MSA
The Safety Company

Operating Manual

G1 SCBA 2018 Edition

NIOSH CBRN/NFPA

Order No.: 10187007/03

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CR: 800000056631

⚠ WARNING!

These instructions must be provided to users before use of the product and retained for ready reference by the user. Read this manual carefully before using or maintaining the device. The device will perform as designed only if it is used and maintained in accordance with the manufacturer's instructions. Otherwise, it could fail to perform as designed, and persons who rely on this device could sustain serious injury or death.

The warranties made by MSA with respect to the product are voided if the product is not installed and used in accordance with the instructions in this manual. Please protect yourself and your employees by following the instructions.

Please read and observe the WARNINGS and CAUTIONS inside. For additional information relative to use or repair, call 1-800-MSA-2222 during regular working hours.

For alternate languages, refer to part number 10195365.

MSA
The Safety Company

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For your local MSA contacts, please go to our website www.MSAsafety.com

Contents

1 Safety Regulations

This SCBA complies with the National Institute for Occupational Safety and Health (NIOSH) regulation under 42 CFR Part 84 for open-circuit self-contained breathing apparatus, the National Fire Protection Association (NFPA) Standard 1981 on Open-Circuit-Self-Contained Breathing Apparatus (SCBA) for Emergency Services, and the NFPA Standard 1982 on Personal Alert Safety Systems (PASS).

1.1 NIOSH Approval Information

⚠ WARNING!

Read and obey all NIOSH approval limitations.

Failure to follow this warning can result in serious personal injury or death.

This pressure-demand, self-contained breathing apparatus (SCBA) is certified by NIOSH for use in atmospheres immediately dangerous to life or health (IDLH):

“Immediately dangerous to life or health” means conditions that pose an immediate threat to life or health or conditions that pose an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have adverse cumulative or delayed effects on health (42 CFR Part 84.2 Q).

1.1.1 Certifying Agency Contact Information

National Institute for Occupational Safety and Health (NIOSH)

Phone: 800-CDC-4636

1.1.2 NIOSH Cautions and Limitations

D- Airline Respirators can be used only when the respirators are supplied with respirable air meeting the requirements of CGA G-7.1 Grade D or higher quality.

J- Failure to properly use and maintain this product could result in injury or death.

M- All approved respirators shall be selected, fitted, used and maintained in accordance with MSHA, OSHA and other applicable regulations.

N- Never substitute, modify, add or omit parts. Use only exact replacement parts in the

configuration as specified by the manufacturer.

O- Refer to User Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.

S- Special or critical User Instructions and/or specific use limitations apply. Refer to user instructions before donning.

1.1.3 NIOSH S - Special or Critical User Instructions

- Approved for use at temperatures above -25°F (-32°C).
- Approved only when the compressed-air cylinder is fully charged with air meeting the requirements of CGA G-7.1, Section 2.1, Quality Verification Levels (Grades) D, or equivalent specifications.
- In fire service applications, MSA recommends breathing air quality in accordance with NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection. The cylinder shall meet applicable Department of Transportation (DOT) specifications.
- Do not alter this SCBA. Alteration will void the Intrinsic Safety rating and may affect the intrinsic safety of the device. Misuse or abuse of the heads-up display (HUD), control module, power module, or speaker module, or using this equipment in a manner or situation not intended by the manufacturer, may result in damage to the HUD, control module, power module, or speaker module, and personal injury or death to the user or persons dependent on the user. Always examine the HUD, control module, power module, and speaker module for damage before use. If damage is found, immediately remove the device from service. The HUD, control module, power module, and speaker module are approved intrinsically safe and conform to UL 913 6th edition, Class I, Division 1, Groups C and D, Temperature Rating T1.
- Use the SCBA with adequate skin protection in conditions where gases and vapors that poison by skin absorption (for example, hydrocyanic-acid gas) exist.
- Approval for use against CBRN chemical warfare agents is maintained only when using approved components and following instructions listed on the NIOSH approval matrix (P/N 10187241).
- For non-CBRN applications see Approval Insert (P/N 10187230).
- Do not mark the SCBA with stamps, labels, paint, or other methods. Use of such markings may interfere with apparatus use or constitute a flammability hazard.

1.1.4 Important Notice for Respirator Users and Respiratory Protection Program Administrators

⚠ WARNING!

Firefighter Overhaul Operations: Continue to wear the SCBA (on air) in post-fire environments unless atmospheric monitoring determines that it is unnecessary. The atmosphere can contain carcinogens and other toxic contaminants at unknown concentrations as unburned products of combustion continue to smolder.

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1. Before occupational use of this respirator, a written respiratory protection program must be implemented meeting all the local government requirements. In the United States, employers must comply with OSHA 29 CFR 1910.134 which includes medical evaluation, training, and fit testing.
2. An adequate respiratory protection program must include knowledge of hazards, hazard assessment, selection of proper respiratory protective equipment, instruction and training in the use of equipment, inspection and maintenance of equipment, and medical surveillance. Refer to OSHA 29 CFR, Part 1910.134 (c).
3. This SCBA may be used only after proper instruction and training in its use as specified in NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, and OSHA 29 CFR Part 1910.134, Respiratory Protection Standard.

4. Make sure that other equipment does not interfere with the respirator facial seal, the user's ability to operate the respirator, or other necessary means of mobility.

1.1.5 Cautions and Limitations of Emergency Breathing Support Systems (EBSS)

- Activation or engagement of EBSS in either the donor or receiver mode changes the SCBA use to Escape-Only. Approved service time for either the donor, or the receiver is no longer applicable.
- EBSS may not be engaged or activated in donor mode after the donor End-of-Service-Time-Indicator (EOSTI) has activated.
- Users must be fully trained in the operation of EBSS in accordance with a training program conforming to the requirements of NFPA Standards 1404, Fire Service Respiratory Protection Training and 1500, Fire Department Occupational Safety and Health Program.
- Simultaneous connection of more than two users, one donor and one receiver, is not permitted. SCBAs operated in EBSS mode are approved for escape only.
- Entry approval only restored after re-charge, either host or donor.
- Connection not to be established after donor/host EOSTI activation.
- Limited to one donor/receiver (host/parasite) pair. Not suitable for connection in CBRN environment.

1.2 MSA CBRN Approval Information

⚠ WARNING!

- Do NOT use the SCBA without the correct training and a complete understanding of its limitations. Misuse can prevent the SCBA from supplying the necessary protection.
- The SCBA is approved by NIOSH for respiratory protection against atmospheres containing chemical, biological, radiological, and nuclear (CBRN) warfare agents. However, the SCBA cannot protect against all possible warfare agents.
- Use the SCBA with the applicable personal protective equipment and clothing necessary to supply protection against dermal hazards.
- Exposure to some CBRN agents may not show immediate effects, but can result in delayed impairment, illness, or death.
- CBRN agents may NOT be identified by smell or sight. Don the respirator before going into an area that may contain a CBRN agent. Obey the procedures set by the applicable authorities.
- Do NOT use the SCBA after initial exposure to chemical warfare agents to prevent the possibility of agent permeation.

Failure to obey these warnings, in addition to all instructions and protective measures for CBRN agents, can result in serious personal injury or death.

This SCBA has been designated by NIOSH as CBRN (chemical, biological, radiological, and nuclear) agent approved. This SCBA complies with the special tests under NIOSH 42 CFR 84.63(c); Chemical Agent Permeation and Penetration Resistance against Distilled Sulfur Mustard (HD) and Sarin (GB) and the Laboratory Respirator Protection Level (LRPL) tests.

1.2.1 NIOSH Cautions and Limitations of Use for CBRN (Chemical, Biological, Radiological, Nuclear) SCBA

Q– Use in conjunction with personal protective ensembles that provide appropriate levels of protection against dermal hazard.

R– Some CBRN agents may not present immediate effects from exposure, but, can result in delayed impairment, illness, or death.

T– Direct contact with CBRN agents requires proper handling of the respirator after each use and between multiple entries during the same use. Decontamination and disposal procedures must be followed. If contaminated with liquid chemical warfare agents, dispose of the respirator after decontamination.

U– The respirator should not be used beyond 6 hours after initial exposure to chemical warfare agents to avoid the possibility of agent permeation.

1.3 NFPA Approval Information

The MSA G1 SCBA meets the requirements of NFPA 1981-2018, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, when configured in accordance with the NFPA approval. When the SCBA is equipped with power and control modules, the SCBA meets the requirements of NFPA 1982-2018, Standard on Personal Alert Safety Systems (PASS), when configured in accordance with the NFPA approval. The MSA G1 SCBA must be used in accordance with NFPA 1500-2018, Standard on Fire Department Occupational Safety and Health Program, to maintain the requirements of NFPA 1981.

The certification agency for NFPA-compliant SCBA used by MSA is the Safety Equipment Institute (SEI). For clarification about your NFPA-compliant version of this SCBA or to report any operational malfunction, contact SEI:

Safety Equipment Institute (SEI)
Certifying Agency Contact Information

1307 Dolley Madison Blvd
Suite 3A
McLean, VA 22101

Phone: (703) 442-5732
Fax: (703) 442-5756

1.4 FCC Approval

This device complies with 47 CFR Part 15, Radio Frequency Devices. Operation is subject to the following conditions:

1. This device may not cause harmful interference and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: The G1 HUD, control module, power module, or speaker module have been tested and found to comply with the limits for a Class B digital device, pursuant to 47 CFR Part 15, Radio Frequency Devices. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency and, if not installed in accordance with instructions, may cause harmful interference to radio communications.

NOTICE

Changes or modifications not expressly approved by MSA could void the user's authority to operate the equipment.

1.5 Intrinsic Safety Approval Information

The MSA G1 SCBA equipped with a regulator with HUD, battery, power module, speaker module, and control module are intrinsically safe and conform to UL 913, 6th edition, Class I, Division 1, Groups C and D, Temperature Rating T1.

Do not alter this SCBA. Alteration will void the Intrinsic Safety rating and may affect the intrinsic safety of the device. Misuse or abuse of the HUD, control module, power module, or speaker module, or using this equipment in a manner or situation not intended by the manufacturer, may result in damage to the HUD, control module, power module, or speaker module, and may result in personal injury or death to the user or persons dependent on the user. Always examine the HUD, control module, power module, or speaker module for damage before use. If damage is found, immediately remove the device from service. Use only batteries specified within this manual to stay compliant with the intrinsic safety approval.

1.6 Industry Canada Statement

This device complies with RSS-210, Licence-Exempt Radio Apparatus: Category I Equipment. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-210 d'Industrie Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable.

1.7 References

For more information on the SCBA use and performance standards, consult the following publications:

- ANSI Z88.2, Latest edition, Practices for Respiratory Protection, American National Standards Institute, https://webstore.ansi.org/Info/Sdolist (This standard is superseded by ASTM F3387)
- ASTM F3387, Latest edition, Standard Practices for Respiratory Protection, ASTM International https://www.astm.org/Standards/F3387.htm? (ASTM F3387 formerly known as ANSI Z88.2)
- CGA C-6-2, Standard for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders, Compressed Gas Association, Inc., https://www.cganet.com/
- CGA G-7.1, Commodity Specification for Air, Compressed Gas Association, Inc., https://www.cganet.com/
- ISO 2230, Rubber Products – Guidelines for Storage, International Organization for Standardization, https://www.iso.org/store.html
- NFPA 1404, Standard for Fire Service Respiratory Protection Training, National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- NFPA 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- NFPA 1982, Standard on Personal Alert Safety Systems (PASS), National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection, National Fire Protection Association, https://www.nfpa.org/Codes-and-Standards
- Title 29 CFR Part 1910, Occupational Safety and Health Standards, Superintendent of Documents, US Government Printing Office, https://www.osha.gov/law-regs.html
- Title 29 CFR Part 1910.134, Respiratory Protection Standard, Superintendent of Documents, US Government Printing Office, https://www.osha.gov/law-regs.html

- Title 47 CFR Part 15, Radio Frequency Devices, Superintendent of Documents, US Government Printing Office, https://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title47/47cfr15_main_02.tpl
- UL 913, 6th edition, Standard for Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, III, Division 1, Hazardous (Classified) Locations, https://standardscatalog.ul.com/
- RSS-210, Licence-Exempt Radio Apparatus: Category I Equipment, Innovation, Science and Economic Development, https://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/h_sf06129.html
- Title 42, Code of Federal Regulations, Part 84, dated June 8, 1995; https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=c9c15fd462ffe5c4f4e85b73f161b2e0&r=PART&n=42y1.0.1.7.67

1.8 Contact Information

For product concerns, contact your local MSA authorized repair center or distributor, who will provide the necessary information to MSA for issue resolution.
To report any serious concerns or to inquire about the products, use the following contact information:

MSA North America Corporate Center	MSA Canada	MSA de Mexico, S A De C V
1000 Cranberry Woods Drive Cranberry Township, PA 16066 Phone 1-800-MSA-2222 Fax 1-800-967-0398	16435 118th Avenue Edmonton AB T5V 1H2 Phone 1-800-MSA-2222 Fax 1-800-967-0398	Fraccionamiento Industrial Avenida Del Conde #6 76240 El Marques, Queretaro Phone 01 800 672 7222 Fax +52-44 2227 3943

2 Description

The G1 SCBA, referred to hereafter as SCBA, is an open-circuit, pressure-demand, self-contained breathing apparatus (SCBA). Breathable air is supplied to the user from a self-contained compressed air cylinder. The SCBA includes a broad range of facepiece, regulator, carrier, harness, and cylinder options.

The integrated personal alert safety system (PASS) provides the user with the ability to monitor movement through a motion sensor. When a user remains motionless for 30 seconds, the PASS device goes into full alarm to alert those around the user. The PASS device also monitors cylinder pressure and battery status.

The G1 SCBA has the following components:

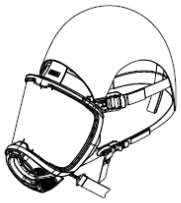
- Facepiece
- Regulator
- Heads-up display (HUD) (part of both facepiece and regulator)
- Pressure reducer with primary low-pressure warning device
    - Rapid intervention crew/company universal air connection (RIC UAC)
- Cylinder and cylinder valve assembly
- PASS Device
    - Control module
    - Power module
    - Battery module
    - Firmware
- Carrier and harness assembly

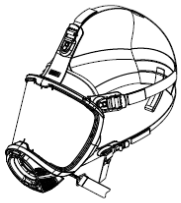
Optional components:

- ExtendAire II™ Universal Emergency Breathing Safety Systems (UEBSS) system
- Remote Quick-Fill® system
- Quick-Fill Pouch
- Telemetry module
- Rescue Belt II system
- Integrated thermal imaging camera (TIC)
- Speaker module
- Spectacle kit

2.1 Facepiece

The facepiece and nosecup are available in three sizes (small, medium, large). The facepiece includes a large lens to optimize field of view and a mechanical speech diaphragm to enhance speech communication. When the facepiece is not connected to a regulator, an opening in the facepiece connection lets airflow bypass the inhalation and exhalation valves, which decreases breathing resistance and further enhances speech communication. The facepiece includes a broad range of head harness designs and material options. An optional spectacle kit is available.





2.2 Regulator

The regulator connects to the facepiece with a push-to-connect (PTC) connection. The regulator connection includes two independent release buttons.

The regulator is available with two cover options (purge, solid). The purge cover lets users activate the regulator or deliver a quick burst of air manually.

The regulator includes a bypass valve with a large and easily accessible bypass knob and an electronic module that provides functionality for HUD and electronic voice communications.

The regulator hose is available in two options: continuous and quick-connect. The continuous hose provides an uninterrupted connection from the pressure reducer to the regulator. The quick-connect hose includes a connection positioned on the chest to provide a hose separation point to simplify regulator removal for testing and repair.

2.3 Heads-Up Display (HUD)

The HUD is integrated into the regulator and projects light into the facepiece. The HUD lets users see the cylinder pressure and alarm status while wearing the SCBA. The HUD receives power and information about the SCBA and PASS device from the power module. The HUD has seven LEDs that are divided between the left and right sides to improve visibility and clarity. A light sensor in the regulator adjusts the LED intensity according to ambient light conditions (optional setting).

2.4 Pressure Reducer with Primary Low-Pressure Warning Device

The pressure reducer incorporates a fail-open valve design. The pressure reducer connects to the cylinder valve assembly with a handwheel assembly. The handwheel assembly is available with two cylinder connection types (threaded, quick-connect). Both connection types include a sintered filter to capture particulates. The pressure reducer includes a bell alarm for low pressure that actuates between 33 and 37 percent of the SCBA's rated service pressure during use.

