which is identified by the P/N in the DESCRIPTION AND USABLE ON CODE (UOC) column and listed in the bulk material group work package of the RPSTL. If the item is authorized to you by the 3rd position code of the SMR code, but the source code indicates it is made at higher level, order the item from the higher level of maintenance.
AO-Assembled by unit/AVUM level AF-Assembled by DS/AVIM level AH-Assembled by GS level AL-Assembled by SRA AD-Assembled by depot	Items with these codes are not to be requested/requisitioned individually. The parts that make up the assembled item must be requisitioned or fabricated and assembled at the level of maintenance indicated by the source code. If the 3rd position of the SMR code authorizes you to replace the item, but the source code indicates the item is assembled at a higher level, order the item from the higher level of maintenance.
XA	Do not requisition an "XA" coded item. Order the next higher assembly.(Refer to NOTE below.)
XB	If an item is not available from salvage, order it using the CAGEC and P/N.
XC	Installation drawings, diagrams, instruction sheets, field service drawings; identified by manufacturer's P/N.
XD	Item is not stocked. Order an XD-coded item through normal supply channels using the CAGEC and P/N given, if no NSN is available. **NOTE** Cannibalization or controlled exchange, when authorized, may be used as a source of supply for items with the above source codes except for those items source coded "XA" or those aircraft support items restricted by requirements of AR 750-1.

Maintenance Code. Maintenance codes tell you the level(s) of maintenance authorized to use and repair support items. The maintenance codes are entered in the third and fourth positions of the SMR code as follows:

Third Position. The maintenance code entered in the third position tells you the lowest maintenance level authorized to remove, replace, and use an item. The maintenance code entered in the third position will indicate authorization to the following levels of maintenance:

Maintenance Code	Application/Explanation
C -	Crew or operator maintenance done within unit/AVUM maintenance.
O -	Service maintenance can remove, replace, and use the item.
F -	Field maintenance or Aviation Support Battalion (ASB) can remove, replace, and use the item.
H -	Below depot sustainment can remove, replace, and use the item.
L -	Specialized repair activity can remove, replace, and use the item.
D -	Depot can remove, replace, and use the item.

Fourth Position. The maintenance code entered in the fourth position tells you whether or not the item is to be repaired and identifies the lowest maintenance level with the capability to do complete repair (perform all authorized repair functions).

NOTE

Some limited repair may be done on the item at a lower level of maintenance, if authorized by the Maintenance Allocation Chart (MAC) and SMR codes.

Maintenance Code	Application/Explanation
O -	Organizational/field level is the lowest level that can do complete repair of the item.
F -	Field maintenance or ASB are the lowest levels that can do complete repair of the item.
H -	Below depot sustainment or component repair company are the lowest levels that can do complete repair of the item.
L -	Specialized repair activity (enter specialized repair activity designator) is the lowest level that can do complete repair of the item.
D -	Depot or mobile depot are the lowest levels that can do complete repair of the item.
Z -	Nonrepairable. No repair is authorized.
B -	No repair is authorized. No parts or special tools are authorized for maintenance of "B" coded item. However, the item may be reconditioned by adjusting, lubricating, etc., at the user level.

Recoverability Code. Recoverability codes are assigned to items to indicate the disposition action on unserviceable items. The recoverability code is shown in the fifth position of the SMR code as follows:

Recoverability Code	Application/Explanation
Z -	Nonreparable item. When unserviceable, condemn and dispose of the item at the level of maintenance shown in the third position of the SMR code.
O -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the unit level.

Recoverability Code	Application/Explanation
F -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the field maintenance or ASB level.
H -	Reparable item. When uneconomically reparable, condemn and dispose of the item at the below depot sustainment or component repair company level.
D -	Reparable item. When beyond lower level repair capability, return to depot. Condem nation and disposal of item are not authorized below depot level.
L -	Reparable item. Condemnation and disposal not authorized below Specialized Repair Activity (SRA).
A -	Item requires special handling or condemnation procedures because of specific reasons (such as precious metal content, high dollar value, critical material, or hazardous material). Refer to appropriate manuals/directives for specific instructions.

NSN (Column (3)). The NSN for the item is listed in this column.

CAGEC (Column (4)). The Commercial and Government Entity Code (CAGEC) is a five-digit code which is used to identify the manufacturer, distributor, or Government agency/activity that supplies the item.

PART NUMBER (Column (5)). Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity), which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.

NOTE

When you use an NSN to requisition an item, the item you receive may have a different P/N from the number listed.

DESCRIPTION AND USABLE ON CODE (UOC) (Column (6)). This column includes the following information:

1. The federal item name, and when required, a minimum description to identify the item.

2. P/Ns of bulk materials are referenced in this column in the line entry to be manufactured or fabricated.

3. Hardness Critical Item (HCI). A support item that provides the equipment with special protection from electromagnetic pulse (EMP) damage during a nuclear attack.

4. The statement END OF FIGURE appears just below the last item description in column (6) for a given figure in both the repair parts list and special tools list work packages.

QTY (Column (7)). The QTY (quantity per figure) column indicates the quantity of the item used in the breakout shown on the illustration/figure, which is prepared for a functional group, subfunctional group, or an assembly. A "V" appearing in this column instead of a quantity indicates that the quantity is variable and quantity may change from application to application.

EXPLANATION OF CROSS-REFERENCE INDEXES WORK PACKAGES FORMAT AND COLUMNS

1. National Stock Number (NSN) Index Work Package.

STOCK NUMBER Column. This column lists the NSN in National item identification number (NIIN) sequence. The NIIN consists of the last nine digits of the NSN.

NSN
(e.g., 5385-01-574-1476)
NIIN

When using this column to locate an item, ignore the first four digits of the NSN. However, the complete NSN should be used when ordering items by stock number.

FIG. Column. This column lists the number of the figure where the item is identified/located. The figures are in numerical order in the repair parts list and special tools list work packages.

ITEM Column. The item number identifies the item associated with the figure listed in the adjacent FIG. column. This item is also identified by the NSN listed on the same line.

2. Part Number (P/N) Index Work Package. P/Ns in this index are listed in ascending alphanumeric sequence (vertical arrangement of letter and number combinations which places the first letter or digit of each group in order A through Z, followed by the numbers 0 through 9 and each following letter or digit in like order).

PART NUMBER Column. Indicates the P/N assigned to the item.

FIG. Column. This column lists the number of the figure where the item is identified/located in the repair parts list and special tools list work packages.