2.4.1 Rapid Intervention Crew/Company Universal Air Connection (RIC UAC)

The pressure reducer is equipped with a RIC UAC fitting. The RIC UAC fitting is designed to be used by rapid intervention teams for emergency filling operations. The SCBA includes an automatically resetting pressure relief valve to vent excess pressure if the SCBA is overpressurized during an emergency filling operation.

2.5 Cylinder and Cylinder Valve Assembly

The cylinder and cylinder valve assembly is available in three rated service pressures (2216 psig, 4500 psig, 5500 psig). The 2216 psig cylinder and cylinder valve assembly is available in one rated service time (30 minutes) and one material option (carbon). The 4500 and 5500 psig cylinder and cylinder valve assemblies are available in three rated service times (30, 45, 60 minutes) and one material option (carbon).

The cylinder valve assembly includes a large pressure gauge with a photo luminescent face. The handwheel for the cylinder valve assembly is available in two types (standard, locking). The locking handwheel requires a single action to open and two actions (pull and turn) to close the valve to minimize inadvertent closure. The cylinder valve assembly includes a pressure-relief device to vent pressure safely if the cylinder is overpressurized. The cylinder valve assembly can be equipped with a male quick-connect adapter to enable connection to a female quick-connect handwheel assembly.

2.6 PASS Device

The PASS device on the G1 SCBA is made up of three components: control module, power module, and battery module (alkaline, rechargeable). The PASS device monitors movement through a motion sensor. When a user is motionless for 20 seconds, the PASS device goes into pre-alarm. After 30 seconds, the PASS device goes into full alarm to alert those around the user. The PASS device also monitors cylinder pressure and battery status.

2.6.1 Control Module

The G1 control module is the user's interface with the SCBA and PASS device.

A pneumatic and electronic hose assembly connects the control module to the high-pressure air source and the power module. The control module has an analog gauge and a graphical display to provide information such as numeric cylinder pressure, battery status, alarms, and service time remaining (optional).

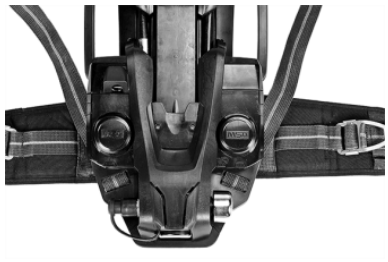
When the control module display is being read by the user, buddy lights do not flash on the control module, but a white gauge light illuminates the gauge and display when the SCBA is in standard mode. If the SCBA is equipped with the optional telemetry module, the radio link status and evacuation alarms also show.

The control module contains the integrated PASS motion sensor. The ALARM button for the control module activates the full PASS alarm with or without air pressure.

2.6.2 Power Module

The power module distributes the G1 SCBA power and provides all of the information for the control module, regulator, and speaker module.

The power module is connected to the backplate. The power module connects to the alkaline or rechargeable battery module, emits audible PASS alarms and pre-alarms, and has four buddy lights.



The power module has the following features:

- Rapid Intervention Team (RIT) light that comes on when a low-pressure alarm (configurable to medium-pressure alarms) occurs to make it easier to see the UAC in the dark.
- Data-logging function that records information about the SCBA while the control module is turned on.
- Internal real-time clock that is automatically set to UTC (Coordinated Universal Time) to download logs and show time based on PC settings.
- Radio transmitter for telemetry module, if applicable

2.6.3 Battery Module

The battery module is available in alkaline and rechargeable versions. The alkaline battery module contains six replaceable, alkaline, C-cell batteries. The rechargeable battery module contains non replaceable lithium ion cells. When it is necessary to replace or recharge the batteries, the power module emits an audible tone, the control module display shows an empty battery icon, and a yellow LED flashes on the HUD.

2.6.4 Firmware

The G1 SCBA firmware can be updated via Bluetooth® using an Internet connection and the MSA A2 software. For detailed instructions about the upgrade process, refer to the Operating Manual: MSA A2® Software, Accountability Control Software (P/N 10162374).

2.7 Carrier and Harness Assembly

The carrier and harness assembly is designed to position the SCBA on the user securely and comfortably. The carrier and harness assembly includes an ergonomic backplate, a cylinder band, and fully adjustable shoulder and waist straps.

The backplate includes large handles to facilitate handling and storage.

The metal cylinder band and latch securely retain the cylinder and provide a rigid opening to enhance cylinder installation and removal.

The shoulder straps include friction pads to minimize slip, metal buckles to provide secure retention, and large retroreflective graphics to enhance visibility. Shoulder straps are available with standard and serviceable tunnels. Serviceable tunnels provide the ability to separate the harness components easily for cleaning or replacement. The shoulder straps can be fitted with an optional chest strap to enhance wearing comfort.

The waist straps are secured to a lumbar pad that is available in basic and adjustable versions. The basic lumbar pad provides a low-profile, lightweight option. The adjustable lumbar pad provides three height adjustment positions for optimal fit. The adjustable lumbar pad includes a swivel feature that enhances freedom of movement and SCBA weight distribution.

An optional regulator retainer is available to secure and protect the regulator when it is not in use.

The waist belt is available in several buckle configurations. In the slotted buckle option, the slotted end of the buckle can be used to remove the battery pack. The waist belt is intended to secure the pack to the user during normal operation. The waist belt is not designed, rated or intended to be re-routed and used to support dragging of a downed firefighter.

2.8 Optional Components

2.8.1 ExtendAire II System

Figure 1 Snap-Tite

Figure 2 UEBSS

The ExtendAire II system includes a manifold, hose assembly, and pouch. The manifold has both male and female UEBSS-approved quick-connect fittings that enable connection to a second ExtendAire II system. The pouch, identified with the label "UEBSS", is attached to the user's left side to hold and protect the manifold and hose assembly. The pouch is held closed securely by a combination of hook-and-loop fasteners and snaps, but can be opened using one hand.

NOTE: Do not try to connect Snap-Tite quick-connect fittings to UEBSS quick-connect fittings. Snap-Tite and UEBSS quick-connect fittings will not operate correctly together.

2.8.2 Remote Quick-Fill System

The remote Quick-Fill system provides an additional UAC fitting on the SCBA. The Remote Quick-Fill UAC fitting is found on a manifold on the user’s front, right side. The Remote Quick-Fill UAC fitting is for use by rapid intervention teams for emergency filling operations.

2.8.3 Quick-Fill Pouch

The Quick-Fill Pouch is a storage pouch attached to the user's right side. It is similar to the ExtendAire II system pouch, but is used to hold a Quick-Fill line. The pouch is held closed securely by a combination of hook-and-loop fasteners and snaps, but can be opened using one hand.

2.8.4 Telemetry Module

The telemetry module, available only for SCBAs with integrated PASS devices, provides two-way communication with Incident Command. The telemetry module transmits statistics such as cylinder pressure, approximate service time remaining, PASS alarms, low battery alarms, and thermal alarms to Incident Command, and enables emote evacuation by Incident Command. For more details, see 17 Telemetry Module.

2.8.5 Rescue Belt II System

The Rescue Belt II system is a personal escape system that can be installed in place of the lumbar pad in a G1 SCBA. The Rescue Belt II system is designed to provide a means of escape from an elevated position. The Rescue Belt II system must be used in accordance with the user’s fire department procedures. For detailed inspection and operation instructions, refer to the Operating Manual: G1 Rescue Belt II (P/N 10164117).

2.8.6 Integrated Thermal Imaging Camera (TIC)

The integrated thermal imaging camera (TIC) displays a clear thermal image on the color display of the control module. The TIC option is compatible with all pre-existing versions of the G1 SCBA and requires no new or additional power sources. The camera sensor is built directly into the G1 SCBA control module. TIC mode is controlled easily through buttons on the control module. With TIC mode engaged, the user can toggle the display between multiple user-defined color palettes to improve thermal scene visibility. The TIC control module includes a longer hose to provide increased mobility to scan and

view the thermal scene. For detailed inspection and operation instructions, refer to the Operating Manual: Integrated Thermal Imaging Camera (P/N 10176561).

2.8.7 Speaker Module

The speaker module is turned on when the cylinder valve is opened and the electronics on the G1 SCBA are powered up. The speaker module amplifies and clarifies speech from the facepiece. The sound of inhalation is not amplified (optional). The speaker module is turned off when the complete SCBA is turned off. The speaker module can also be activated/deactivated with its button, which produces a beep when pushed.

2.8.8 Spectacle Kit

The spectacle kit lets users mount corrective lenses inside the facepiece. Individuals who wear eyeglasses must use the G1 spectacle kit to guarantee a correct fit. Ordinary eyeglasses **cannot** be worn under the facepiece.

3 Size Selection

⚠ WARNING!

The facepiece will not provide protection unless all inhaled air is drawn through the SCBA.

Failure to follow this warning can result in serious personal injury or death.

NOTE: Individuals who wear eyeglasses must use the G1 spectacle kit to guarantee a correct fit. Ordinary eyeglasses cannot be worn under the facepiece.

Regardless of facial dimensions and respirator sizing charts, users must do an actual qualitative or quantitative respirator fit test to make sure the correct respirator size is selected.

1. Do a fit test of the respirator size relative to your facial features and dimensions. Ask the safety administrator or program manager for help selecting the initial size to try.
2. Don the facepiece. Refer to 6.4 Donning the Facepiece for instructions.
3. Do a negative-pressure seal test. For instructions, refer to 6.4.1 Testing the Negative Pressure Seal for instructions.
4. If the facepiece does not pass the negative-pressure seal test or feels uncomfortable, try the next nearest size relative to your face.
5. Passing the negative-pressure seal test does not verify that the size is correct. Do a qualitative or quantitative respirator fit test to verify the size. If the respirator passes a negative-pressure seal test but does NOT pass a respirator fit test, try the next nearest size.

If other leakage than from the facial seal occurs, find and correct the condition, then do the test again.

3.1 Respirator Fit Test

WARNING!

- Do quantitative or qualitative respirator fit tests routinely for each wearer of this respirator. Obey all specified warnings and limitations. Failure to do so can result in serious personal injury or death.
- Make sure the probe does not contact the face during fit testing. Failure to do so can result in false protection factor readings.

Failure to follow these warnings can result in serious personal injury or death.

Use the instructions provided with the MSA Quik Chek Kit (P/N 805078) to perform respirator fit testing.

3.1.1 Quantitative Test

A fit factor of at least 500, based on ambient aerosol fit test methods or equivalent, is required before any type of respirator is assigned to an individual.

3.1.2 Qualitative Test

Only validated protocols are acceptable. The respirator must pass a test designed to assess a fit factor of at least 500.

4 Visual Inspections

WARNING!

- Do NOT examine the SCBA before it is decontaminated, cleaned, and disinfected if there is a risk of exposure to hazardous contaminants. Obey the applicable decontamination procedures, clean and disinfect the SCBA first, then examine it.
- If the SCBA shows damage, deterioration, or any of the conditions listed in 4 Visual Inspections, remove the SCBA from service and return it to an MSA trained and certified repair technician.
- Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by MSA.

Failure to follow these warnings can result in serious personal injury or death.

Do a visual inspection upon receipt, daily, and after each use. Examine the entire SCBA after it is cleaned and disinfected.

NFPA-1500, Standard on Fire Department Occupational Safety and Health Program; ASTM F3387, Practices for Respiratory Protection; and OSHA 29 CFR 1910.134 describe the three levels of inspection procedures to be performed. Refer to these documents to establish an inspection program or use an inspection program prepared by a health professional.

4.1 All Components

1. Examine all components for deterioration, dirt, cracks, debris, tears, holes, stickiness, signs of heat- or chemical-related damage, or other visible signs of damage.
2. Examine all straps (shoulder pads, pull straps, lumbar pad, waist straps, facepiece head harness) for tears, cuts, wear, abrasion, and missing buckles or straps.
3. Do all of the following component-specific inspections.

4.2 Facepiece

1. Make sure the lens does not have cracks, scratches, deformation, and color change.
2. Make sure the facepiece rubber has a tight seal and secure fit to the lens ring.
3. Make sure the exhalation valve is clean and operates easily. The valve must move off the seat and return when released (from inside the facepiece).
4. Make sure the facepiece inlet is not damaged. Make sure the inhalation valve is in position.
5. Make sure the check valves in the nosecup are in position and the nosecup is secure on the component housing.
6. Make sure the nosecup does not prevent correct operation of the inhalation valve.

4.3 Regulator

⚠ WARNING!

Do NOT use sharp objects to remove dirt or debris from the microphone ports. Rinse the ports with water to flush dirt and debris out. Let the ports dry fully before returning the regulator to service.

Failure to follow this warning can result in serious personal injury or death.

1. Make sure there is no water, dampness, moisture, or debris on the inside of the regulator and microphone ports.
2. Make sure there is an O-ring and a seal ring, and that they are not damaged or dirty.
3. If the SCBA is equipped with a quick-connect hose, make sure there is no deterioration, dirt, cracks, tears, or tackiness on the rubber seal.
    a. Make sure there is no dirt or debris in the openings of the quick-connect fittings.
    b. Make sure the quick-connect fittings operate correctly and are secure.

4.4 Pressure Reducer with Primary Low-Pressure Warning Device

⚠ WARNING!

Make sure to protect the quick-connect fitting and adapter from damage, dirt, and debris during cylinder replacement. Dirt and debris can cause the cylinder connection seals to leak.

Failure to follow this warning can result in serious personal injury or death.

1. Disconnect the handwheel from the cylinder valve assembly.

- **Threaded connect**
    a. Remove the handwheel coupling nut from the cylinder valve assembly.
    b. Make sure the threads of the handwheel coupling nut are not damaged. If necessary, replace the nut.
    c. Make sure there is an O-ring on the stem of the handwheel assembly and that it is not damaged. If necessary, replace the O-ring.

- **Quick-connect**
    a. Turn the quick-connect fitting counterclockwise until it stops, and pull it away from the cylinder valve assembly to release it.
    b. Make sure there is no dirt or debris on the male and female fittings of the coupling.
    c. Make sure the adapter on the cylinder valve assembly is connected securely.

2. Make sure the high-pressure relief valve is not damaged. If necessary, remove the SCBA from service and replace the high-pressure relief valve.
    a. Make sure the relief valve label is not damaged.
    b. Make sure the relief valve ports are not visible.
3. Attach the handwheel assembly to the cylinder valve assembly.

- **Threaded connect**
    a. Install the handwheel coupling nut on the cylinder valve assembly.
    b. Make sure the handwheel is hand-tight (tools are not necessary).
- **Quick-connect**
    a. Push the quick-connect fitting onto the cylinder valve adapter until there is an audible snap. The handgrip will turn rapidly approximately 45 degrees counterclockwise, indicating that the valve is connected to the pressure regulator.
    b. Grasp the handwheel firmly and pull on it to make sure it is attached securely.

4. Make sure the bell is aligned correctly and that the screws are tight. Make sure the bell is not loose or able to turn. If the bell is loose or can turn, remove the SCBA from service.

4.5 Cylinder and Cylinder Valve Assembly

Do all inspections and tests for SCBA cylinders in accordance with Department of Transportation (DOT) regulations. DOT regulations require that composite cylinders be removed from service after the 15th year. This does not include cylinder valve assemblies that can be reused. Contact an MSA distributor or sales associate for more information about this policy.

For external and internal inspections of the cylinders, refer to the latest edition of CGA C-6.2, Standard for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders.

1. Look for the hydrostatic test date on the cylinder approval sticker (located on the cylinder neck). Carbon-wrapped cylinders must be tested every 5 years.
2. Make sure the needle and face on the gauge of the cylinder valve assembly are clearly visible and that the gauge stem is not bent.
3. Make sure there is a rubber boot on the cylinder valve assembly. If the boot is missing, remove the cylinder from service until a new boot is installed.
4. Make sure the dovetail feature on the cylinder valve assembly is not cracked or damaged. If the dovetail feature is damaged, remove the cylinder from service.

4.6 Control Module

1. Make sure the displays do not have cracks and other visible damage.
2. Make sure the buttons are present and are not damaged.
3. Make sure the hose assembly is attached securely to the control module.
4. Make sure the needle and face on the gauge are clearly visible and that the gauge stem is not bent.

5. For TIC units only: Make sure the germanium window on the front of the control module does not have debris, cracks, or other visual damage.