ITEM Column. The item number is the number assigned to the item as it appears in the figure referenced in the adjacent figure number column.

Fabrication Instructions. Bulk materials required to manufacture items are listed in the bulk material functional group of this RPSTL. Part numbers for bulk material are also referenced in the Description Column of the line item entry for the item to be manufactured/fabricated. Detailed fabrication instructions for items source coded to be manufactured or fabricated are found in the applicable procedure.

Index Numbers. Items which have the word BULK in the figure column will have an index number shown in the item number column. This index number is a cross-reference between the NSN / P/N index work packages and the bulk material list in the repair parts list work package.

HOW TO LOCATE REPAIR PARTS

1. When NSNs or P/Ns Are Not Known.

First. Using the table of contents, determine the assembly group to which the item belongs. This is necessary since figures are prepared for assembly groups and subassembly groups, and lists are divided into the same groups.

Second. Find the figure covering the functional group or the subfunctional group to which the item belongs.

Third. Identify the item on the figure and note the number(s).

Fourth. Look in the repair parts list work packages for the figure and item numbers. The NSNs and part numbers are on the same line as the associated item numbers.

2. When NSN Is Known.

First. If you have the NSN, look in the STOCK NUMBER column of the NSN index work package. The NSN is arranged in NIIN sequence. Note the figure and item number next to the NSN.

Second. Turn to the figure and locate the item number. Verify that the item is the one you are looking for.

3. When P/N Is Known.

First. If you have the P/N and not the NSN, look in the PART NUMBER column of the P/N index work package. Identify the figure and item number.

Second. Look up the item on the figure in the applicable repair parts list work package.

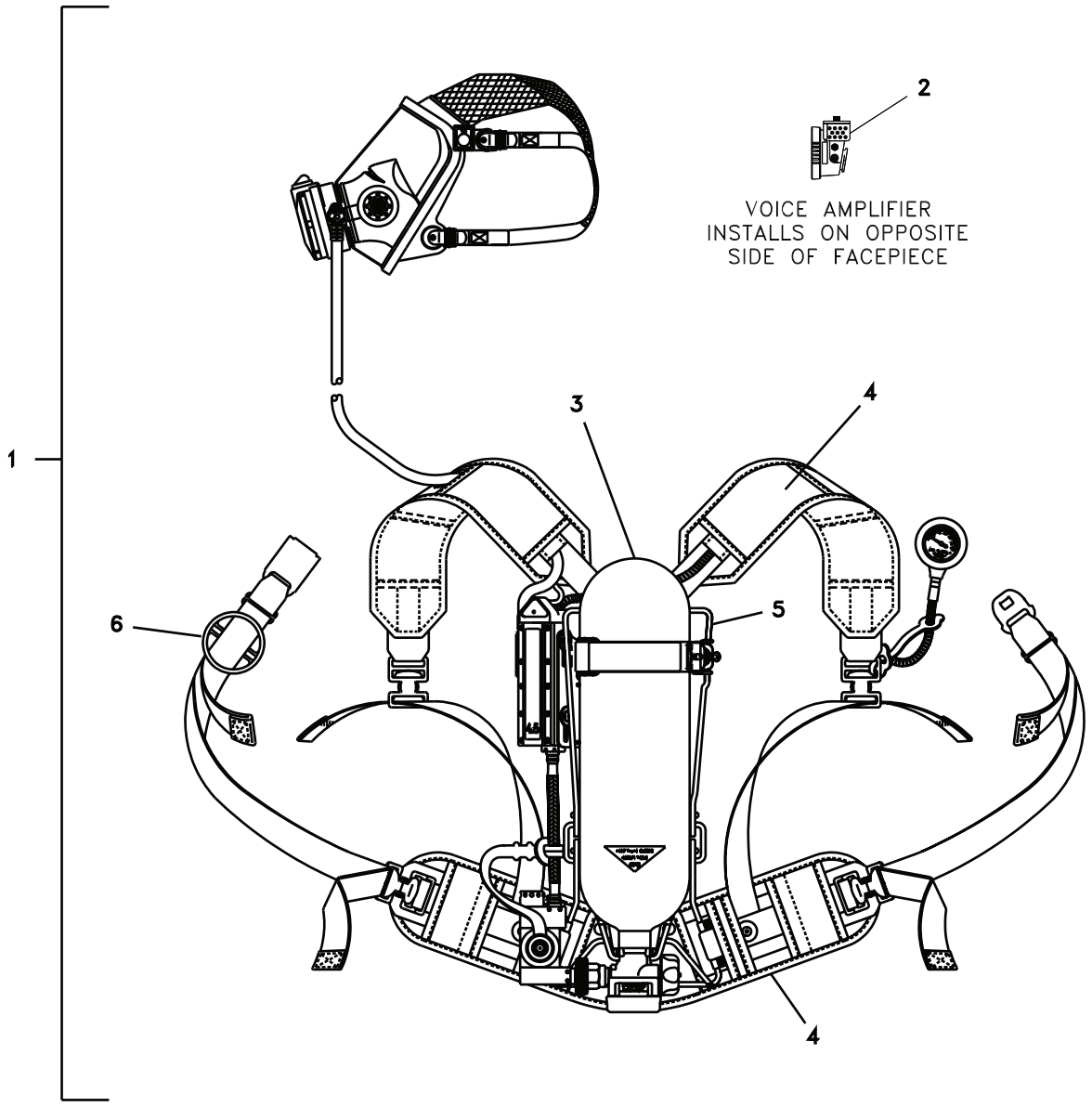


Figure 1. SCBA
Includes Cylinder, Voice Amplifier, and Back Frame and Harness Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUPS 00, 01, 02, and 08	
					FIG. 1 SCBA INCLUDES CYLINDER, VOICE AMPLIFIER, AND BACK FRAME AND HARNESS ASSEMBLY	
1	PFOOO	4240-01-545-9605	15927	804861-3802	BREATHING APPARATUS, SELF-CONTAINED	1
2	PAOZZ	4240-01-439-3958	15927	804564-02	.VOICE AMPLIFIER	1
3	PAOZZ	4240-01-515-7154	15927	804722-01	.CYLINDER,AIR,SELF-CONTAINED BREATHING, 45-MINUTE CARBON-FIBER	1
4	PAOZZ	4240-01-458-2123	15927	803810-04	.HIP SHOULD PAD KIT	1
5	PAOZZ	4220-01-536-4749	15927	804173-02	.BACKPACK, DIVERS EQUIPMENT, BACKFRAME AND HARNESS	1
6	PAOZZ	5340-01-523-4931	15927	10008880	.BRACKET, ANGLE, MASK MOUNTED HOLDER	1
					END OF FIGURE	