4.7 Power Module

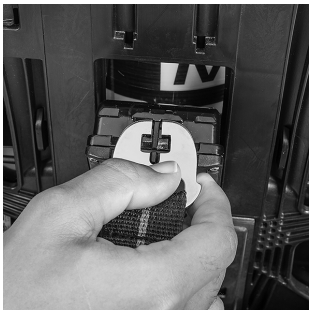
1. Make sure the power and battery modules are attached securely to the backplate.
2. Make sure there is no dirt or debris on the covers on the piezo emitters on both sides of the power module.

4.8 Carrier and Harness Assembly

1. Operate the latch on the cylinder band to make sure it opens and closes correctly and that it holds the cylinder securely.
2. Make sure the lumbar pad is attached securely.
3. Make sure the power module and pressure reducer are attached to the backplate by the lower cover.
4. For remote-connect cylinders, make sure the dovetail feature on the lower cover is not broken or damaged.

4.9 Battery Module (Alkaline or Rechargeable)

1. Push the battery removal tool into the slot in the battery module until the tool clicks into place.



2. Pull the removal tool and the battery module out of the power module.
3. Make sure the battery module is not visibly damaged.
4. Make sure the connection seal is in position and is not damaged.
5. Install the battery module in the power module.
6. Turn off the PASS device.

4.10 ExtendAire II System

NOTE: The 2018 ExtendAire II system has UEBSS quick-connect fittings.

1. Examine the ExtendAire II system manifold. Make sure all roll pins are present.

2. Make sure there is no dirt or debris in the openings of the quick-connect fittings.

3. Make sure the quick-connect fittings operate correctly and are secure.
4. Make sure dust caps are attached securely to the male and female quick-connect fittings.

5. Make sure the hose is in a smooth coil in the ExtendAire II pouch and does not have twists or kinks.
6. Put the manifold end of the hose in position toward the flap opening to make sure it is accessible in an emergency breathing situation.
7. Make sure the emergency hose does not have nicks, cuts, or abrasions.

4.11 Remote Quick-Fill System

1. Make sure all of the screws in the remote quick-fill system manifold are in position and tightly installed.
2. Make sure the U-clip is in position behind the plate on the back of the manifold.
3. Make sure there is no dirt or debris in the openings of the UAC fittings.
4. Make sure the dust cap is attached securely.
5. Make sure the protective sleeve on the remote quick-fill hose does not have tears and cuts. If the sleeve has tears or cuts, remove the SCBA from service to inspect the quick-fill hose and replace the sleeve.
6. Make sure the quick-fill hose does not have twists or kinks.

4.12 Quick-Fill Pouch

1. Make sure the quick-fill pouch does not have cuts, tears, abrasions, or damage due to heat or chemical exposure.
2. Make sure the quick-fill pouch can securely hold and protect the emergency hose.
3. Make sure the quick-fill pouch is attached securely to the carrier and harness.
4. Make sure each snap on the quick-fill pouch flap is in position and fastened securely.

4.13 Record Keeping

When inspection is complete, record the date of the inspection and the initials of the designated inspector. To make a more detailed record of the operations performed, use an MSA Inspection and Maintenance Checklist for Self-Contained Breathing Apparatus (P/N 492329). When the inspection data has been recorded, the SCBA is ready for functional tests.

5 Functional Tests

⚠ WARNING!

- Wear eye protection while performing functional tests.
- If the SCBA does not operate correctly for all functional tests, remove the SCBA from service. Make sure an MSA trained and certified repair technician corrects the unsatisfactory condition before returning the SCBA to service.

Failure to follow these warnings can result in serious personal injury or death.

NOTE: The cylinder must be full during functional tests. Before starting the functional tests, look at the pressure gauge on the cylinder valve assembly to make sure the cylinder is full.

If the SCBA passes all visual inspections successfully, do the functional tests daily and after each use.

If any part of the SCBA fails the functional test, remove the SCBA from service and return it to a certified repair technician.

5.1 Regulator and Facepiece Hold Negative Pressure

1. Turn the handwheel clockwise to close the cylinder valve.
2. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, to release all pressure from the SCBA.
3. Hold the facepiece against the face to create an effective seal.
4. Attach the regulator to the facepiece.
5. Inhale until the facepiece begins to collapse against the face.
6. Hold your breath for approximately 10 seconds. The facepiece should stay collapsed against the face for the entire 10 seconds, holding negative pressure.
7. If the facepiece cannot hold negative pressure, remove the SCBA from service.

5.2 Regulator Operation

1. Push the release buttons on the top and bottom of the regulator to make sure the regulator is off.
2. Turn the regulator bypass knob clockwise to make sure the regulator bypass valve is fully closed.

3. Turn the handwheel counterclockwise to open the cylinder valve.
4. Monitor the LED display. Make sure the LEDs come on in a sequenced pattern. When the sequence is complete, the corresponding system pressure will show.

⚠ WARNING!

Inspect the G1 Second Stage Regulator and hose for bulging, deterioration, dirty O-rings or seals, cracks, debris, tears, holes, stickiness, signs of heat or chemical related damage, or other visible signs of damage. Remove from service any G1 SCBA that exhibits any of these conditions.

Failure to follow this warning can result in serious personal injury or death.

5. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve.
6. Make sure air flows from the regulator.
7. Turn the regulator bypass knob clockwise to close the regulator bypass valve.
8. Don the facepiece or hold the facepiece against the face to create an effective seal.
9. Attach the regulator to the facepiece.
10. Pull on the regulator to make sure the attachment is tight.
11. Inhale sharply to start air flow.
12. Breathe normally.
13. Make sure the regulator responds correctly. The regulator should NOT make sounds such as whistling, chattering, or popping.
14. Push the release buttons on the regulator and remove the regulator from the facepiece.
15. Make sure air flow stops.
16. Remove the facepiece from the face.

17. Make sure the regulator bypass valve operates correctly.
    a. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve.
    b. Listen for airflow.
    c. Turn the regulator bypass knob clockwise to close the regulator bypass valve.
    d. Reach behind and turn the handwheel clockwise to close the cylinder valve fully.
    e. Listen for air leaks.
    f. Monitor the pressure indicators (pressure gauge, control module, HUD) for 10 seconds. Make sure pressure does not decrease more than 100 psi in 10 seconds.
    g. If the pressure decreases more than 100 psi in 10 seconds, remove the SCBA from service.

5.3 Control Module, Power Module, HUD, and Primary Low-Pressure Warning Device Operation

⚠ WARNING!

Do NOT disconnect the coupling nut when the analog pressure gauge shows air pressure. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, to release all pressure from the SCBA.

Removing the coupling nut while the SCBA is pressurized can result in serious personal injury or death, or damage to equipment.

5.3.1 SCBAs with an Integrated PASS Device

To make sure all lights are visible during functional testing, align the control module, regulator, and SCBA as shown.

Put the control module on a horizontal surface to make sure the white light illuminates the pressure gauge. Make sure the readings on the graphical display and analog gauge are consistent with the cylinder pressure within ±5 percent (110/2216 psi, 225/4500 psi, 275/5500 psi).

Both RESET buttons on the control module have the same function. Use one button to reset the motion alarm and the other button to test the manual alarm.

To test correct operation of the HUD, control module, power module, and low-pressure warning device, monitor the control module gauge and display when an alarm occurs.

1. Turn the handwheel counterclockwise to open the cylinder valve and pressurize the system.
2. Monitor the starting sequence of the LEDs on the regulator.
3. Listen for the sound the power module makes and for the primary low-pressure warning alarm.
4. Make sure the buddy lights flash green.
5. Make sure the pressure gauge and LCD (if configured) show the correct pressure.
6. Let the control module stay motionless for approximately 20 seconds.
7. Listen for the tones of the PASS pre-alarm.
8. Make sure the buddy lights flash red.
9. Make sure the red LED flashes in the HUD.
10. Shake the control module to reset the alarm before a full alarm occurs.
11. Let the control module stay motionless until the full alarm occurs (30 seconds).
12. Listen for the tones of the PASS full alarm.
13. Make sure the buddy lights flash red.

14. Make sure the red LED shows in the HUD.
15. Shake the control mode to make sure shaking does not reset the full alarm.
16. To reset the PASS alarm, push the left green RESET button on the side of the control module twice within approximately 1 second.
17. To test manual activation of the PASS alarm, push and hold the ALARM button on the front of the control module until the alarm activates.
18. Listen for the tones of the PASS full alarm.
19. Make sure the buddy lights flash red.
20. Make sure the red LED shows in the HUD.
21. To reset the PASS alarm, push the right green RESET button on the side of the control module twice within approximately 1 second.
22. Turn the handwheel clockwise to close the cylinder valve fully.
23. Slowly turn the regulator bypass knob counterclockwise to open the regulator bypass valve until the pressure reading for the control module decreases below the following value:
    - 775 psi for 2216 psi system
    - 1575 psi for 4500 psi system
    - 1925 psi for 5500 psi systems
24. Make sure a red LED flashes in the HUD at the appropriate pressure.
25. Make sure the primary low-pressure warning device is in alarm, all of the buddy lights flash red, and the pneumatic light comes on.
26. Make sure the alarms continue until the air pressure is 200 psi or less.
27. When the air pressure decreases below 200 psi, push the green RESET button twice within approximately 1 second to put the control module in sleep mode.
28. Slowly turn the regulator bypass knob counterclockwise to open the regulator bypass valve to release any remaining pressure.
29. Turn the regulator bypass knob clockwise to close the regulator bypass valve.

If the control module, power module, HUD, or primary low-pressure warning device does not operate correctly, remove the SCBA from service.

5.4 Speaker Module Operation

1. Turn the handwheel counterclockwise to open the cylinder valve and pressurize the system.
2. Make sure the PASS device and HUD are on.
3. Attach the regulator to the facepiece.
4. Hold the facepiece up to your face, or follow the instructions in 6.4 Donning the Facepiece to don the facepiece.
5. Begin breathing air to activate the regulator and start voice amplification.
6. Talk into the facepiece to make sure the speaker module operates correctly.
7. Push and hold the on/off button on the speaker module until there is an audible tone and the speaker module goes off.
8. Make sure the LED on the speaker module is off.
9. Push and hold the on/off button on the speaker module until there is an audible tone and the speaker module comes on.

6 Donning

WARNING!

- Obey the instructions in this section to make sure that the SCBA operates correctly before going into a hazardous atmosphere.
- If the SCBA does not operate correctly as described in this section, remove the SCBA from service. Make sure an MSA trained and certified repair technician corrects the unsatisfactory condition before returning the SCBA to service.
- If you have a beard, gross sideburns, or similar physical characteristics that prevent direct contact between your skin and the sealing surface of the facepiece, this device may not seal correctly with your face (refer to NFPA 1500 and ASTM F3387). An incorrect facial seal can let contaminants leak into the facepiece, decreasing or removing respiratory protection. Do NOT use this device if such conditions exist.
- Do a test of the face-to-facepiece seal before each use.
- Make sure the correct nosecup is installed in the facepiece.
- Individuals who wear eyeglasses must use the spectacle kit to guarantee a correct fit. Ordinary eyeglasses cannot be worn under the facepiece.
- Only remove the facepiece in a safe, nonhazardous, nontoxic atmosphere.
- Wear impermeable protective clothing to prevent exposure to gases and vapors that can poison by skin absorption.

Failure to follow these warnings can result in serious personal injury or death.

6.1 Approval Verification

Before using the SCBA, review all NIOSH approval labels and approval inserts to make sure the SCBA is in an approved configuration. For details and a complete list of cautions and limitations for the SCBA, refer to 1 Safety Regulations. For NIOSH 42 CFR Part 84 approval configurations, refer to the G1 SCBA Approval Label Insert (P/N 10187230).

For NIOSH CBRN approval configurations, refer to the G1 SCBA CBRN Approval Label Insert (P/N 10187241).

6.2 Preparing for Use

The SCBA must pass all visual inspections and functional tests before use.

1. Make sure the cylinder is fully pressurized.
2. Check the cylinder connection:

- **Threaded connect**
    a. Make sure the coupling nut is hand-tight (tools are not necessary).
    b. Make sure the cylinder valve assembly is seated correctly in the dovetail.
- **Quick-connect**
    a. Pull on the quick-connect coupling to make sure the connection is secure.
    b. Make sure the cylinder valve assembly is seated correctly in the dovetail.

3. Pull on the cylinder latch assembly to make sure the cylinder band latch is attached securely.
4. To see the battery status, push and hold both RESET buttons on the control module until the battery icon shows.

   The battery icon goes off after approximately 10 seconds.
5. Loosen the shoulder straps as far as possible.
6. Loosen the waist belt straps as far as possible.

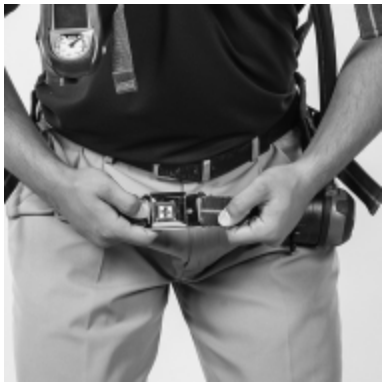
7. Assign a name ID tag, and scan the ID tag information into the control module. For more information, refer to 9.4 ID Tagging for more information.

6.3 Donning the SCBA

1. Put the right arm through the right shoulder strap.

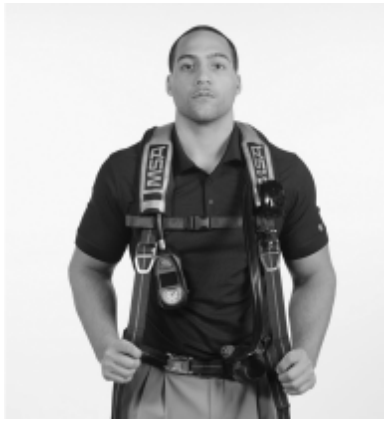
2. Put the left arm through the left shoulder strap.
   a. Make sure the orientation of the shoulder straps is correct.
   b. If there is a chest strap, make sure the regulator hose is on top.

3. Bend forward slightly, resting the carrier on the back.



4. Connect the waist belt, and pull forward on the waist strap pull tabs to tighten the belt for a snug fit.

   NOTE: Most of the SCBA weight should be carried on the hips.



5. Attach the chest strap buckle (optional). If necessary, tighten the chest strap.
6. Stand up straight.
7. Pull down on the shoulder strap pull tabs to tighten the straps.
8. If necessary, adjust the waist belt.

9. Do the following to adjust the lumbar pad while wearing the SCBA:
   a. Loosen or release the waist buckle.
   b. Reach behind to find the lumbar pad.
   c. Pull the adjustment lever towards the body, and push up or down, according to the adjustment needed.
   d. Release the adjustment lever, and pull up or down to make sure the lumbar pad is locked in position.

10. Check that the shoulder straps and waist belt ends are not tangled or routed incorrectly.

    Shoulder straps and waist strap ends must lay flat across the body.

11. Grasp the regulator and push the side buttons to release the regulator from the regulator retainer.
12. Turn the regulator bypass knob clockwise to close the regulator bypass valve fully.

13. Reach behind and turn the handwheel counterclockwise to open the cylinder valve fully.

⚠ WARNING!

During system pressurization, listen for the sound of hissing or popping. If you hear hissing or popping, remove the SCBA from service, and return it to an MSA trained and certified repair technician.

Failure to follow this warning can result in serious personal injury or death.

14. As the system pressure increases from 0 to 200 psi, both visible and audible alerts activate automatically, indicating that the SCBA is operating correctly. Make sure the following indications occur:
    - Brief sound from the pressure reducer primary low-pressure warning device
    - Chirp from the power module and speaker module (if available)
    - Pressure display on the HUD
    - Buddy light flashes green on the power and control modules

⚠ WARNING!

If the primary low-pressure warning device does not alarm, the power module does not make a sound, or the buddy lights or HUD lights do not come on, remove the SCBA from service. Make sure an MSA trained and certified repair technician corrects the unsatisfactory condition before returning the SCBA to service.

Failure to follow this warning can result in serious personal injury or death.

15. Make sure there is no airflow from the regulator. If there is airflow, do Steps (11) through (14) again.
16. Make sure the control module and the HUD pressure indicators show a full cylinder.
17. Turn the handwheel clockwise to close the cylinder valve.
18. Make sure the pressure reading on the control module display does not decrease more than 100 psi in 10 seconds.
    a. If the pressure reading does NOT decrease more than 100 psi, turn the handwheel counterclockwise to open the cylinder valve FULLY.