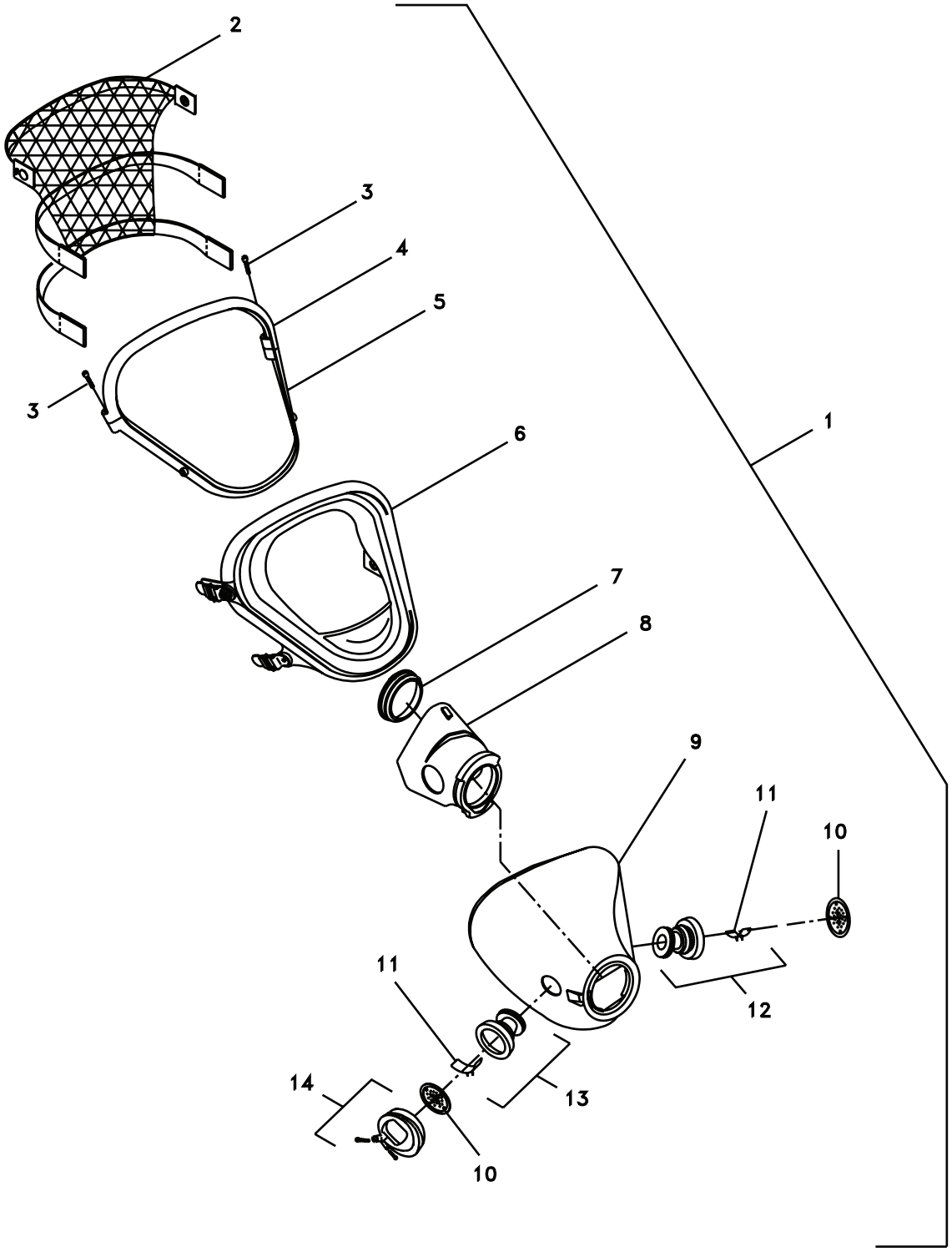


Figure 2. Facepiece

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 03	
					FIG. 2 FACEPIECE	
1	PAOOO	4240-01-526-2398	15927	805773-01	FACEPIECE,BREATHING EQUIPMENT, SMALL	1
1	PAOOO	4240-01-526-2388	15927	805773-02	FACEPIECE,BREATHING EQUIPMENT, MEDIUM.	1
1	PAOOO	4240-01-526-2395	15927	805773-03	FACEPIECE,BREATHING EQUIPMENT, LARGE	1
2	PAOZZ	4240-01-526-2799	15927	805808-01	.SUBASSEMBLY FACE MASK SCBA, KEVLAR, SMALL/MEDIUM	1
2	PAOZZ	4240-01-559-7845	15927	805808-02	.SUBASSEMBLY FACE MASK SCBA, KEVLAR, LARGE	1
3	PAOZZ	5305-01-526-6465	15927	33335-022	.SCREW, CAP, SOCKET HEAD	2
4	PAOZZ	6695-01-526-0673	15927	10011024	.BEZEL, WINDOW MOUNTING, UPPER	1
5	PAOZZ	6695-01-526-0672	15927	10011025	.BEZEL, WINDOW MOUNTING, LOWER	1
6	PFOZZ		15927	805771-01	.FACE SEAL ASSEMBLY, SMALL	1
6	PAOZZ	4240-01-560-3826	15927	805771-02	.FACE SEAL ASSEMBLY, MEDIUM	1
6	PFOZZ	4240-01-560-3822	15927	805771-03	.FACE SEAL ASSEMBLY, LARGE	1
7	PFOZZ	5325-01-559-7843	15927	10011015	.RETAINING, RING	1
8	PFOZZ	4240-01-559-7818	15927	10011011	.SUBASSEMBLY FACE MASK SCBA, NOSECUP SMALL	1
8	PAOZZ	4240-01-526-2781	15927	10011012	.SUBASSEMBLY FACE MASK SCBA, NOSECUP MEDIUM	1
8	PFOZZ	4240-01-559-7810	15927	10011013	.SUBASSEMBLY FACE MASK SCBA, NOSECUP LARGE	1
9	PFOZZ	4240-01-526-2777	15927	805345-01	.SUBASSEMBLY FACE MASK SCBA, LENS	1
10	PAOZZ	4240-01-526-2774	15927	803759-01	.SUBASSEMBLY FACE MASK SCBA, VOICEMITTER	2
11	PAOZZ		15927	10011014	.DISK, VALVE	2
12	PAOZZ	4240-01-526-2786	15927	805339-01	.SUBASSEMBLY FACE MASK SCBA, LEFT VOICEMITTER DUCT	1
13	PAOZZ	4240-01-526-2793	15927	805339-02	.SUBASSEMBLY FACE MASK SCBA, RIGHT VOICEMITTER DUCT	1
14	PAOZZ	5340-01-526-6332	15927	805787-01	.AV3000 AUDIO ACCESS, RIGHT SIDE BRACKET MOUNT	1
					END OF FIGURE	

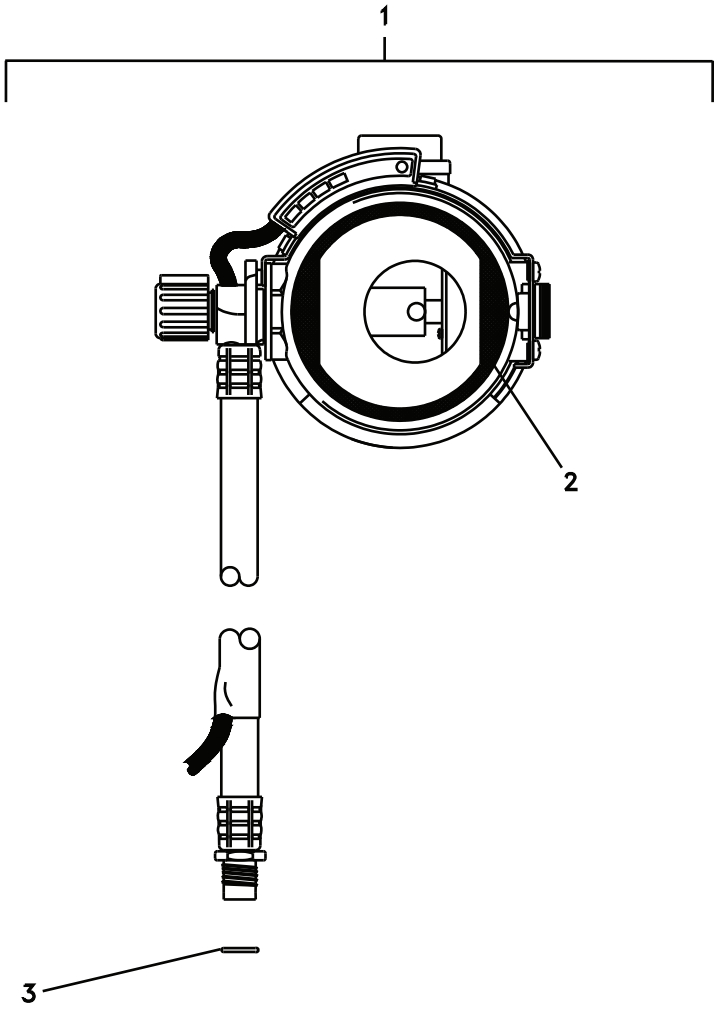


Figure 3. Mask-Mounted Regulator with Heads-Up Display (HUD)

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 04	
					FIG. 3 MASK-MOUNTED REGULATOR WITH HEADS-UP DISPLAY (HUD)	
1	PAOOO	4240-01-526-2958	15927	200077-11	REGULATOR, BREATHING WITH HEADS UP DISPLAY (HUD)	1
2	PAOZZ	4240-01-251-5349	15927	10005368	.GASKET, RESPIRATOR	1
3	PAOZZ	4240-01-251-5353	15927	18002-00	.RING, RESPIRATOR	1
					END OF FIGURE	