       NOTE: If the pressure reading decreases more than 100 psi, a significant leak is indicated. Remove the SCBA from service.

⚠ WARNING!

Do NOT use the SCBA if the pressure gauge on the cylinder valve assembly and the control module readings are not within 5 percent of full cylinder pressure:

- 2216 psi systems = 110 psi
- 4500 psi systems = 225 psi
- 5500 psi systems = 275 psi

Do NOT use the SCBA if any of the following conditions occur:

- Pressure decreases more than 100 psi in 10 seconds
- Pressure reducer warning signal does not activate or does not continuously activate down to pressures of 200 psi
- Control module or HUD does not light correctly

Return the SCBA to an MSA trained and certified repair technician for repair.

Failure to follow these warnings can result in serious personal injury or death.

6.4 Donning the Facepiece

⚠ WARNING!

Make sure the top of the facepiece seal contacts the forehead **directly**. Make sure there is no hair between the facepiece seal and your skin.

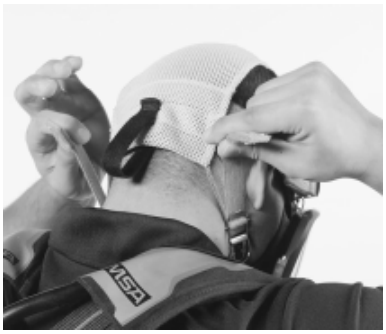
Failure to follow this warning can result in serious personal injury or death.

The neck strap in front of the chest or the clip on the shoulder strap is used to carry the facepiece. To protect against dirt and debris, make sure the facepiece opening is towards the user's body.

1. Spread the harness with both hands.

2. Put the chin into the chin cup.

3. Pull the head straps over your head.
4. Make sure the harness is in the correct position and is not twisted.



5. Adjust the facepiece.
6. Tighten the straps firmly and evenly.

6.4.1 Testing the Negative Pressure Seal

⚠ WARNING!

- If the facepiece does not hold a negative pressure seal, remove the SCBA from service and return it to an MSA trained and certified repair technician.
- Do a negative pressure seal test before each use and before going into a toxic atmosphere.

Failure to follow these warnings can result in serious personal injury or death.

To make sure the face-to-facepiece tightness is correct, do a negative-pressure seal test before each use.

1. Use the palm of your hand or attach the regulator to seal the inlet connector.

   If the regulator is aligned correctly, the bypass knob will be on the right side of the facepiece.

2. Test the facepiece tightness.
   a. Inhale and hold your breath for 10 seconds. Make sure the facepiece stays collapsed on the face.
   b. Exhale. Make sure the exhalation valve opens and the pressure inside the facepiece is released.
3. If necessary, tighten the straps.

6.4.2 Installing the Push-to-Connect Regulator

1. Insert the regulator into the facepiece and push inward.

   If the regulator is aligned correctly, the bypass knob will be on the right side of the facepiece.

2. Pull on the regulator to make sure it is attached securely to the facepiece.

⚠ WARNING!

Do NOT use the SCBA unless the regulator is connected correctly. A regulator that is not installed correctly can separate from the facepiece unexpectedly.

Failure to follow this warning can result in serious personal injury or death.

3. Inhale sharply to start the airflow.
4. Make sure the regulator bypass valve operates correctly.
    a. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve.
    b. Listen for airflow.
    c. Turn the regulator bypass knob clockwise to close the regulator bypass valve.

⚠ WARNING!

Do NOT use the SCBA if there is not a continuous flow of air when the regulator bypass valve is open.

Failure to follow this warning can result in serious personal injury or death.

7 During Use

⚠ WARNING!

Do NOT use the SCBA if any of the following conditions occur:

- Functional test is unsuccessful
- Product is damaged
- Correct servicing/maintenance has not been done
- Genuine MSA spare parts have not been used

Go out of a contaminated area immediately if:

- Breathing becomes difficult
- Dizziness or other distress occurs
- You taste or smell a contaminant
- You experience nose or throat irritation

- The SCBA does not operate according to the instructions or training

Immediately return to fresh air if:

- SCBA free-flows (provides air when not inhaling)
- Low-pressure warning occurs
- HUD low-pressure indicator lights and flashes red
- Control module ALARM button flashes red
- HUD, control module, or low-pressure warning device indicates 35 percent cylinder pressure
- Airflow in the SCBA is reduced. Immediately turn the regulator bypass knob counterclockwise to open the regulator bypass valve.

Do NOT use the carrier and harness assembly as a vertical raising or lowering device.

Do NOT use this product as a self-contained underwater breathing apparatus. This will result in a rapid loss of air which could result in serious injury or loss of life.

Return to a safe atmosphere immediately if discoloration, crazing, blistering, cracking, or other deterioration of the facepiece lens material occurs.

Misuse or abuse of the HUD, control module, power module, speaker module, or equipment to which they are attached, or using this equipment in a manner or situation not intended by the manufacturer, can result in injury or death to the user or persons dependent on the user, or damage to the equipment.

Failure to follow these warnings can result in serious personal injury or death.

Before using the SCBA, review all NIOSH approval labels and approval inserts to make sure the SCBA is in an approved configuration. For more details and a complete list of cautions and limitations for the SCBA, refer to 1 Safety Regulations. For NIOSH 42 CFR Part 84 approval configurations, refer to G1 SCBA Approval Label Insert (P/N 10187230).

For NIOSH CBRN approval configurations, refer to the G1 SCBA CBRN Approval Label Insert (P/N 10187241).

7.1 Factors that Affect the Service Life of the SCBA

⚠ CAUTION!

The service life of the SCBA is greatly reduced when the regulator bypass is used.

Failure to follow this caution can result in minor or moderate injury.

The following factors can affect the duration or service life of the equipment:

- Your average degree of physical activity
- Your general physical condition
- The degree to which your breathing rate is increased by excitement, fear, or other emotional factors
- Your degree of training or experience with this or similar equipment
- Whether the cylinder is fully charged
- The concentration of carbon dioxide in the compressed air more than the 0.04 percent level normally found in atmospheric air
- Atmospheric pressure: the service life of the SCBA is based on 1 atm (101,325 Pa) of pressure. If used in a pressurized tunnel or caisson at 2 atm (202,650 Pa), the service life of the SCBA will be half as long as when it is used at 1 atm (101,325 Pa). At 3 atm (303,975 Pa), the service life will be one-third as long.

- Condition of the SCBA

7.2 Standard Operation

Periodically check the pressure indicated on the HUD and chest-mounted pressure indicator during use.

The control module continually displays the cylinder pressure. The HUD indicates when each segment of the total cylinder pressure has been reached.

When the needle on the pressure indicator goes into the red zone on the gauge face, the primary low-pressure warning device alarms, a red pressure LED flashes on the HUD, and the ALARM button on the control module and the buddy lights on the power module flash red.

The HUD, control module, and primary low-pressure warning device indicate when cylinder pressure decreases below the following approximate values:

- 775 psi for 2216 psi systems
- 1575 psi for 4500 psi systems
- 1925 psi for 5500 psi systems

7.3 Cold Weather Operation

⚠ WARNING!

- Before going into a hazardous environment, make sure there is no water, moisture, or dampness on or in any of the SCBA components. Any moisture on or in the SCBA components can freeze and result in a malfunction of the SCBA. Make sure all components operate correctly.
- Before going into a hazardous environment, make sure there is no water or ice on the inner surfaces and components of the regulator, regulator buttons, and bypass valve. Make sure the buttons and bypass valve operate correctly.
- Do NOT use a regulator that has water contamination on the inner surfaces or components. Remove the regulator from service, and dry all surfaces and components fully. Make sure all regulator components are fully dry before returning the regulator to service.

Failure to follow these warnings can result in serious personal injury or death.

7.3.1 All SCBA

- Any water on or in the SCBA components can freeze and restrict airflow. To keep moisture from entering the regulator, keep the regulator in the regulator keeper when it is not in use.
- When the SCBA is away from heat, water spray can freeze on the regulator surface. Ice can build up and bind the side buttons or the bypass valve. Before entering or re-entering a hazardous atmosphere, make sure there is no ice on the side buttons or bypass valve, and that they operate correctly.
- Periodically make sure there is no ice on the bypass valve.
- Moisture can enter through the cylinder valve or coupling nut when cylinders are replaced on the SCBA. When replacing cylinders, make sure moisture or contamination does not enter the system. Remove any ice from these fittings.
- Wipe the coupling nut threads and cylinder valve threads before installing a new cylinder. Water can contaminate the system and freeze.
- When cleaning the SCBA, make sure water does not enter the facepiece or regulator.
- Thoroughly dry the facepiece and facepiece mounted regulator after cleaning and disinfecting. Obey the Confidence Plus® Cleaning Solution instructions.

- The latch can freeze when moist. Clean and dry the latch before storing the SCBA at low temperatures.
- If moisture gets on the dove tail, the cylinder could get stuck in the dove tail if it freezes. Clean and dry the dove tail before storing the SCBA at low temperatures.
- Make sure that the UAC dust cap is in place before storing the SCBA.

Moisture can cause problems in the SCBA if it freezes. However, moisture can cause freezing problems even if the surrounding air is above freezing. Air flowing from the cylinder through the pressure reducer and regulator decreases from cylinder pressure to close to atmospheric pressure very quickly. This causes the air to expand and creates a cooling effect. Although the surrounding temperature may be warmer than 32°F (0°C), the temperature inside the regulator may be lower.

Prior to storage of the SCBA at temperatures below 0°F (-18°C), verify that the alkaline battery module has new batteries and that the rechargeable battery module is fully charged.

7.3.2 SCBA with a Telemetry Module

During use in cold temperatures, the SCBA can lose and gain connection with the telemetry module. If the connection to the telemetry module is disconnected, the device will try to reconnect. The breathing performance of the SCBA is not affected by the telemetry module.

7.3.3 Storage

NOTICE

Install new batteries in the alkaline battery modules before storing the SCBA at temperatures below 0°F (-18°C) for an extended period of time. Make sure the rechargeable battery module is fully charged before storing the SCBA at temperatures below 0°F (-18°C) for an extended period of time.

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8 Heads-Up Display (HUD)

8.1 HUD Pressure Status

The HUD provides the pressure and alarm status through light pipes into the facepiece. The pressure status shows on the user's right side. The alarm status shows on the user's left side. The pressure status indicators are divided into the following four segments, which are based on the percentage of the maximum pressure of the cylinder. Each segment is associated with a specific number and color of LEDs.

Segment	Pressure Range	LEDs
Segment 1	75 – 100%	Four green
Segment 2	50 – 74%	Three green
Segment 3	36 – 49%	Two yellow
Segment 4	0 – 35%	One red

Segments can be configured to show in intermittent mode (default), intermittent mode with continuous at Segment 3, continuous mode, or oscillating mode.

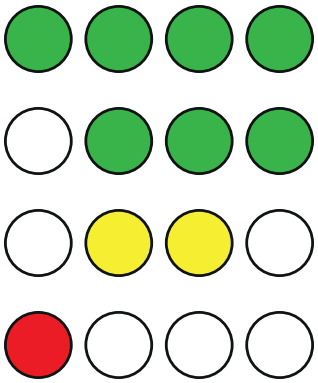
8.1.1 Intermittent Mode (Default)

Intermittent mode shows the pressure status when there is a change from one segment to another. This mode uses the least amount of power, providing the best battery life.

- Segment 1: At start-up with a full cylinder, LEDs come on for 20 seconds before going out.

- Segment 2: When pressure reaches its range, LEDs come on for 20 seconds before going out.
- Segment 3: When pressure reaches its range, LEDs flash for 30 seconds before going out.
- Segment 4: LEDs flash until the SCBA is shut down.

To refresh the HUD during a segment, push the RESET button to display the pressure.



Segment 1: 75 – 100%

Steady on for 20 sec

Segment 2: 50 – 74%

Steady on for 20 sec

Segment 3: 36 – 49%

Flash for 30 sec

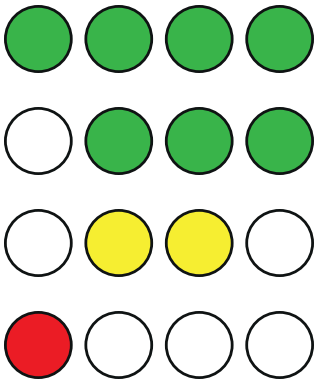
Segment 4: 0 – 35%

Flash continuously until shutdown

8.1.2 Intermittent Mode with Continuous at Segment 3

Intermittent mode with continuous at Segment 3 is similar to intermittent mode except that in Segment 3, the LEDs flash until Segment 4 is reached.

To refresh the HUD during a segment, push the RESET button to display the pressure.



Segment 1: 75 - 100%

Steady on for 20 sec

Segment 2: 50 - 74%

Steady on for 20 sec

Segment 3: 36 - 49%

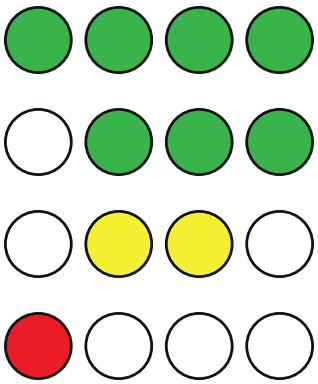
Flash continuously until Segment 4

Segment 4: 0 - 35%

Flash continuously until shutdown

8.1.3 Continuous Mode

Continuous mode shows the pressure status at all times. The LEDs stay on so the user can always look down and see the pressure. This mode uses the most amount of power, providing the shortest battery life.



Segment 1: 75 - 100%

Steady on continuously

Segment 2: 50 - 74%

Steady on continuously

Segment 3: 36 - 49%

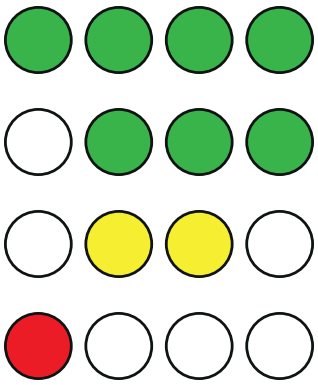
Flash continuously

Segment 4: 0 - 35%

Flash continuously until shutdown

8.1.4 Oscillating Mode

Oscillating mode shows the pressure status on an interval basis. The LEDs cycle periodically from a low-light to a high-light level. The LEDs are always on, but the brightness changes during the pressure ranges of Segments 1 and 2. In Segment 3, the LEDs flash for 30 seconds, then oscillate until Segment 4 is reached. In Segment 4, the LEDs flash until the SCBA is shut down.



Segment 1: 75 - 100%

Oscillate

Segment 2: 50 - 74%

Oscillate

Segment 3: 36 - 49%

Flash for 30 sec, then oscillate

Segment 4: 0 - 35%

Flash continuously until shutdown

8.2 HUD Alarm Status

The status LEDs let the user know about primary and secondary alarms on the SCBA. These status LEDs use the following three icons:

- Battery icon
- Running man icon
- Caution triangle

Alarm	Illuminated Icon	Icon Shown
PASS Pre-Alarm		Red flashing*
PASS Full Alarm		Red solid
PASS Manual Alarm		Red solid
Electronics Failure		Red flashing*
Primary Thermal Alarm (optional)		Red flashing*
Secondary Thermal Alarm (optional)		Blue flashing*
LCD Thermal Alarm		Blue flashing*
Pressure Drop Alarm (optional)		Blue flashing*
Evacuate (if equipped)		Red flashing*
Evacuate confirmed (if equipped)		Red solid*
Low Battery Alarm		Yellow flashing*

* Look at the control module display to see more information.

NOTE: To configure optional alarms, refer to the Operating Manual: MSA A2 Software, Accountability Control Software (P/N 10162374).

8.2.1 HUD Buddy Light

The HUD has a buddy light that uses the top button on the regulator. The buddy light on the regulator is the only buddy light that does not light green. The buddy light lights yellow at Segment 3 of the pressure range. It lights red when pressure reaches Segment 4 or a primary alarm occurs. PASS alarms and primary thermal alarms are primary alarms. All other alarms are secondary alarms used to alert the user.

8.2.2 HUD Light Sensor

The HUD has an ambient light sensor in the SCBA that analyzes the surrounding light and changes the intensity of the LEDs to make them easy to see. In bright light, the LEDs are brightened to their maximum intensity. In very dark surroundings, the LEDs are dimmed to their lowest intensity.

9 Control Module

⚠ WARNING!