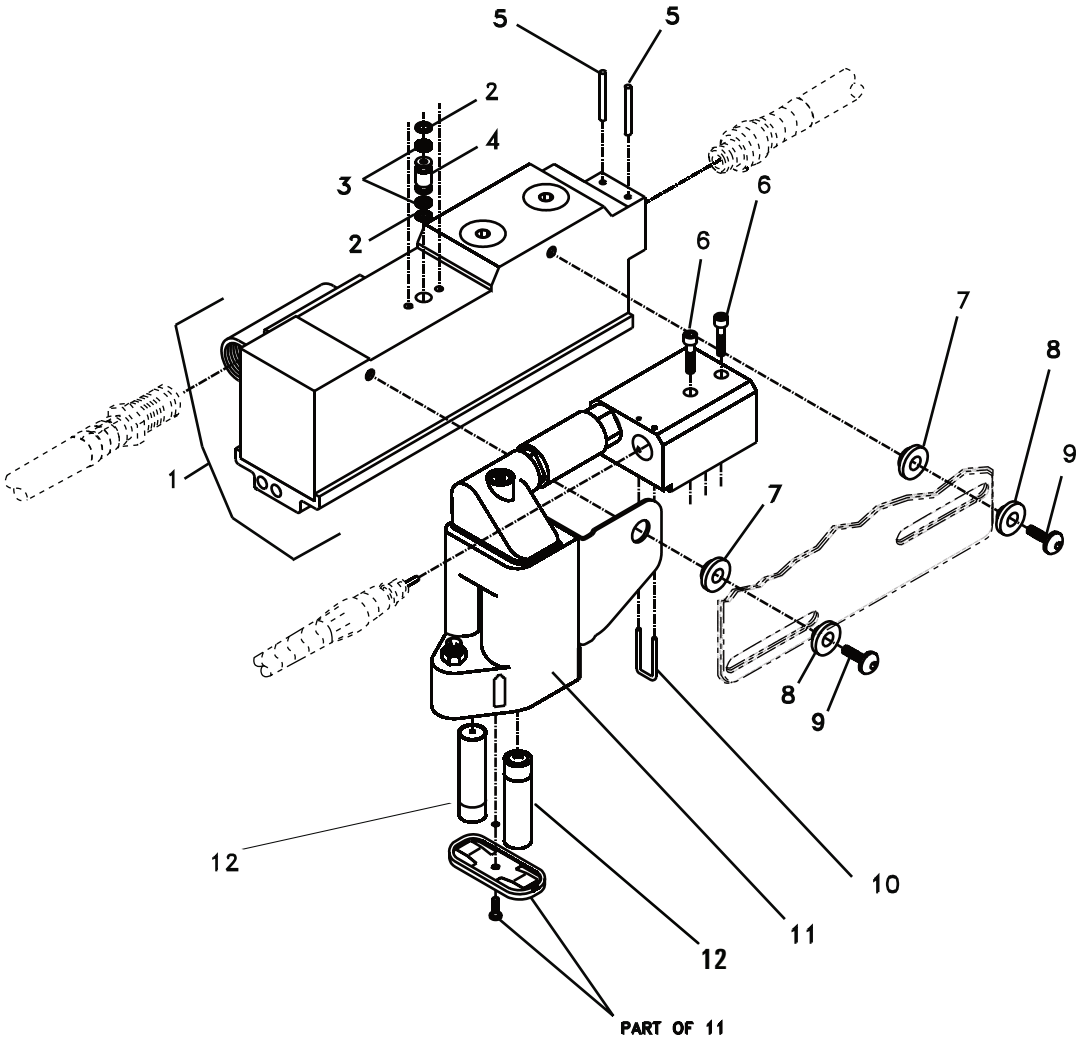


Figure 4. Pressure Reducer and Visualert

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 05	
					FIG. 4 PRESSURE REDUCER AND VISUALERT	
1	PAOOO	4240-01-250-9073	15927	802220-02	REDUCER, PRESSURE, RESPIRATOR	1
2	PFOZZ	5330-01-458-5048	15927	55810-00	.PACKING, PREFORMED	2
3	PFOZZ	5330-01-106-2393	53655	18071-00	.RETAINER, PACKING	2
4	PFOZZ	4240-01-511-0027	15927	10005473	.PROBE, MOUNTING, BREATHING APPARATUS	1
5	PAOZZ	5315-01-458-6875	15927	10007842	.PIN, SPRING	2
6	PAOZZ	5305-01-461-7143	15927	33361-010	.SCREW, CAP, SOCKET HEAD	2
7	PFOZZ	5365-01-559-7870	15927	31000355	.BUSHING, NONMETALLIC	2
8	PFOZZ	5365-01-559-7878	15927	10009256	.BUSHING, NONMETALLIC	2
9	PFOZZ	5305-01-559-7884	15927	31000492	.SCREW, CAP, SOCKET HEAD	2
10	PFOZZ	5340-01-560-3836	15927	31000382	.CLIP, RETAINING	1
11	PAOZZ	6685-01-526-0797	15927	200187-03	INDICATOR, PRESSURE VISUALERT	1
12	XDOZZ	6135-00-985-7845	80204	20-0571-1988 NEDA 15A	.BATTERY, NONRECHARGE	2
					END OF FIGURE	

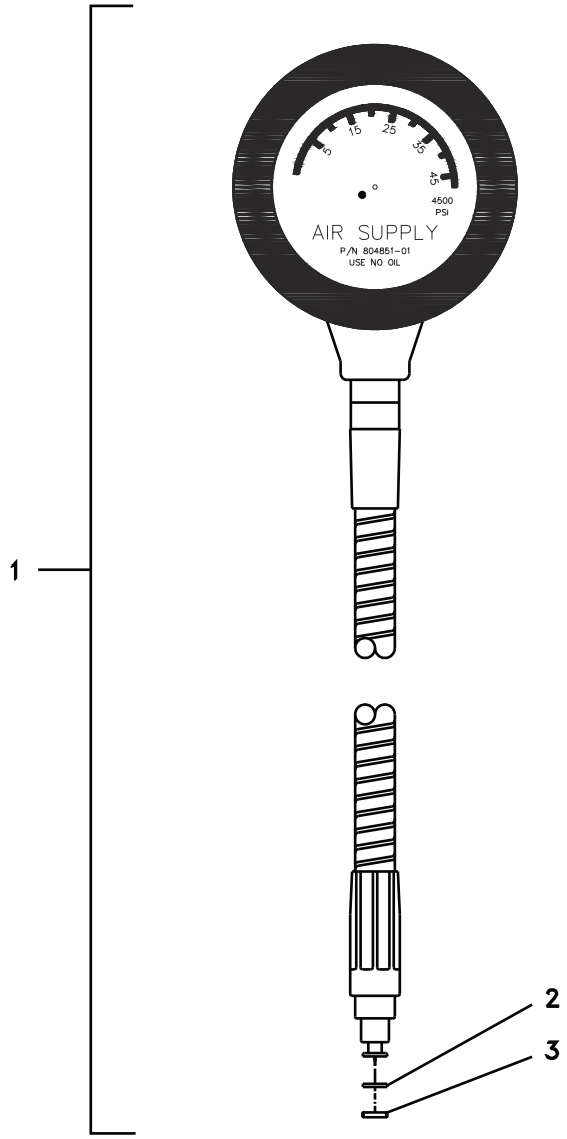


Figure 5. Remote Pressure Indicator

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 06	
					FIG. 5 REMOTE PRESSURE INDICATOR	
1	PAOZZ	4240-01-449-6491	15927	804851-01	LINE ASSY GAGE, REMOTE PRESSURE INDICATOR	1
2	PAOZZ	5330-01-106-2393	53655	18071-00	.RETAINER, PACKING	1
3	PAOZZ	5330-01-458-5048	15927	55810-00	.PACKING, PREFORMED	1
					END OF FIGURE	