- The control module can display the calculated service time remaining counting down to 0 psi (default) or 35 percent of the rated service pressure or to medium pressure alarm. The user must determine which option has been selected for the control module in service.
- The actual time remaining may be less than the calculated time displayed. The calculated time displayed is based on the continuation of the average breathing rate over the last 3 minutes. Increases in breathing rate can decrease the remaining time more than expected. Use the time indicator as a general guide only.

Failure to follow these warnings can result in serious personal injury or death.

9.1 PASS Device Functionality

The control module provides the primary user interface for the SCBA electronics. For the PASS device, the control module displays the SCBA pressure (configurable), estimated time remaining (configurable), status of the thermal sensor, battery level, and radio communication status (if equipped). The control module will also display all alarm conditions for easy interpretation.

The power module provides power and data to the control module to display the information, emits audible alarms and pre-alarms, and four buddy lights to make others aware of the system status.

9.1.1 Sleep Mode

When the SCBA is not in use, it is in sleep mode. During sleep mode, the SCBA periodically checks for system changes and wakes as needed. The conditions that wake the system from sleep mode include battery installation, system pressurization, or activation of the ALARM button on the control module.

The control module also wakes from sleep mode when the user pushes and holds the RESET button to check the battery status without pressurizing the system. If the user holds the RESET button after the battery symbol appears, the control module goes into service mode, which provides additional details about product usage. Only trained personnel are authorized to use service mode.

9.1.2 Start-up Sequence

⚠ WARNING!

If the control module shows a Hardware Alarm icon during start-up, remove the SCBA from service. Make sure an MSA trained and certified repair technician corrects the unsatisfactory condition before returning the SCBA to service.

Failure to follow this warning can result in serious personal injury or death.

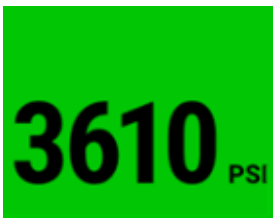
When the PASS device goes out of sleep mode, it goes into a start-up sequence that provides information to the control module about the state of the SCBA for operation.

Step 1		The logo screen shows the MSA logo and a user and/or team name, if assigned to the device, on the control module. • The buddy lights on the power and control modules cycle through red, yellow, and green. • The power module plays the start-up tone. During this process, the PASS device does a self-test to make sure the device is operating correctly.
Step 2		The self-test screen shows the results of the self-test. • A successful self-test shows a Go icon to indicate the SCBA can be put into service. • If maintenance is necessary, the overhaul reminder icon shows to indicate the SCBA should be removed from service after use. • If the SCBA should not be used, a Hardware Alarm icon shows on the control module and a full alarm from the power module is activated. The PASS device will not continue to operate. Remove the SCBA from service. Make sure an MSA trained and certified repair technician corrects the unsatisfactory condition before returning the SCBA to service.
Step 3		The primary screen shows and the SCBA can be used.

Primary Screen

The primary screen provides all critical information to the user. The primary screen can show three types of information: pressure status, time remaining calculation, or time on air.

To illuminate the primary screen, lift the control module or push the RESET button.



The pressure status is a configurable option and is set as the default. To change the settings, use the Operating Manual: MSA A2 Software, Accountability Control Software (P/N 10162374).

The time remaining feature calculates the amount of air used and estimates how long it will take to use the remaining air in the cylinder.

The time on air feature counts the number of minutes in a single session that SCBA air has been in use.

The background color of the screen corresponds to the system pressure:

Green indicates pressure is 50% or higher.

Secondary Screen

To switch to the secondary screen, push the RESET button once.

The secondary screen shows the following:

- Temperature icon
- Short-range radio icon
- Long-range radio icon
- Battery icon
- Time remaining calculation

The icons on the screen indicate different states of the device.

Similar to the primary screen, the calculation for time remaining is configurable to pressure status, time remaining, or time on air.

9.2 Alarms

The PASS device is capable of indicating the following alarms. Use the Operating Manual: MSA A2 Software, Accountability Control Software (P/N 10162374) to configure optional alarms.

Alarm Type	HUD	Control Module		Buddy Lights	Sound
Motion pre-alarm	Red attention, flashing			Red	NFPA Pre-alarm

Alarm Type	HUD	Control Module		Buddy Lights	Sound
Motion/manual full alarm	Red attention, solid			Red	NFPA Full Alarm
Low pressure alarm (EOSTI)	Red pressure, flashing			Red	Optional sound
Pressure drop alarm (optional)	Blue attention, flashing			Red	Optional sound
Evacuate (if equipped)	Red evacuation, flashing			Red	Sweep
Evacuation confirmed (if equipped)	Red evacuation, solid			Red	None
Overhaul reminder (optional)	Based on pressure and alarms			Based on pressure and alarms	None
Hardware alarm	Red attention, flashing			Red	NFPA Full Alarm
Thermal alarm primary (optional)	Red attention, flashing			Red	Optional sound
Thermal alarm secondary (optional)	Blue attention, flashing			Based on pressure	Optional sound

Alarm Type	HUD	Control Module		Buddy Lights	Sound
Thermal alarm confirm (primary)	Red attention, solid			Red	None
LCD Temp alarm	Blue attention, flashing			Based on pressure	None
Low battery	Yellow battery flashing			Based on pressure	Beep every 10 seconds
Medium pressure alarm	None			Yellow	Optional sound

9.3 Secondary Alarms

Icon	Description
	The attention icon flashes for active and new warnings, or shows steady for warnings that have been viewed.
	The evacuation alarm (running man icon) shows on the primary screen if the evacuation has been confirmed.

The buddy light status is based on the pressure status for secondary alarms.

9.3.1 Thermal Alarm

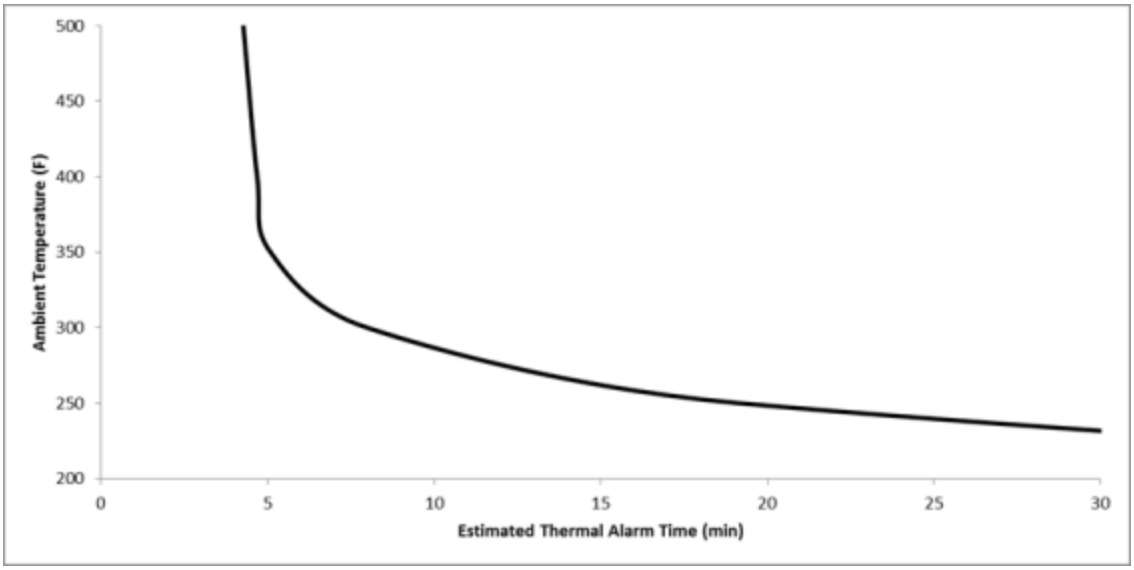
⚠ WARNING!

Although the thermal alarm provides an indication that the temperature/time curve is exceeded, because of variations in individuals and protective clothing, the curve may not represent the threshold to injury accurately. Use the thermal alarm only as a reference to increasing temperature/time. Do not use the thermal alarm as a substitute for standard operating procedures for escape from temperature/time extremes.

Failure to follow this warning can result in serious personal injury or death.

If the option for the thermal alarm is activated, the control module monitors thermal conditions. The thermal alarm can be set as a primary or secondary (default) alarm. If the user is exposed to more than the preset limit of thermal load (temperature/time), the secondary alarm shows on the control module and the power module emits a tone every 5 seconds.

The following figure shows the thermal alarm activation curve for the control module. The temperature/time limits correspond to this graph. The thermal alarm activates if the preset limit exceeds the curve shown on the graph. Depending on the severity of conditions, the alarm will self-cancel. This may occur even though the temperature is above the thermal curve.

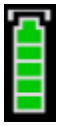
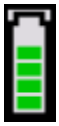
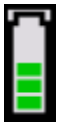


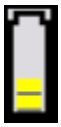
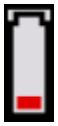
NOTE: This chart was generated from data obtained in a laboratory setting and is for reference only. Conditions are highly variable in an actual-use scenario. Users of the thermal alarm option should develop procedures for the use of this feature.

9.3.2 Secondary Alarm Icons

The secondary alarm icons indicate that a thermal alarm, battery alarm, or loss of radio connection occurred. These icons show on the primary screen until the condition is corrected (for example, the radio connection is re-established).

The evacuate alarm can only be cleared by restarting the SCBA.

Thermal		Bluetooth		Long-distance Radio		Battery	
	Thermal alarm enabled		Connection established		Good connection		Five green segments
	Thermal alarm active		Connection lost		Warning: Loss of link		Four green segments
			No Connection		Hardware failure		Three green segments

Thermal		Bluetooth		Long-distance Radio		Battery	
					Capable, no connection		Two yellow segments
							One red segment: Charge or replace battery, do NOT use device

9.4 ID Tagging

WARNING!

When scanning an ID tag, make sure the ID tag touches the power module. If it does not, the PASS device can lock up. If a lockup occurs, remove the battery module from the SCBA, wait 30 seconds, and then install the battery module.

Failure to follow this warning can result in serious personal injury or death.

Before use, make sure the ID tag does not have cracks or other damage. If the ID tag is damaged, discard it and replace it with a new ID tag.

9.4.1 Name ID Tag

A name ID tag (P/N 10083875) is used to assign a user's name to an SCBA. By default, the name ID tag must be scanned into the power module at the start of each shift (every 24 hours) or before each use. The name assigned to the SCBA shows on the MSA A2 accountability system software and the data log within the SCBA.

For more information about ID tags, or to change the default setting so a name ID tag can be assigned permanently to the SCBA (until a new name ID tag is scanned), refer to the Operating Manual: MSA A2® Software, Accountability Control Software (P/N 10162374).

9.4.2 Team ID Tag

A team ID tag is used to assign a team/truck and position to an SCBA. If a team ID tag is scanned into the power module but a name ID tag is not, the team ID will show on the MSA A2 accountability system software. When a team ID tag is scanned into the power module, the team ID stays with the SCBA until another team ID tag is scanned. If a team ID or name ID has not been assigned to the SCBA, the power module serial number shows as the firefighter's ID when the SCBA is logged onto the base station.

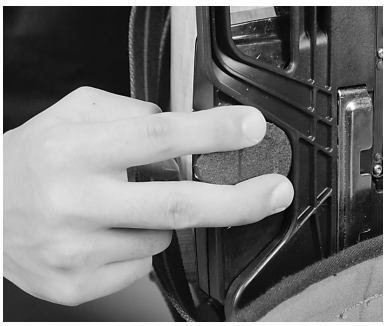
9.4.3 Base Station ID Tag

A base station ID is used to assign a specific base station ID to an SCBA. When more than one base station is available and actively monitoring at an incident, an SCBA with an assigned base station searches first for the preferred base station to log onto. If the SCBA does not find the assigned base station within 20 seconds, it searches for the first available base station and logs onto it. If a base station ID has not been assigned to the SCBA, the SCBA logs onto the first base station it finds after being turned on. When a base station ID tag is scanned into the power module, the base station ID stays with the SCBA until another base station ID tag is scanned.

9.4.4 During Use

The user can assign a tag to the SCBA during use.

1. Push and hold BOTH green RESET buttons at the same time until the RFID symbol shows on the control module.



2. Put the ID tag over the RFID reader on the power module. The RFID reader is on the SCBA backplate on the user's right side.

   When the reading is complete, the control module will show the ID tag information and emit a beep.

3. If the control module does not show the ID tag information, do Steps (1) and (2) again.

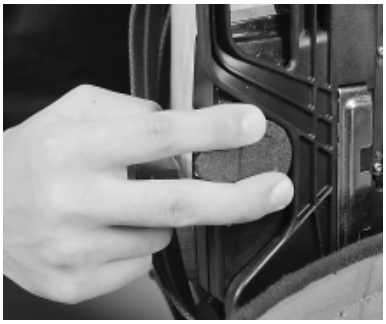
	RFID, searching
	Personal ID tag accepted

9.4.5 After Use

The user can also assign a tag when the SCBA is turned off.

1. Push and hold BOTH green RESET buttons at the same time until the battery symbol shows on the control module.

2. When the battery icon shows, push the ALARM button. The RFID symbol will show.



3. Put the ID tag over the RFID reader on the power module. The RFID reader is on the SCBA backplate on the user's right side.

   When the reading is complete, the control module will show the ID tag information and emit a beep.

4. If the control module does not show the ID tag information, do Steps (1) through (3) again.

9.5 Button Functions

9.5.1 RESET Buttons (Green)

Both RESET buttons have the same function. Push either RESET button to do the following, depending on the context:

Use a single short push to:

- Activate the backlight and refresh the HUD (in intermittent mode)
- Toggle between primary and second screens
- TIC Mode Only: Toggle between thermal image color palettes

Use a short double push to:

- Reset the PASS pre-alarm (or shake the control module to reset it)

- Reset the PASS full alarm
- Confirm evacuation
- Turn the device off (when below 200 psig)
- Clear primary alarms

Simultaneously push both buttons to:

- Go into RFID mode

9.5.2 ALARM Button

To activate a PASS full alarm, push and hold the ALARM button. A PASS full alarm can be activated when the SCBA is on or off.

9.6 Integrated TIC

Use a single, long push of either green RESET button on the control module to go into or out of TIC mode.

While in TIC mode, use single, short pushes of either green RESET button to toggle between palettes.

Five different color palettes can be added to the SCBA via custom configuration. For more information, refer to the Operating Manual: MSA A2® Software, Accountability Control Software (P/N 10162374).

9.7 Turning the Control Module Off

1. Upon returning to fresh air and doffing the SCBA, turn the handwheel clockwise to close the cylinder valve fully.
2. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, to release all pressure from the SCBA.
3. When the pressure decreases below 200 psi, double-push the green RESET button to turn the control module off.

   The shutdown sequence will show on the screen, and the lights on the control and power modules will stop flashing.

10 After Use

⚠ WARNING!

- Do NOT doff the respirator until the respirator and protective clothing are decontaminated. Otherwise, exposure to contaminants can occur.
- Obey the decontamination and disposal procedures set by the applicable authorities.
- Do NOT examine the respirator before it is cleaned if there is a risk of exposure to contaminants. Clean and disinfect the respirator first, then examine it.

Failure to follow these warnings can result in serious personal injury or death.

When protective equipment has been decontaminated, discard it as required by federal, state, and/or local laws.

10.1 Doffing the SCBA

1. Grasp the regulator buttons.

2. Push the release buttons, and pull the regulator out of the facepiece.

3. Turn the handwheel clockwise to close the cylinder valve fully.

4. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, to release all pressure from the SCBA.
5. Turn the regulator bypass knob clockwise to close the regulator bypass valve.

6. When the pressure decreases below 200 psi, double-push the green RESET button to turn the control module off.

   NOTE: The HUD and speaker module (if equipped) automatically turn off within 60 seconds after the SCBA is depressurized. A red LED flashes until the HUD goes off.

7. Put the regulator in the regulator retainer when it is not in use.

8. To remove the carrier and harness, push in on the release button on the waist belt buckle.
9. Disconnect the chest strap buckle (if used).

10. To loosen the shoulder straps, grasp the pull tabs and push them out and away from the body.

11. Remove the left arm from the shoulder strap first.
12. Remove the right arm from the shoulder strap.
13. Remove the harness.

10.2 Doffing the Facepiece

1. To loosen the head harness, use your fingers to pull the buckles forward.

2. Grip the chin straps and pull the head harness forward over the head.

3. Grip the front of the facepiece (as shown) and pull the facepiece away and down from the user.

10.3 After Doffing

1. Do the procedures in 12.4 Changing the Cylinder, to replace the cylinder with one that is fully charged.
2. Do the cleaning and disinfecting procedures in 11 Cleaning and Disinfecting the SCBA.
3. Do the inspection procedures in 4 Visual Inspections.
4. Make sure the complete SCBA is clean and dry.

5. Make sure the head harness straps for the facepiece and the harness adjustment straps are fully extended.
6. Put the complete SCBA in the storage case or an approved storage location for easy access during emergency conditions. Refer to 19 Safekeeping and Storage.

11 Cleaning and Disinfecting the SCBA

WARNING!

- Do NOT use cleaning substances that can or might attack any part of the SCBA.
- Do NOT use alcohol, which can cause deterioration of rubber parts.
- Do NOT use cleaning products that contain hydrocarbons or solvents such as nitro-thinner.
- Do NOT use radiant heat such as the sun or radiators to dry cleaned parts.
- When a drying cabinet is used, make sure the temperature is not more than 140°F (60°C).
- Make sure to rinse components thoroughly. The residue from cleaning agents can cause skin irritation.
- Make sure there is no water, moisture, or dampness on or in the facepiece and regulator before returning the SCBA to service. Any moisture on or in the facepiece or regulator can freeze and result in a malfunction of the SCBA.
- Failure to clean and decontaminate the SCBA correctly after each use can cause overexposure to contamination and result in illness, disease, or death.

Failure to follow these warnings can result in serious personal injury or death.

To prevent exposure to possible contamination that may be present after firefighting activities, a designated person or the user must clean the SCBA after each use. ANSI Z88.5, Practices for Respiratory Protection for the Fire Service, recommends that users be trained in the cleaning procedure.

MSA recommends the use of Confidence Plus Germicidal Cleaner (P/N 10009971), which cleans and disinfects components in one operation; retains its germicidal efficiency in hard water to inhibit the growth of bacteria; and will not deteriorate rubber, plastic, glass, or metal parts. Refer to the label to prepare the Confidence Plus Germicidal Cleaner.

If the Confidence Plus Germicidal Cleaner is not used, wash components in a mild cleaning solution and make sure to rinse them thoroughly. Submerge the facepiece in a germicide solution for the manufacturer's recommended time.

11.1 Cleaning and Disinfecting the Facepiece

WARNING!

Do a negative pressure seal test after every cleaning, disinfecting, and maintenance procedure, and after every exchange of parts.

Failure to follow this warning can result in serious personal injury or death.

Do NOT use a water hose to clean or decontaminate the facepiece.

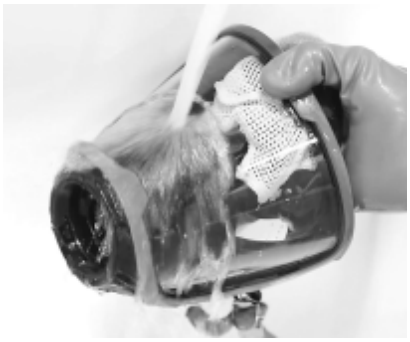
1. Remove the facepiece-mounted regulator from the facepiece.

   NOTE: Because the power supply for the HUD is not part of the G1 facepiece, it is not affected during facepiece cleaning

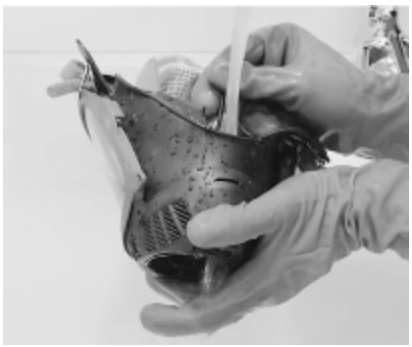
2. Use the instructions on the label to prepare a solution of Confidence Plus Germicidal Cleaner (P/N 10009971) in a bucket or sink.

   NOTE: The head harness can be cleaned as part of the facepiece or removed to be cleaned separately.

3. Submerge the facepiece in Confidence Plus Germicidal Cleaner for a minimum of 30 seconds.



4. Use a soft brush or sponge to clean the soiled facepiece.
5. Rinse the facepiece and components thoroughly in clean water that is not more than 110°F (43°C) and is preferably running and draining.



6. To clean and rinse the pressure-demand exhalation valve, use a blunt object to push in on the stem and flush the valve with clean water.
7. Let the facepiece air-dry. Do not put parts near a heater or in direct sunlight to dry.

8. Operate the exhalation valve manually to make sure it operates correctly.
9. Make sure there is no water, moisture, or dampness on or in the facepiece before returning it to service.
10. Do a negative pressure seal test before returning the facepiece to service.

11.2 Cleaning the Remainder of the SCBA

If the SCBA is soiled with heavy smoke residue or dirt accumulation, in a well ventilated area, use a sponge dampened with a mild soap solution or a soft/medium bristle brush to remove deposits from the following components:

- Harness (straps and buckles)
- Carrier (band and latch assembly)
- Cylinder (handwheel, gauge, outlet connection)
- Pressure reducer (bell and coupling nut connection)
- Control module
- Power module
- Battery module
- Speaker module
- Regulator surface

NOTE: Put a cover on the regulator outlet to prevent water, dirt, or debris from going into the regulator.

Make sure there is no water, moisture, or dampness on or in any of the components before returning the SCBA to service.

Use the inspection procedures in 4 Visual Inspections to examine the entire SCBA as it is reassembled.

11.3 Using a Water Hose to Clean the SCBA

⚠ WARNING!

Using a water hose to clean and decontaminate the SCBA increases the risk of water going into the regulator. If cleaning with a water hose is a requirement of local fire department procedures, obey the following instructions to clean and decontaminate the SCBA (not including the facepiece) and decrease the risk of water going into the pneumatic components (such as the regulator).

Failure to follow this warning can result in serious personal injury or death.

NOTICE

- Do NOT use a pressure washer or fire hose to clean the SCBA.
  If it is a requirement of local fire department procedures to use a fire hose to do decontamination at the fire scene before a firefighter removes the SCBA, make sure to decrease the pressure of the fire hose to prevent damage to the equipment.
- Use a ½ in. water hose connected to a water supply source.

Water/moisture can cause problems in the SCBA if it freezes. Water/moisture can cause freezing problems even if the surrounding air temperature is above 32°F (0°C). Air flowing from the cylinder through the pressure reducer and regulator decreases from cylinder pressure to close-to-atmospheric pressure very quickly. This causes the air to expand and creates a cooling effect. Although the surrounding temperature may be warmer than 32°F (0°C), the temperature inside the regulator may be lower. Any water, moisture, or dampness inside can freeze and restrict airflow.

Do the following when using a water hose to clean and disinfect the SCBA:

1. Do NOT use a water hose to clean or decontaminate the facepiece. For instructions, refer to 11.1 Cleaning and Disinfecting the Facepiece
   If it is a requirement of local fire department procedures to use a fire hose to do decontamination at the fire scene before a firefighter removes the SCBA, do the following:
   - Make sure to decrease the pressure of the fire hose to prevent damage to the equipment.
   - Make sure that the regulator stays attached to the facepiece and the firefighter does NOT doff the facepiece.
2. Keep the air cylinder connected to the SCBA during the cleaning process.
3. Protect the regulator from water contamination.
   - **Quick-disconnect hose:** If the regulator has a quick-disconnect hose, remove the regulator from the SCBA before using a water hose to clean the SCBA.
   - **Continuous hose:** If the regulator has a continuous hose, put a plastic bag over the regulator and seal the bag to protect the regulator from water contamination. Do NOT spray the plastic bag directly with water.
     If it is a requirement of local fire department procedures to use a fire hose to do decontamination at the fire scene before a firefighter removes the SCBA, do the following:
     - Make sure to decrease the pressure of the fire hose to prevent damage to the equipment.
     - Make sure that the regulator stays attached to the facepiece and the firefighter does NOT doff the facepiece.
4. After cleaning the SCBA with a water hose, use the instructions in 0.1 Using a Water Hose to Clean the SCBA, to clean the surface of the regulator and the remaining components.
5. After cleaning, use the inspection procedures in 4 Visual Inspections to examine the entire SCBA.
6. Make sure there is no water, moisture, or dampness on or in any of the components before returning the SCBA to service.

12 Cylinders

12.1 Safety Precautions for MSA SCBA Cylinders

⚠ WARNING!

- To maintain NIOSH approval, cylinders must be fully charged with respirable air that meets the requirements of CGA G-7.1, Section 2.1, Quality Verification Levels (Grades) D, or higher quality air, with a moisture dew point not more than -65°F (-54°C) (24 ppm water vapor, normal). In fire service applications, MSA recommends breathing air quality in accordance with NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection.
- Do NOT drop the cylinder or hit the handwheel. An unsecured cylinder can become an airborne projectile under its own pressure if the cylinder valve is opened even slightly.
- Do NOT use the handwheel to carry or move a cylinder. If a cylinder is removed from a horizontal shelf by grasping the handwheel, the weight of the cylinder can cause the cylinder to turn downward, causing the valve to open slightly.
- Use the handwheel only to open and close the cylinder valve.
- Remove the cylinder from service if it shows evidence of exposure to high heat or flame, such as paint that has turned a brown or black color, decals that are charred or missing, a melted gauge lens, or distorted elastomeric materials.
- Use this SCBA only after receiving the correct training. Use this SCBA in accordance with the MSA instructions.
- Do NOT use cylinders that are not filled to the maximum working pressure.
- Do NOT alter, modify, or substitute any components without approval of the manufacturer.

- Examine the cylinders frequently.
- Use, inspect and maintain cylinders in accordance with the cylinder manufacturer's instructions, including all warnings and cautions.
- Return cylinders to an MSA trained and certified repair technician for repair.

Failure to follow these warnings can result in serious personal injury or death.

Recharge SCBA cylinders fully as soon as possible after use.

Do NOT put cylinders that are partially charged in storage.

- The service time of the SCBA is reduced if cylinders that are partially charged are used.
- The pressure-relief device is only designed to protect a fully charged cylinder from the effects of a fire.

For maximum safety, store the cylinders full or at a pressure above ambient but less than 100 psi.

Before recharging, examine the cylinders externally for evidence of high heat exposure, corrosion, or other significant damage.

When performing external and internal inspections of the cylinders, refer to the latest edition of CGA C-6.2, Standard for Visual Inspection and Requalification of Fiber Reinforced High Pressure Cylinders.

If there is any doubt about the suitability of the cylinder for recharge, return it to a certified hydrostatic test facility for expert examination and testing.

Make sure the retest date is within the prescribed period and that the cylinder is correctly labeled to indicate its gaseous service. New labels are restricted items that are not available except through certified hydrostatic test facilities.

When replacing a cylinder valve assembly or after retesting the cylinders, make sure the correct cylinder valve, burst disc, and O-ring are installed before charging the cylinder.

Determine the maximum service pressure of the cylinder. Fill all cylinders only to the designated service pressure found on the DOT approval or stamping. For cylinders manufactured under a US DOT exemption (i.e., DOT-E- #####), consult the exemption, which is available from the Research and Special Programs Administration (RSPA), US Department of Transportation, 400 7th Street, SW, Washington, DC 20590-0001.

12.2 Preparing Cylinders for Use

For remote connections, make sure the dovetail bracket is attached to the cylinder before use. If the dovetail is not available, do the following:

1. Remove the old cylinder boot and insert (if equipped) from the cylinder.
2. If MSA cylinders are already available, use the following table to determine which cylinder retainer kit is necessary.

P/N	Cylinder	NIOSH Service Life Rating	Pressure	Retainer Type	Retainer Kit P/N
807586	L-30 Carbon	30 minutes	2216 psig	Type 4	10158401
807587	H-30 Carbon	30 minutes	4500 psig	Type 2	10158389
807570	H-45 Carbon	45 minutes	4500 psig	Type 4	10158401
10035644	H-45 LP Carbon	45 minutes	4500 psig	Type 3	10158390
807588	H-60 Carbon	60 minutes	4500 psig	Type 5	10158402

3. Attach the retainer halves to the cylinder valve assembly.

4. Install three screws in the retainer.
5. Torque the screws to 3.96 in·lbf (0.45 N·m).

6. Install the new rubber boot (P/N 10146897) over the gauge of the cylinder valve assembly.
7. Attach the rubber boot to the retainer.
8. Make sure the retainer is not loose on the cylinder valve assembly.

12.3 Installing the Quick-Connect Adapter to the Cylinder

NOTE: A torque wrench with a 24 mm open end is necessary for installation.

1. Use only a fully charged cylinder.
2. Make sure there is no dirt, debris, or damage on the external threads and bore of the cylinder valve assembly.
3. If the cylinder valve assembly is damaged, remove the SCBA from service and return it to an MSA trained or certified repair technician.

4. Make sure there is no dirt, debris, or damage on the internal threads and nipple of the male adapter.
5. Make sure there is no dirt or debris on the O-ring, and that it is installed on the nipple.

6. Hold the cylinder valve assembly tightly and connect the male adapter to the valve.
7. Use a torque wrench to tighten the adapter to 13 – 15 ft·lbf (18 – 20 N·m).

For cylinders with retainers already installed, use the following MSA part numbers.

P/N	NIOSH Service Life Rating	Pressure
G1 Cylinders c/w QC and Air, Packaged		
10175706	30 minutes	2216 psig
10175707	30 minutes	4500 psig
10175708	45 minutes	4500 psig
10175709	45 minutes	4500 psig
10175710	60 minutes	4500 psig

P/N	NIOSH Service Life Rating	Pressure
G1 Cylinders c/w QC and Air, Packaged		
10156427-SP	30 minutes	5500 psig
10156428-SP	45 minutes	5500 psig
10156429-SP	60 minutes	5500 psig

P/N	NIOSH Service Life Rating	Pressure
G1 Cylinders c/w QC and Less Air, Packaged		
10175711	30 minutes	2216 psig
10175712	30 minutes	4500 psig
10175713	45 minutes	4500 psig
10175714	45 minutes	4500 psig
10175715	60 minutes	4500 psig
10181628	30 minutes	5500 psig
10181629	45 minutes	5500 psig
10181630	60 minutes	5500 psig

12.4 Changing the Cylinder

12.4.1 Removing the Cylinder

1. Put the backplate of the SCBA on a horizontal surface with the cylinder facing up.
2. Turn the handwheel clockwise to close the cylinder valve.
3. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, until airflow from the regulator stops.
4. Turn the regulator bypass knob clockwise to close the regulator bypass valve.
5. Disconnect the handwheel from the cylinder valve assembly.
    - **Threaded connect**
        - Remove the handwheel coupling nut from the cylinder valve assembly.
    - **Quick connect**
        - Turn the quick-connect fitting counterclockwise until it stops, and pull it away from the cylinder valve assembly to release it.

⚠ WARNING!

The cylinder band will snap open quickly when the latch is released. Make sure your hands are not between the latch and the band when this occurs.

Failure to follow this warning can result in serious personal injury or death.

6. Push the two side buttons on the cylinder band latch and lift to release the cylinder band from the cylinder.

7. Remove the empty cylinder from the carrier.

12.4.2 Attaching the Cylinder

⚠ WARNING!

Make sure to protect the quick-connect fitting and adapter from damage, dirt, and debris during cylinder replacement. Dirt and debris can cause the cylinder connection seals to leak.

Failure to follow this warning can result in serious personal injury or death.

1. Put the backplate of the SCBA on a horizontal surface with the cylinder facing up.
2. Make sure the cylinder band latch is open and the band is set for the correct cylinder size.
3. Install the fully charged cylinder into the carrier with the gauge of the cylinder valve assembly facing away from the backplate.
4. Align the regulator retainer into the dovetail (if equipped).
5. Make sure the cylinder band and latch are in the correct slot. Slot orientation starts from the edge of the cylinder band label.

Cylinder Band Diameter	Slots
H30	3, 4
H45 (lite)	7, 8, 9
H45 (carbon)	11, 12, 13
L30	12, 13
H60	13, 14, 15
5500-30	1
5500-45	5
5500-60	10

6. Close the latch mechanism until the buttons lock in position.
7. To make sure the cylinder is secure, put one hand on the backplate and grasp the cylinder valve assembly with the other hand. Try to pull the cylinder down and out from the carrier. Make sure the cylinder band and latch hold the cylinder securely in the carrier.