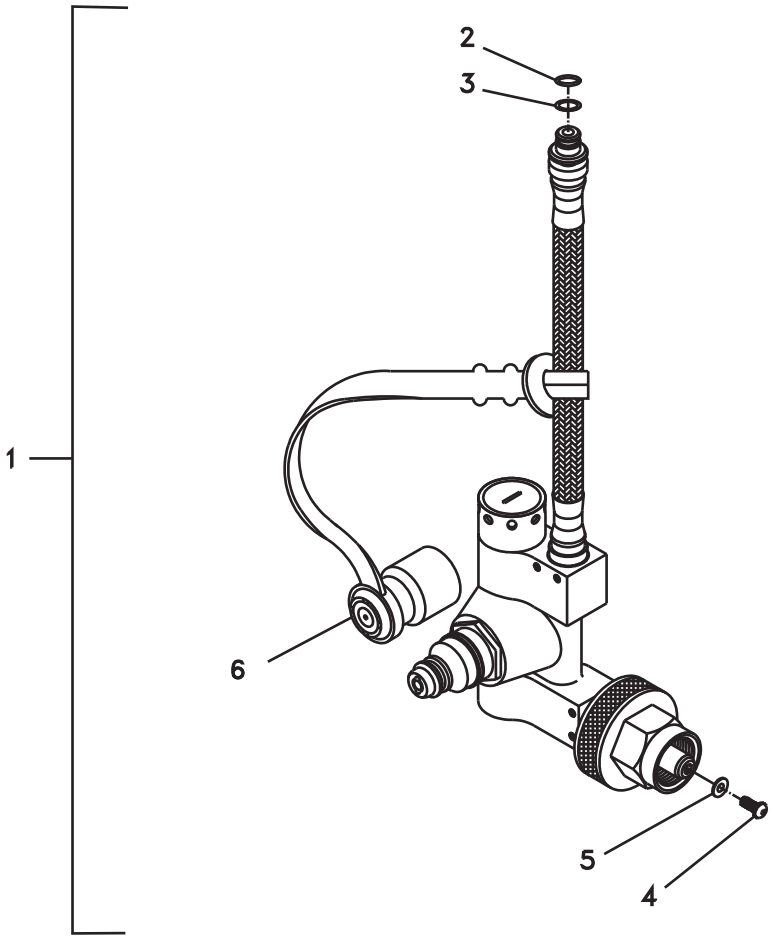


Figure 6. RIC/UAC Assembly

(1) ITEM NO.	(2) SMR CODE	(3) NSN	(4) CAGEC	(5) PART NUMBER	(6) DESCRIPTION AND USABLE ON CODE (UOC)	(7) QTY
					GROUP 07	
					FIG. 6 RIC/UAC ASSEMBLY	
1	PAOOO	4240-01-526-2997	15927	200048-03	SUBASSEMBLY, FACE PLATE, SCBA, RIC UAC	1
2	PAOZZ	5330-01-458-5045	15927	55622-00	.PACKING, PREFORMED	1
3	PAOZZ	5330-01-490-0766	15927	18071-02	.RETAINER, PACKING	1
4	PAOZZ	5306-01-172-9318	53655	10000113	.BOLT, INTERNAL WRENCHING	1
5	PAOZZ	4240-01-251-5372	15927	57264-00	.GASKET, SEAT, RESPIRATOR	1
6	PAOZZ	5340-01-526-6331	15927	10009514	.BOOT, QUICK CHARGE M, RIC UAC DUST CAP	1
					END OF FIGURE	

NATIONAL STOCK NUMBER INDEX

STOCK NUMBER	FIG.	ITEM
6135-00-985-7845	4	12
5330-01-106-2393	4	3
	5	2
5306-01-172-9318	6	4
4240-01-250-9073	4	1
4240-01-251-5349	3	2
4240-01-251-5353	3	3
4240-01-251-5372	6	5
4240-01-439-3958	1	2
4240-01-449-6491	5	1
4240-01-458-2123	1	4
5330-01-458-5045	6	2
5330-01-458-5048	4	2
	5	3
5315-01-458-6875	4	5
5305-01-461-7143	4	6
5330-01-490-0766	6	3
4240-01-511-0027	4	4
4240-01-515-7154	1	3
5340-01-523-4931	1	6
6695-01-526-0672	2	5
6695-01-526-0673	2	4
6685-01-526-0797	4	11
4240-01-526-2388	2	1
4240-01-526-2395	2	1
4240-01-526-2398	2	1
4240-01-526-2774	2	10
4240-01-526-2777	2	9
4240-01-526-2781	2	8
4240-01-526-2786	2	12
4240-01-526-2793	2	13
4240-01-526-2799	2	2
4240-01-526-2958	3	1
4240-01-526-2997	6	1
5340-01-526-6331	6	6
5340-01-526-6332	2	14
5305-01-526-6465	2	3
4220-01-536-4749	1	5
4240-01-545-9605	1	1
4240-01-559-7810	2	8
4240-01-559-7818	2	8
5325-01-559-7843	2	7
4240-01-559-7845	2	2
5365-01-559-7870	4	7
5365-01-559-7878	4	8
5305-01-559-7884	4	9
4240-01-560-3822	2	6
4240-01-560-3826	2	6
5340-01-560-3836	4	10

PART NUMBER INDEX

PART NUMBER	FIG.	ITEM
10000113	6	4
10005368	3	2
10005473	4	4
10007842	4	5
10008880	1	6
10009256	4	8
10009514	6	6
10011011	2	8
10011012	2	8
10011013	2	8
10011014	2	11
10011015	2	7
10011024	2	4
10011025	2	5
18002-00	3	3
18071-00	4	3
	5	2
18071-02	6	3
20-0571-1988 NEDA 15A	4	12
200048-03	6	1
200077-11	3	1
200187-03	4	11
31000355	4	7
31000382	4	10
31000492	4	9
33335-022	2	3
33361-010	4	6
55622-00	6	2
55810-00	4	2
	5	3
57264-00	6	5
802220-02	4	1
803759-01	2	10
803810-04	1	4
804173-02	1	5
804564-02	1	2
804722-01	1	3
804851-01	5	1
804861-3802	1	1
805339-01	2	12
805339-02	2	13
805345-01	2	9
805771-01	2	6
805771-02	2	6
805771-03	2	6
805773-01	2	1
805773-02	2	1
805773-03	2	1
805787-01	2	14
805808-01	2	2
805808-02	2	2

APPENDIX I
SELF-CONTAINED BREATHING APPARATUS (SCBA) ON BOARD SPARES LISTS (OBSL)

INTRODUCTION

SCOPE

This appendix lists the On Board Spares List (OBSL) for the Self-Contained Breathing Apparatus (SCBA). Refer to table 1 for the SCBA OBSL.

GENERAL

The OBSL is a list of required repair parts used to perform routine maintenance and repair of the SCBA. These items must be replaced when used.

EXPLANATION OF COLUMNS IN THE OBSL LIST

Column (1) Item Number. Gives you the number of the item.

Column (2) National Stock Number (NSN). Identifies the stock number of the item to be used for requisitioning purposes.

Column (3) Description, CAGEC, and Part Number. Identifies the Federal item name (in all capital letters) followed by a minimum description when needed. The last line below the description is the CAGEC (Commercial and Government Entity Code) (in parentheses) and the part number.

Column (4) Usable On Code. When applicable, gives you a code if the item you need is not the same for different models of equipment.

Column (5) Unit of Issue (U/I). Indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (2).

Column (6) Qty Rqr. Indicates the quantity required.