   NOTE: If the cylinder is loose, make sure the latch is engaged in the correct slot on the cylinder band.
8. Make sure the latch is tightened fully. Do not use the SCBA if the cylinder is not held securely in the carrier.
9. Attach the handwheel assembly to the cylinder valve assembly.

- **Threaded connect**
  a. Make sure there is an O-ring on the stem of the handwheel assembly and that it is not damaged. If necessary, replace the O-ring.
  b. Install the handwheel coupling nut on the cylinder valve assembly.
  c. Make sure the handwheel is hand-tight (tools are not necessary).
- **Quick-connect**
  a. Make sure there is no dirt or debris on the male and female fittings of the coupling.

b. Push the quick-connect fitting onto the cylinder valve adapter until there is an audible snap. The handgrip will turn rapidly approximately 45 degrees counterclockwise, indicating that the valve is connected to the pressure regulator.

c. Grasp the handwheel firmly and pull on it to make sure it is attached securely.

12.5 Charging the Cylinders

1. Connect the cylinder to the filling system.

   NOTE: For cylinders with quick-connect adapters: Unless the filling system has been adapted for the quick-connect coupling, remove the quick-connect adapter before filling cylinder.
2. Refill the cylinder until the pressure reaches the maximum service pressure.
3. Let the cylinder cool to room temperature.
4. If necessary, when the cylinder is at a temperature of 70°F (21°C), top it off to reach the maximum service pressure.
5. Close the valves on the cylinder and the filling system.
6. Disconnect the cylinder from the filling station.
7. Apply a leak solution to determine if there is any leakage between the cylinder and the valve.
   a. If there is no leakage, the cylinder is ready for use.
   b. If there is leakage, remove the cylinder from service.

13 UAC Fitting

The universal air connection (UAC) fitting is a male coupling for use by rapid intervention teams for emergency filling operations. In accordance with the requirements of NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, the SCBA is equipped with one RIC UAC fitting located on the pressure reducer. The SCBA can be equipped with an optional Remote Quick-Fill system that includes an additional UAC fitting. For SCBA with 2216 or 4500 psi systems, either the RIC UAC fitting or the Remote Quick-Fill UAC fitting can be used for the filling and transfilling operations described in this manual. SCBA with a 5500 psi operating system will not transfill.

Users are responsible for developing standard operating procedures for use of the UAC fitting.

13.1 Precautions

⚠ WARNING!

- Do NOT use the UAC fitting if there is any possibility that the environment contains a CBRN warfare agent. The UAC fitting is not approved for filling operations in atmospheres containing CBRN warfare agents.
- Do NOT use the UAC fitting as a buddy breather (two users sharing the air supplied by one approved SCBA cylinder simultaneously). Doing so voids NIOSH approval.
- Do NOT try to transfill SCBA with a 5500 psi operating system.
- Only qualified, trained personnel who have carefully read and understood these instructions, cautions, and warnings should use the UAC fitting.
- Do NOT lubricate the UAC fittings.
- Do NOT let oil, grease, or other contaminants have contact with the UAC fittings.
- For transfilling air from a secondary air supply, the hose assemblies and fittings are designed to be used with CGA G-7.1, Section 2.1, Quality Verification Levels (Grades) D, or higher quality air. In fire service applications, MSA recommends breathing air quality in accordance with NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection.

Failure to follow these warnings can result in serious personal injury or death.

The UAC fitting can only be used to fill approved SCBA cylinders.

The user is responsible for the air supply, which must meet the requirements of CGA G-7.1, Section 2.1, Quality Verification Levels (Grades) D, or higher quality, with a moisture dew point not more than -65°F (-54°C) (24 ppm water vapor, normal). In fire service applications, MSA recommends breathing air quality in accordance with NFPA 1989, Standard on Breathing Air Quality for Emergency Services Respiratory Protection.

Pressures at the inlet of the quick-fill hose must not exceed that of the SCBA (2216 psi, 4500 psi, 5500 psi).

The user is responsible for connecting the quick-fill hose to an appropriate secondary air supply.

Examine the cylinder for damage before charging.

When topping off the cylinder pressure using the UAC fitting, MSA recommends waiting until the cylinder has cooled from the initial fill to a temperature of 70°F (21°C) to provide the maximum service time.

To make sure the SCBA is in a configuration approved by NIOSH 42 CFR Part 84, use only MSA-approved hose assemblies during transfilling procedures.

13.2 Filling Instructions

⚠ WARNING!

Do NOT connect a high-pressure SCBA to a secondary air supply with a pressure more than the operating system of the primary SCBA.

Failure to follow this warning can result in serious personal injury or death.

A secondary air supply provides compressed breathing air when it is needed to refill SCBA air cylinders. For filling operations, the pressure of the secondary air supply must be more than the SCBA cylinder pressure. Examples of air supplies include cascade air cylinder refilling systems, high-pressure compressor systems with a fixed reservoir, and portable air systems such as the RescueAire ® II System.

NOTE: Rapid intervention teams should use a separate air supply such as MSA's RescueAire II Portable Air-Supply System (P/N 10100095) to fill the SCBA cylinders in atmospheres that are IDLH.

1. Connect the quick-fill hose to the secondary air supply.
2. Turn the air supply on.

NOTICE

If there is leakage from either female fitting or along the quick-fill hose, depressurize the hose and correct the problem. Such leakage can result in increased fill time.

3. Attach the quick-fill hose to the UAC fitting:
   a. Remove the rubber dust cap from the male inlet fitting on the UAC fitting. Make sure the cylinder valve is fully open.
   b. Remove the rubber dust cap from the female fitting on the quick-fill hose.
   c. Push the female fitting of the quick-fill hose onto the male fitting of the UAC until the hose clicks into position.
   d. Pull on the quick-fill hose to make sure the connection is secure.

   When the female fitting of the quick-fill hose fully engages with the UAC fitting, filling starts immediately.

   After approximately 60 seconds, the pressure between the secondary air supply and the SCBA cylinder will be equal.

NOTE: If the secondary air supply does not have a sufficient volume of air, the SCBA cylinder will not reach full service pressure.

4. Compare the readings of the cylinder pressure gauge and the remote pressure gauge to the secondary air supply pressure gauge.

   If the readings are the same, pressure is equal.

5. To disconnect the quick-fil hose, pull the gray sleeve back.

   The female fitting on the hose and the UAC fitting will separate.

   A hissing or popping sound may occur as the fittings separate and the high-pressure air is sealed off.

6. Listen for leaks from the UAC fitting.
7. Immediately install the rubber dust cap on the UAC fitting.
8. If the needle on the cylinder pressure gauge is in the appropriate color band, the SCBA cylinder is ready for service.

13.3 Transfilling between SCBAs

⚠ WARNING!

- Do NOT try to transfill SCBA with a 5500 psi operating system.
- Do NOT do transfilling between SCBAs if the donor's primary low-pressure warning device is in alarm or the HUD/control module lights are flashing red.

Failure to obey this warning can result in a shorter escape time to return to fresh air, causing serious personal injury or death.

Do transfilling between SCBAs ONLY during life-threatening emergencies or simulated training exercises.

The SCBA with the higher pressure reading is the donor. The SCBA with the lower pressure reading is the receiver. Both donor and receiver must return to fresh air immediately following the transfilling procedure.

If the donor's primary low-pressure warning device goes into alarm or the HUD/control module lights start to flash red during transfilling to indicate that pressure in the cylinder has been reduced to 35 percent of its rated working pressure, the donor should disconnect and use the remaining service time to escape to fresh air.

If the donor's primary low-pressure warning device is not in alarm, the HUD/control module lights are not flashing, and there is sufficient air to transfill to a receiver (more than 1000 psi for 2216 psi SCBAs and more than 2000 psi for 4500 psi SCBAs), do the following:

1. Remove the emergency transfill hose from its protective pouch.
2. Remove the rubber dust cap from both female fittings on the emergency transfill hose.
3. Remove the rubber dust cap from the male inlet fittings on the UAC fittings on both SCBAs.

4. Push the female fitting of the Quick-Fill hose onto the male fitting of the UAC until the hose clicks into position.
5. Pull on the emergency transfill hose to make sure the connections are secure.

   When both female fittings are fully engaged with the UAC fittings, filling starts immediately.

   After approximately 60 seconds, the pressure between the donor and receiver SCBA cylinders will be equal.

⚠ WARNING!

If there is leakage from either female fitting or anywhere along the emergency transfill hose, disconnect the female fittings and return to fresh air immediately.

Failure to follow this warning can result in serious personal injury or death.

6. To disconnect the emergency transfill hose from the SCBA, pull the gray sleeve back on both ends.

   The hose fittings and the UAC fittings will separate.

   A hissing or popping sound may occur as the fittings separate and the high-pressure air is sealed off.

7. Immediately install the rubber dust cap on the UAC fitting to make a redundant seal and prevent dirt, water, and debris from going into the fitting.

13.4 Leakage

⚠ WARNING!

During transfilling, if the dust cap will not stay on the male fitting because air is leaking, do the following steps to correct the condition before using the SCBA.

Failure to follow this warning can result in serious personal injury or death.

1. Immediately connect the quick-fill hose to seal off the leak, and return to fresh air.
2. If the hose will not reconnect, reach behind and turn the handwheel clockwise to close the cylinder valve. Air pressure in the regulator will decrease, and the leak will slow.
3. Quickly install the protective rubber dust cap on the male inlet fitting on the UAC fitting to make a redundant seal.
4. Turn the handwheel counterclockwise to open the cylinder valve.
5. Return to fresh air immediately.

13.5 Storing the Emergency Transfill Hose

Do the following to prepare the emergency transfill hose for storage:

1. Push in on the center of the quick-disconnect dust cap to release any pressure in the emergency transfill hose.
2. Wind up the hose and put it in its protective pouch.

14 G1 ExtendAire II System

⚠ WARNING!

- Do NOT connect the ExtendAire II system if there is any possibility that the environment contains a CBRN warfare agent. The ExtendAire II system is not approved for connection in atmospheres containing CBRN warfare agents.

- The ExtendAire II system has UEBSS quick-connect fittings. Do not try to connect Snap-Tite quick-connect fittings to UEBSS quick-connect fittings. Snap-tite and UEBSS quick-connect fittings will not operate correctly together.
- Do NOT install or try to use any hose assembly or fitting other than those supplied by MSA for the ExtendAire II system with UEBSS fittings.
- In accordance with NFPA 1981-2018, the MSA G1 SCBA has UEBSS fittings that make it possible to connect to a UEBSS on other manufacturers' SCBAs. Approval under the NFPA 1981-2018 standard does not require testing with other manufacturers' devices. When the UEBSS fittings are used to connect the MSA G1 SCBA with another manufacturer's device, MSA does not guarantee or warrant the performance of either the MSA G1 SCBA or the other manufacturer's SCBA.
- Users must be trained in the operation of ExtendAire II system in accordance with a training program conforming to NFPA 1404, Standard for Fire Service Respiratory Protection Training, and NFPA 1500, Standard on Fire Department Occupational Safety and Health Program, before any attempt to use such equipment in an emergency situation.
- Users are responsible for developing standard operating procedures for use of the ExtendAire II system .
- Use this emergency escape breathing system only for life-threatening emergencies and simulated training exercises. Consider all other adequate means of escape before using this device.
- Use of the ExtendAire II system in either donor or receiver mode changes the use of the SCBA to Escape Only. The donor and receiver must immediately return to fresh air.
- During use, the air supply and consequentially the remaining service time are decreased by approximately half. Before connecting two users, make sure the donor's air supply is sufficient for both users to escape. Otherwise, do not use the system.
- Do NOT use the system if the donor's low-pressure warning device is in alarm. Use of the system at this time can result in insufficient air for both users during escape.
- Before disconnecting the EBSS, make sure that the cylinder valves for both the donor and receiver are open.
- Use extreme care while the air masks are connected. Mobility and range of motion are limited when donor and receiver air masks are connected.
- Keep slack in the air lines. Do NOT pull on the hoses. Pulling on the rescue hose to the intermediate pressure hose can cause the hoses to separate from the fittings and result in air leaks.
- If users cannot follow the previous instructions, or to provide increased escape protection, use the quick-fill system. Use of the quick-fill system maintains approval during transfilling procedures and has fewer safety risks.

Failure to follow these warnings can result in serious personal injury or death.

The ExtendAire II system lets two users connect and share intermediate-pressure air. The ExtendAire II system includes a manifold, hose assembly, and pouch. In accordance with the requirements of NFPA 1981, Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services, the manifold includes both male and female UEBSS quick-connect fittings to enable connection to a second ExtendAire II system . The pouch, identified with the label "UEBSS," is attached to the user's left side to hold and protect the manifold and hose assembly. The pouch is held closed securely by a combination of hook-and-loop fasteners and snaps, but can be opened using one hand.

14.1 Quick-Connect Fittings

⚠ WARNING!

Do NOT try to connect Snap-Tite quick-connect fittings to UEBSS quick-connect fittings. Snap-tite and UEBSS quick-connect fittings will not operate correctly together.

Failure to follow this warning can result in serious personal injury or death.

Snap-Tite *UEBSS*

The ExtendAire II system has two quick-connect fittings that can connect with both male and female fittings on another user's manifold.

1. To connect the quick-connect fittings, push the female fitting firmly over the male fitting.
2. To disconnect the quick-connect fittings, do the following:
    a. Push the two sides of the quick-connect fitting toward each other. The male fitting should advance into the female fitting an additional 1/8 in. (0.32 cm).
    b. Move the outer sleeve of the female fitting away from the male fitting.
    c. Pull the male fitting out of the female fitting.
    d. Install dust caps on the quick-connect fittings.

14.2 Providing or Obtaining Emergency Breathing Support

⚠ WARNING!

After reaching a safe, nontoxic atmosphere and disconnecting from the donor’s air supply, the receiver must remove the facepiece or regulator immediately.

Failure to follow this warning can result in serious injury or death from suffocation.

Figure 3 connection of donor and receiver manifolds

1. Disconnect the snaps and hook-and-loop fastener on the flap of the donor's waist-mounted storage pouch.
2. Find the manifold end of the emergency breathing hose, and remove it from the donor's pouch.
3. Remove the dust cap from the quick-connect fittings on the donor's manifold.
4. Disconnect the snaps and hook-and-loop fasteners on the flap of the receiver's waist-mounted storage pouch.

5. Find the manifold end of the emergency breathing hose, and remove it from the receiver's pouch.
6. Remove the dust cap from the quick-connect fittings on the receiver's manifold.
7. Connect the donor and receiver manifold blocks with a single action using the male and female quick-connect fittings.

   NOTE: Each manifold has male and female quick-connect fittings to supply or receive air.
8. Make sure the hose routing is correct and the hose is not tangled with any other part of the apparatus (for example, neck strap, chest strap).
9. Pull on the quick-connect coupling to make sure that the female fitting does not separate from the male fitting.
10. Immediately after the EBSS connection has been completed, the cylinder valve of the receiving SCBA shall be closed.

    NOTE: Prior to any disconnection of EBSS systems ensure that the cylinder valve of the receiving SCBA has been re-opened.

    NOTE: Having both receiver and donor cylinder valves open during EBSS connection may result in unequal pressure usage between both cylinders causing one cylinder to reduce in air time remaining faster than the other.

    NOTE: If the donor SCBA continues with EBSS connection through the donor SCBA entering low pressure alarm, opening both the donor and receiver SCBA's cylinder valves will allow for the maximum duration of air available between both users' cylinders be used.
11. Upon reaching a safe, nontoxic atmosphere, disconnect the quick-connect coupling between the donor and receiver manifold blocks.
12. Install dust caps on the donor and receiver manifold fittings.

15 Flow Test and Overhaul Requirements

The regulator and primary low-pressure warning device must be flow tested at specific time intervals by a certified repair technician or at an MSA service center. Contact your MSA sales representative or call the MSA Customer Service Center at 1-877-MSA-3473 for more information about this requirement.

Annual flow tests are a requirement of NFPA 1852, Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA), 2019 edition. Although this standard relates to SCBA used in the fire service, MSA requires that a flow test be done at least annually on all SCBA and combination respirators that use a regulator.

MSA recommends the routine inspection of all elastomeric materials including, but not limited to, those given in 4 Visual Inspections and 5 Functional Tests.

A decision to remove apparatus from service permanently should be based on the SCBA's performance data and whether that data meets the specified level of performance defined in the MSA CARE manuals.

MSA recommends overhauling the SCBA after every 600 hours of on-air usage. The SCBA service mode provides the status of on-air usage. Only trained personnel are authorized to use service mode.