Table 1. On Board Spares List (LSV, LCU, and LT)

(1) ITEM NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/I	(6) QTY RQR
1	5306-01-172-9318	BOLT, INTERNAL WRENCHING (58655) 10000113	CBA	EA	1
2	4240-01-251-5372	GASKET, SEAT, RESPIRATOR (15927) 57264-00	CBA	EA	1
3	5330-01-458-5045	PACKING, PREFORMED (15927) 55622-00	CBA	EA	1
4	5330-01-458-5048	PACKING, PREFORMED (15927) 55810-00	CBA	EA	1
5	5315-01-458-6875	PIN, SPRING (15927) 10007842	CBA	EA	1
6	4240-01-511-0027	PROBE, MOUNTING, BREATHING APPARATUS (15927) 10005473	CBA	EA	1
7	5330-01-106-2393	RETAINER, PACKING (53655) 18071-00	CBA	EA	2
8	5330-01-490-0766	RETAINER, PACKING (15927) 18071-02	CBA	EA	7
9	4240-01-251-5353	RING, RESPIRATOR (15927) 18002-00	CBA	EA	1
10	5305-01-461-7143	SCREW, CAP, SOCKET HEAD (15927) 33361-010	CBA	EA	1

Table 2. On Board Spares List (ST and Barge Derrick)

(1) ITEM NUMBER	(2) NATIONAL STOCK NUMBER	(3) DESCRIPTION CAGEC, AND PART NUMBER	(4) USABLE ON CODE	(5) U/I	(6) QTY RQR
1	4240-01-251-5372	GASKET, SEAT, RESPIRATOR (15927) 57264-00	CBA	EA	1
2	5330-01-458-5045	PACKING, PREFORMED (15927) 55622-00	CBA	EA	1
3	5330-01-458-5048	PACKING, PREFORMED (15927) 55810-00	CBA	EA	1
4	5330-01-490-0766	RETAINER, PACKING (15927) 18071-02	CBA	EA	3
5	5330-01-106-2393	RETAINER, PACKING (53655) 18071-00	CBA	EA	1

APPENDIX J
SELF-CONTAINED BREATHING APPARATUS (SCBA)
EXPENDABLE AND DURABLE ITEMS LIST (EDIL)

INTRODUCTION

SCOPE

This appendix lists expendable and durable items that you will need to operate and maintain the Self-Contained Breathing Apparatus (SCBA). This list is for information only and is not authority to requisition the listed items. These items are authorized to you by CTA 50-970, Expendable/Durable Items (Except Medical, Class V Repair Parts, and Heraldic Items), or CTA 8-100, Army Medical Department Expendable/Durable Items.

EXPLANATION OF COLUMNS IN THE EXPENDABLE/DURABLE ITEMS LIST

Column (1) Item Number. This number is assigned to the entry in the list and is referenced in the narrative instructions to identify the item (e.g., "Use brake fluid (item 5, Appendix J).").

Column (2) Level. This column identifies the lowest level of maintenance that requires the listed item (include as applicable: C = Operator/Crew, O = Unit, F = Field Support, H = Below Depot, D = Depot).

Column (3) National Stock Number (NSN). This is the NSN assigned to the item, which you can use to requisition it.

Column (4) Item Name, Description, Commercial and Government Entity Code (CAGEC), and Part Number (P/N). This column provides the other information you need to identify the item.

Column (5) Unit of Issue (U/I). Indicates the physical measurement or count of the item as issued per the National Stock Number shown in column (3).

Table 1. Expendable and Durable Items List

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/I
1	C	6135-00-900-2139	BATTERY, NONRECHARGEABLE (C5810) 8312196	PG
2	C	6135-00-985-7845	BATTERY, NONRECHARGEABLE (80204) 20-0571-1988-NEDA 15A	PG
3	C	7920-00-044-9281	CLOTH, CLEANING (58536) A-A-59323	BX
4	C	6850-00-621-1820	COMPOUND, LEAK DETECTION, MIL-L-25667D, TYPE 1 (81349) MIL-PRF-25567E	BT
5	C	6840-00-782-2691	DISINFECTANT, GENERAL PURPOSE, DETERGENT (58536) A-A-1440	BX
6	C	8415-00-266-8679	GLOVES, RUBBER, INDUSTRIAL (81349) MIL-DTL-32066	PR
7	C	4240-01-169-9070	GOGGLES, INDUSTRIAL, NON-VENTED (77852) 88110	PR
8	C	9150-00-257-5358	GREASE, SILICONE, INSULATED ELECTRICAL (81340) MIL-L-15719	TU
9	C	6515-00-982-7493	MASK, SURGICAL (0TS02) 1800	PG
10	C	7330-00-272-7876	MEASURING, SET SPOON (01653) 2425	EA
11	C	7240-00-246-1097	PAIL, UTILITY, PLASTIC 3 GL (0HFR0) 7240-00-246-1097	EA
12	C	7920-00-205-1711	RAG, WIPING (64067) 7920-00-205-1711	BE
13	C	5110-01-515-2845	SCRAPER, SEALANT (00CM1) GTP530-A	EA
14	C	8030-01-055-6126	SEALING COMPOUND, LOCKTITE, GRADE 222 (05972) 22241	BT
15	C	6810-00-598-7316	SODIUM HYPOCHLORITE SOLUTION (80244) 6810-00-598-7316	BX

Table 1. Expendable and Durable Items List (continued)

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER (NSN)	(4) ITEM NAME, DESCRIPTION, CAGEC, AND PART NUMBER	(5) U/I
16	C	7920-00-240-2559	SPONGE (83421) 7920-00-240-2559	PG
17	C	8135-00-178-9151	TAG, SHIPPING (58536) A-A-900	HD
18	C	7510-00-266-6707	TAPE, PRESSURE SENSITIVE ADHESIVE (76381) 232 3 IN	RO
19	C	6685-00-802-9270	THERMOMETER, SELF INDICATING, 0-180 DEG FAR (1DWRD) 6-01439	EA
20	C	7920-01-177-3633	TOWEL, MACHINERY WIPING (5U446) 33350	BX

SELF-CONTAINED BREATHING APPARATUS (SCBA)
ALPHABETICAL INDEX

Subject **Page Number**

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Subject **Page Number**

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P

R

These are the instructions for sending an electronic 2028.

The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however, only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17 and 27.