15.1 Overhaul Reminder

The G1 SCBA can be configured to show an overhaul alarm on the control module after 600 hours of on-air usage. The overhaul alarm will show on the control module during start-up every time the SCBA is turned on until the overhaul alarm is

reset. For detailed instructions about how to activate the overhaul alarm, refer to the Operating Manual: MSA A2® Software, Accountability Control Software (P/N 10162374).

16 Spectacle Kit

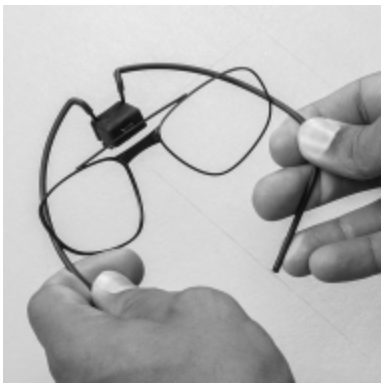
⚠ WARNING!

Before using a spectacle kit, an optometrist must examine the spectacle kit and prescribe the correct lenses to fit into the lens frame on the spectacle kit.

Failure to follow this warning can result in serious personal injury or death.

1. Turn the head harness over the front of the facepiece so the harness covers the lens of the facepiece.

   This will open up the faceblank to make it easier to install the spectacle kit.



2. Squeeze in on the wire frame of the spectacle kit at the large bends about 2 in. (5 cm) from the ends.

3. Push the top part of the wire frame into the lens of the facepiece.

   The faceblank has three rubber tabs made to grab the wire frame.

4. Push one end of the wire frame up into the facepiece so the frame is in position along the edge where the lens and faceblank meet.

5. Make sure the end of the wire frame is in position in the small pockets in the faceblank on the edge of the lens.
6. Do Steps (4) and (5) on the opposite side.

7. Don the facepiece.
8. Adjust the lens frame up/down and in/out to optimize fit and visibility.

17 Telemetry Module

The telemetry module is designed to let the SCBA to communicate with a remote base station while in use. SCBAs with a telemetry module transmit statistics such as cylinder pressure, thermal alarm (if enabled), service time remaining, and PASS alarm to the base station. The base station can send an evacuation command to the SCBA. The telemetry module uses a special version of the power module.

Except for the following differences, the operation of SCBAs with a telemetry module is the same as for SCBAs without a telemetry module:

- **Turning the control module on**: When the control module is activated in the presence of a remote base station, the SCBA automatically starts to log onto that base station. When the SCBA is successfully logged onto the base station, a radio link indicator shows on the display of the control module.

- **Evacuation signal:** After it has been successfully logged onto the base station, the SCBA can receive an evacuation signal from the remote base station. When the base station sends an evacuation signal, the running man icon flashes on the display of control module and the power module emits a unique audible alarm. The user must push the green RESET button twice within approximately 1 second to confirm the evacuation signal. When the evacuation signal is confirmed, the running man icon stops flashing and shows steady on the display until the control module is turned off.
- **PASS alarm:** When the SCBA emits a full PASS alarm, a signal is automatically sent to the base station to alert Incident Command.
- **Thermal alarm:** When the SCBA is exposed to temperature conditions that activate a thermal alarm (if enabled), a signal is automatically sent to the base station to alert Incident Command.
- **Low battery:** When the power module gets to a low battery condition, a signal is automatically sent to the base station to alert Incident Command.
- **Data log:** The data logging feature of the control module logs the status of the radio link to the base station as well as any evacuation signals the SCBA receives.
- **Radio link indicator:** The control module has a radio link indicator on the secondary screen. When this icon shows, the SCBA is logged onto a base station and within range. A red radio link indicator means the radio contact has been lost or interrupted. A grey radio link indicator means the radio contact was never established.
- **Turning the control module off:** To turn the control module off, push the green RESET button twice within approximately 1 second. If the SCBA is logged onto the base station, there is a slight delay between the two pushes of the RESET button and the actual shutdown of the device while the base station removes the SCBA from its registry.

17.1 Base Station with the Telemetry Module

The telemetry module is designed to work in conjunction with a remote base station. The base station must be connected to a personal computer (PC) or notebook computer before use. For additional information, refer to the Operating Manual: MSA A2 Software, Accountability Control Software (P/N 10162374).

⚠ WARNING!

Follow the PC or notebook computer manufacturer's recommendations regarding exposure to environmental conditions to prevent damage to the computer.

Failure to follow this warning can cause computer failure and the loss of monitoring capability on the PC or notebook computer.

17.1.1 Logging On to the Base Station

⚠ CAUTION!

If the signal strength indicator does not show on the control module display or the base station has not logged the SCBA on, the base station cannot monitor the user's status.

Failure to follow this caution can result in minor or moderate injury.

1. To activate the control module, open the cylinder valve or push and hold the ALARM button. An icon representing the SCBA user shows on the computer screen of the base station.
2. When the base station makes contact with the SCBA and all initial information has been obtained, the radio link indicator shows in the upper left corner of the control module display.
3. Monitor the status of the radio link indicator on the display of the control module. If the indicator is yellow, the SCBA is out of range from the base station. When the SCBA is within range of the base station, the radio link indicator is green.

17.1.2 Logging Off of the Base Station

When the user returns to fresh air, the control module can be turned off.

1. Turn the handwheel clockwise to close the cylinder valve.
2. Turn the regulator bypass knob counterclockwise to open the regulator bypass valve, or if equipped, push the purge button, to release all pressure from the SCBA.
3. When the pressure decreases below 200 psi, push the RESET button twice in approximately 1 second to turn the control module off (sleep mode). If the SCBA is logged onto a base station, there is a slight delay between the two pushes of the RESET button and the actual shutdown of the device while the base station removes the SCBA from its registry.

17.2 Evacuation Signal

If the SCBA is logged on to a base station, Incident Command can send an evacuation signal to the SCBA. When the base station sends an evacuation signal, the running man icon flashes on the display of control module and the power module emits a unique audible alarm. The user must push the green RESET button twice within approximately 1 second to confirm the evacuation signal. When the evacuation signal is confirmed, the running man icon stops flashing and shows steady on the display until the control module is turned off.

18 Maintenance

18.1 G1 SCBA

Make sure this product is inspected and serviced regularly by authorized MSA service personnel.

Keep detailed inspection and service records.

MSA is liable only for maintenance and repairs performed by MSA.

MSA recommends maintenance intervals that follow the overhaul and flow test requirements.

Use only genuine MSA replacement parts.

Changes to devices or components are not permitted and will result in unapproved configurations.

18.2 Alkaline Batteries

⚠ WARNING!

- Replace the alkaline batteries if the low battery alarm becomes active during use of the SCBA.
- Replace the alkaline batteries only in a nonhazardous environment.
- Remove and install the battery modules only in a nonhazardous environment.
- Do NOT dispose of the batteries in fire. Batteries can explode. Contact the local municipality for instructions about the correct disposal of batteries.
- Use only approved alkaline batteries in the alkaline battery module. Use of other batteries or a combination of batteries from different manufacturers will affect the performance of the SCBA and void the Intrinsic Safety approval.

Failure to follow these warnings can result in serious personal injury or death.

NOTICE

Do NOT use force to remove or install the battery module.

Battery status can be monitored while the SCBA is in the jump seat. To see the battery status, push and hold both RESET buttons on the control module until the battery icon shows.

The battery module can be replaced without removing the SCBA from the jump seat.

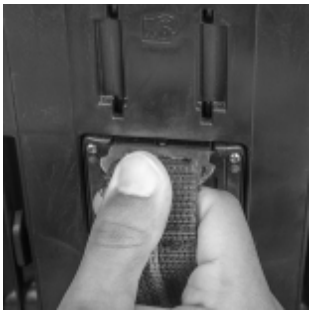
18.2.1 Alkaline Batteries Approved for Use

With the exception of Energizer EN93, the temperature class for the following list of batteries is T4. The temperature class for Energizer EN93 batteries is T3C.

- Duracell Procell PC1400
- Duracell MN1400
- Duracell Quantum LR14
- Panasonic Evolta C-LR14
- Panasonic Industrial LR14XWA
- Industrial Panasonic Powerline
- Rayovac Ultra Pro LR14
- Rayovac LR14
- Rayovac Fusion
- Energizer EN93
- Energizer E93

18.2.2 Replacing Alkaline Batteries

The battery module is installed on the user side of the SCBA in the middle of the backplate.



1. Push the battery removal tool into the slot in the alkaline battery module until the tool clicks into position.

2. Pull the removal tool and the alkaline battery module out of the power module.

3. Use a T-10 Torx Tamper-Proof screwdriver to remove the eight Torx screws from the cover of the alkaline battery housing.

4. Remove the cover from the alkaline battery housing.
5. Make sure there is no dirt, debris, or damage on the cover of the alkaline battery housing. If necessary, replace it.
6. Make sure the gasket is in position and does not have nicks or tears.

7. Remove all six batteries.
8. Make sure there is no dirt, debris, damage, battery acid, or corrosion on the inside of the alkaline battery module.
9. Make sure the battery contacts are in position and secure.
10. Install six new C-cell batteries. Make sure the + contacts are in alignment.

11. Install the cover on the alkaline battery housing.
12. Use a T-10 Torx Tamper-Proof screwdriver to install the eight Torx screws in the cover of the alkaline battery housing.
13. Tighten the screws until the cover makes contact with the standoffs, with a maximum torque of 3.96 in·lbf (0.45 N·m).

NOTE: This is the position of the battery cover to the housing when the Torx screws are tightened correctly.

14. Make sure there is no dirt or debris on the power module.
15. Make sure the pins and grooves are not damaged.

16. Align the alkaline battery module with the grooves in the power module.
17. Install the alkaline battery module into the power module.
18. Push on the top of the alkaline battery module until it clicks into position.
19. Push on the opposite side of the power module.
20. Make sure the alkaline battery module does not move.

18.2.3 Disposing of Alkaline Batteries

⚠ WARNING!

Do NOT dispose of the batteries in a fire. Batteries can explode.

Failure to follow this warning can result in serious personal injury or death.

Do not dispose of batteries as ordinary trash.

Dispose of or recycle the alkaline battery module in accordance with all applicable federal, state, and local regulations. Contact the local municipality for instructions about the correct disposal of alkaline batteries.

18.3 Rechargeable Battery Module

⚠ WARNING!

- Do NOT use a rechargeable battery module that shows signs of damage such as bulging, swelling, leaking fluid, a cracked housing, or broken contacts.
- Do NOT use a rechargeable battery charging station that shows damage. Replace the charging station if the case shows cracks or distortion, or if the cord shows damage or wear.

Failure to obey these warnings can result in a loss of electronics functionality and serious personal injury or death.

⚠ WARNING!

- Use only MSA rechargeable battery charging station (P/N 10158385) with the MSA G1 SCBA replacement rechargeable battery (P/N 10148741-SP).
- Do NOT remove or install the rechargeable battery module in an environment with explosive concentrations of combustible gases, vapors, or mists.

Failure to obey these warnings will void the Intrinsic Safety approval and can result in an explosion or a fire.

NOTICE

Recharge the rechargeable battery module if the low battery alarm has activated.

Failure to obey this notice can result in a loss of electronics functionality during subsequent product use.

NOTICE

- Do NOT use force to remove or install the battery module.
- Do NOT attempt to open the housing of the rechargeable battery module. The rechargeable battery module does not have replaceable cells.
- Do NOT charge a rechargeable battery module in temperatures below 32°F (0°C) or above 104°F (40°C).
  Failure to obey these notices can result in damage to the battery and power modules.

NOTICE

Do NOT attempt to charge alkaline battery modules with the rechargeable battery charging station.

Failure to obey this notice can result in damage to the rechargeable battery charging station.

MSA recommends removing and charging the rechargeable battery module once a month during normal use.

MSA recommends removing and charging the rechargeable battery module every 6 months if it has not been in use or kept continuously in a charging station.

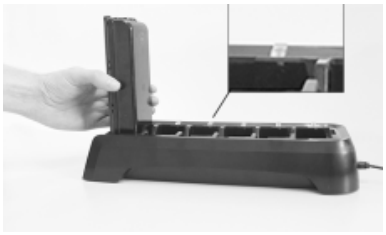
18.3.1 Charging the Rechargeable Battery Module

The battery module is installed on the user side of the SCBA in the middle of the backplate.

1. Put the charging station on a horizontal surface in an area with no dust and at a temperature between 32°F – 104°F (0°C – 40°C). The ideal temperature is 70°F (21°C).
2. Connect the charging station to a 115 – 120 V, 50 or 60 Hz source (standard ac outlet).

   NOTE: The charging station can be used internationally with the appropriate adapter up to 240 Vac.

3. Push the battery removal tool into the slot in the rechargeable battery module until the tool clicks into position.
4. Pull the removal tool and the rechargeable battery module out of the power module.
5. Make sure there is no water or debris on the rechargeable battery module or the connectors on the charging station.



6. Install the rechargeable battery module in the charging station.
7. Monitor the charging indicator.

Charging Station LED Indications	
Indication	**Condition**
Off	No battery or charging error*
Red	Charging
Green	Charge complete

* If the charging LED goes off while the rechargeable battery module is in the charging station, remove the battery module from the charging station, then install the battery module in the charging station again. If charging does not resume, the rechargeable battery module may be exhausted or defective.

NOTE: In a discharged condition, the rechargeable battery module can charge for up to 8 hours. Charging times vary for rechargeable battery modules that are partially charged. The rechargeable battery module can stay connected to the charging station until the battery is needed.

8. Make sure there is no dirt or debris on the power module.
9. Make sure the pins and grooves are not damaged.

10. Align the rechargeable battery module with the grooves in the power module.
11. Install the rechargeable battery module into the power module.
12. Push on the top of the rechargeable battery module until it clicks into position.
13. Push on the opposite side of the power module.
14. Make sure the rechargeable battery module does not move.

18.3.2 Disposing of Rechargeable Batteries

⚠ WARNING!

Do NOT dispose of the batteries in a fire. Batteries can explode.

Failure to follow this warning can result in serious personal injury or death.

Do not dispose of batteries as ordinary trash.

Dispose of or recycle the rechargeable battery module in accordance with all applicable federal, state, and local regulations. Contact the local municipality for instructions about the correct disposal of rechargeable batteries.

19 Safekeeping and Storage

⚠ WARNING!

- Before putting the SCBA in storage, make sure the alkaline battery module has new batteries and/or the rechargeable battery module is fully charged. Do NOT put the SCBA in storage without a battery module (alkaline or rechargeable) installed.
- Make sure the icon for a fully charged battery shows on the control module display and the low battery alarm icon does NOT show on the HUD.
- Do NOT drop the cylinder or hit the handwheel. An unsecured cylinder can become an airborne projectile under its own pressure if the cylinder valve is opened even slightly.

Failure to follow these warnings can result in serious personal injury or death.

Make sure the central power battery (alkaline/rechargeable) is installed at all times, including when the SCBA is out of service for storage or repair.

Do NOT put the SCBA or spare cylinders in storage within or near an area where the SCBA can or might be exposed to any substances that will or might attack any part of the SCBA and prevent the SCBA from operating as designed and approved.

Before putting the SCBA in a jump seat for storage, make sure there is no interference between the SCBA and the jump seat. Make sure the SCBA and cylinder can be removed from the jump seat easily without causing damage to the components.

Do NOT put the SCBA in storage with an empty or a partially filled cylinder. Always install a fully charged cylinder so the SCBA is ready for use.

Do the procedures in 11 Cleaning and Disinfecting the SCBA. Make sure the entire SCBA is clean and dry.

Make sure the adjustment straps for the facepiece head harness are fully extended.

Put the complete SCBA in the storage case or a suitable storage location with easy access for emergency use.

Store the rechargeable battery module fully charged at temperatures between -4°F – 104°F (-20°C – 40°C).

MSA recommends charging the rechargeable battery module every 6 months if it has not been in use or kept continuously in a charging station.

19.1 Facepiece

⚠ WARNING!

To prevent damage to the facepiece, do NOT keep loose objects in the facepiece container.

Failure to follow this warning can result in serious personal injury or death.

Use a pouch or container to keep the facepiece safe.

MSA rubber products are protected by an anti-aging agent that can become visible as a light coating. This coating is harmless and can be removed during cleaning.

To extend the life of rubber components, keep them in a cool, dry place that is protected from ultraviolet radiation, according to ISO 2230, Rubber Products – Guidelines for Storage.