From: "Whomever" whomever@avma27.army.mil
To: whomever@avma27.army.mil
To: TACOM-TECH-PUBS@ria.army.mil

Subject: DA Form 2028

1. ***From:*** Joe Smith
2. ***Unit:*** home
3. ***Address:*** 4300 Park
4. ***City:*** Hometown
5. ***St:*** MO
6. ***Zip:*** 77777
7. ***Date Sent:*** 19-OCT-93
8. ***Pub no:*** 55-1915-200-10
9. ***Pub Title:*** TM
10. ***Publication Date:*** 11-APR-88
11. ***Change Number:*** 12
12. ***Submitter Rank:*** MSG
13. ***Submitter Fname:*** Joe
14. ***Submitter Mname:*** T
15. ***Submitter Lname:*** Smith
16. ***Submitter Phone:*** 123-123-1234
17. ***Problem:*** 1
18. ***Page:*** 1
19. ***Paragraph:*** 3
20. ***Line:*** 4
21. ***NSN:*** 5
22. ***Reference:*** 6
23. ***Figure:*** 7
24. ***Table:*** 8
25. ***Item:*** 9
26. ***Total:*** 123
27. ***Text:***

This is the text for the problem below line 27.

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.	Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE Date you filled out this form.
TO: *(Forward to proponent of publication or form) (Include ZIP Code)* AMSTA-LC-LMPP / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	FROM: *(Activity and location) (Include ZIP Code)* Your mailing address	

PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	Title
TM 10-4240-343-13&P	04 Apr 08	Self-Contained Breathing Apparatus (SCBA) (45-minute)

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).
						SAMPLE

**Reference to line numbers within the paragraph or subparagraph.*

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	Signature
Your Name		*Your Signature*

DA FORM 2028, FEB 74 REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED. USAPPC V3.00

TO: (Forward direct to addressee listed in publication)	FROM: (Activity and location) (Include ZIP Code)	DATE
AMSTA-LC-LMPP / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	Your address	Date you filled out this form

PART II – REPAIR PARTS AND SPECIAL TOOL LISTS AND SUPPLY CATALOGS/SUPPLY MANUALS

PUBLICATION NUMBER	DATE	TITLE
TM 10-4240-343-13&P	04 Apr 08	Self-Contained Breathing Apparatus (SCBA)

PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMMENDED ACTION

SAMPLE

PART III – REMARKS **(Any general remarks or recommendations, or suggestions for improvement of publications and blank forms. Additional blank sheets may be used if more space is needed.)**

TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE
Your Name		Your Signature

USAPPC V3.00

RECOMMENDED CHANGES TO PUBLICATIONS AND BLANK FORMS For use of this form, see AR 25-30; the proponent agency is ODISC4.	Use Part II (reverse) for Repair Parts and Special Tool Lists (RPSTL) and Supply Catalogs/Supply Manuals (SC/SM).	DATE
TO: (Forward to proponent of publication or form)(Include ZIP Code) AMSTA-LC-LMPP / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	FROM: (Activity and location) (Include ZIP Code)	

PART I – ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER	DATE	TITLE
TM 10-4240-343-13&P	04 Apr 08	Self-Contained Breathing Apparatus (SCBA) (45 Minute)

ITEM NO.	PAGE NO.	PARA-GRAPH	LINE NO. *	FIGURE NO.	TABLE NO.	RECOMMENDED CHANGES AND REASON (Provide exact wording of recommended changes, if possible).

TYPED NAME, GRADE OR TITLE	**Reference to line numbers within the paragraph or subparagraph.* TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

DA FORM 2028, FEB 74 REPLACES DA FORM 2028, 1 DEC 68, WHICH WILL BE USED. USAPPC V3.00

TO: (Forward direct to addressee listed in publication) AMSTA-LC-LMPP / TECH PUBS, TACOM-RI 1 Rock Island Arsenal Rock Island, IL 61299-7630	FROM: (Activity and location) (Include ZIP Code)	DATE

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TYPED NAME, GRADE OR TITLE	TELEPHONE EXCHANGE/AUTOVON, PLUS EXTENSION	SIGNATURE

USAPPC V3.00

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army

0807002

Distribution: To be distributed in accordance with the initial distribution number (IDN) 256953, requirements for TM 10-4240-343-13&P.

Metric Conversion Factors

Mc x F = Cf		
Measurement to be Converted (Mc)	Factor (F)	Converted Measurement (Cf)
Meters (m)	x 39.37	= Inches (in.)
Meters (m)	x 3.281	= Feet (ft)
Meters (m)	x 1.094	= Yards (yd)
Inches (in.)	x 25.40	= Millimeters (mm)
Inches (in.)	x 2.54	= Centimeters (cm)
Inches (in.)	x 0.0254	= Meters (m)
Inches (in.)	x 25400	= Micrometers (µm)
Feet (ft)	x 0.305	= Meters (m)
Square feet (ft^2)	x 0.093	= Square meters (m^2)
Foot-Pounds	x 1.35582	= Newton meters (N m)
Newton meters (N m)	x 0.73756	= Foot Pounds
Yards (yd)	x 0.914	= Meters (m)
Square yards (yd^2)	x 0.836	= Square meters (m^2)
Square Inches (in^2)	x 6.452	= Square Centimeters (cm^2)
Cubic Inches (in^3)	x 16.39	= Cubic Centimeters (cm^3)
Cubic Centimeters (cm^3)	x 0.061	= Cubic Inches (in^3)
Cubic Feet (ft^3)	x 0.028	= Cubic Meters (cm^3)
Gallons (gal)	x 3.785	= Liters (L)
Liters (L)	x 0.2642	= Gallons (gal)
Kilometers (km)	x 0.5397	= Nautical miles (nmi)
Meters (m)	x 0.0005397	= Nautical miles (nmi)
Nautical miles (nmi)	x 1.853	= Kilometers (km)
Fluid Ounces (oz)	x 29.574	= Milliliters (mL)
Pounds (lb)	x 0.4536	= Kilograms (kg)
Kilograms (kg)	x 2.2046	= Pounds (lb)
Kilopascals (kPa)	x 0.145	= Pounds (lb) per Square Inch (psi)
Pounds per Square Inch (psi)	x 6.895	= Kilopascals (kPa)
Degrees Centigrade (°C)	(°C x 1.8) + 32	= Degrees Fahrenheit (°F)
Degrees Fahrenheit (°F)	(°F-32) ÷ 1.8	= Degrees Centigrade (°C)
Bar	x 14.5	= Pounds per Square Inch (psi)
Pounds per Square Inch (psi)	x 0.06894	= Bar
Horsepower (hp)	x 0.746	= Kilowatt (kW)
Kilowatt (kW)	x 1.341	= Horsepower (hp)

PIN: 084694-000