Sperian
Model 1690 CBRN Canister
User Instructions

I. INTRODUCTION

This document contains user instructions for the Model 1690 CBRN Canister, which is NIOSH approved for use with the Sperian Opti-Fit CBRN Gas Mask, Model 7590/7690/7790, and the Sperian Opti-Fit CBRN PAPR Model SC420. The Model 1690 CBRN Canister provides protection against chemical, biological, radiological, and nuclear (CBRN) agents.

You must read and understand this instruction sheet and the Opti-Fit CBRN Gas Mask user manual completely before use.

II. SAFETY PRECAUTIONS

The Warnings, Cautions, and Notes contained in this instruction sheet have the following significance.

⚠ *WARNING*

Maintenance or operating procedures and techniques that may result in personal injury, illness, or death if not carefully followed.

CAUTION

Maintenance or operating procedures and techniques that may result in damage to equipment if not carefully followed.

NOTE

Maintenance or operating procedures and techniques or information considered important enough to emphasize.

III. HOW TO INSPECT FOR CBRN COMPLIANCE

The Opti-Fit Gas Mask and other respirators in the Opti-Fit family may appear similar to the CBRN Opti-Fit Gas Mask, but are not CBRN compliant and will not provide adequate protection in a CBRN environment.

Before using a mask and canister in a CBRN environment, you must first inspect the respirator and canister for CBRN compliance. Perform the following steps to inspect the respirator and canister for CBRN compliance.

⚠ *WARNING*

The user must inspect the respirator and canister for CBRN compliance prior to use in a CBRN environment. Use of any respiratory device and/or canister which is not CBRN compliant will not provide adequate protection and may lead to serious personal injury, serious illness, or death.

Figure 2a

1. Verify that the label on the facepiece shows model numbers 7590, 7690, 7790, or “CBRN” as shown in Figure 2a.
2. Verify that the label affixed to the CBRN canister is olive green in color and does not have a purple strip.
3. Verify that the canister label directly below the model number reads: “CBRN Cap 1” as shown in Figure 2b.

Figure 2b

For CBRN PAPR

1. Verify that the label on the blower shows P/N 769512 as shown in Figure 2c.

Figure 2c

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Figure 2d

2. Verify that the label on the hose assembly shows P/N 769515 as shown in Figure 2d.

IV. CANISTER INSTALLATION

Before using the Model 1690 CBRN canister, you must confirm that the atmosphere is non-IDLH and not oxygen deficient.

⚠ *WARNING*

• Do not use the Model 1690 CBRN cansiter if the atmosphere is IDLH or oxygent deficient.
• Canisters improperly used or improperly assembled to the facepiece could cause contaminant leakage, which could lead to serious personal injury, serious illness, or death.

1. Ensure that you have the correct canister for the contaminants in your work area. If you are not sure, consult the incident commander (IC) or incident command system (ICS) for the incident to which you are responding. The canister can be installed in one of three locations; front-mounted in the nozzle or side-mounted on either side of the lens. When the canister is front-mounted, a plug must be securely threaded into each of the two canister connectors. When the canister is side-mounted, a plug must be securely threaded into the nozzle opening and into the unused canister connector.

Figure 3a

Figure 3b

Figure 3c

2. Only use canisters maintained in accordance with section VI, which have been kept in their unopened original foil/poly packaging and cardboard box. Always ensure your replacement filter is within its service life by checking the expiration date in any one of three locations: on the outside label of the canister storage box; on the upper right corner label of the poly/foil bag; or on the olive-colored canister label's far right corner as shown in figures 3a, 3b, and 3c respectively.

⚠ *WARNING*

• The gasket/valve seat must be installed under the nozzle plug or canister. If the gasket/valve seat is not installed, contaminants will leak into the facepiece.
• A black (not gray) gasket must be installed at the bottom of the threads of each of the two canister connectors. If the black gasket is not installed, contaminants will leak into the facepiece.
• The twin-seal o-ring must be installed under each of the two canister connectors. If the o-ring is not installed, contaminants will leak into the facepiece.
• Failure to comply with this warning may lead to serious personal injury, serious illness, or death.

Side-Mount/Front-Mount Installation

1. Verify that the canister is within its service life by inspecting the expiration date on the right side of the canister label.

2. If installed, remove the plug from the front of the nozzle or the side canister connector. Use a quarter or similar item to unscrew the plug. Do not use a screwdriver as it may damage the plug.

3. Remove the canister from its protective poly/foil bag. Remove the plug from the top of the canister and the cap from the threaded end. Discard the cap, plug, and poly/foil bag.

4. Thread the canister into the nozzle or canister connector and hand-tighten. Do not overtighten.

5. If not installed, thread a plug into the two unused connectors. Hand-tighten with a quarter or similar item. Do not overtighten.

For CBRN PAPR

⚠ *WARNING*

• Always read canister labels prior to use to be certain that you have canisters that will provide the required protection.
• Only use two (2) canisters of the same type.
• Never use the PAPR without two (2) blower inlet gaskets in place (Figure 3). Use of the PAPR without the blower inlet gaskets could allow contaminants to leak into the facepiece.
• The failure to comply with this warning may lead to serious personal injury, serious illness, or death.

Before using the Model 1690 CBRN canisters, you must confirm that the atmosphere is non-IDLH and not oxygen deficient. Only use canisters maintained in accordance with **Section VI**, which have been kept in their unopened original foil/poly packaging and cardboard box. Always ensure that your replacement filter is within its service life by checking the expiration date in any one of three locations: on the outside label of the canister storage box; on the upper right corner label of the poly/foil bag; or on the olive-colored canister label's far right corner. See Figures 3a, 3b, and 3c respectively.

1. Verify that the rubber gasket is in place at the bottom of the threaded blower outlets as shown in Figure 3d.

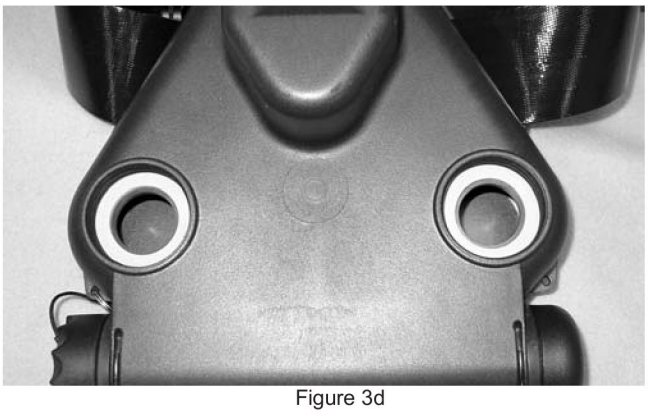

Figure 3d

2. Verify that the canister is within its service life according to the expiration date on the right side of the canister label.

3. If installed, remove the plug from the side canister connector. Use a quarter or similar item to unscrew the plug. Do not use a screwdriver, as it may damage the plug.

4. Remove the canister from its protective poly/foil bag. Remove the plug from the top of the canister and the cap from the threaded end. Discard the cap, plug, and poly/foil bag.

5. Install the two (2) canisters by screwing them into the inlet ports of the blower until snug against the gasket. A Sperian shower cap, P/N 769513, may be fitted over the 169001 canister to prevent water from entering the canister. Install the shower cap with the inlet at the bottom of the blower. See Figure 4.

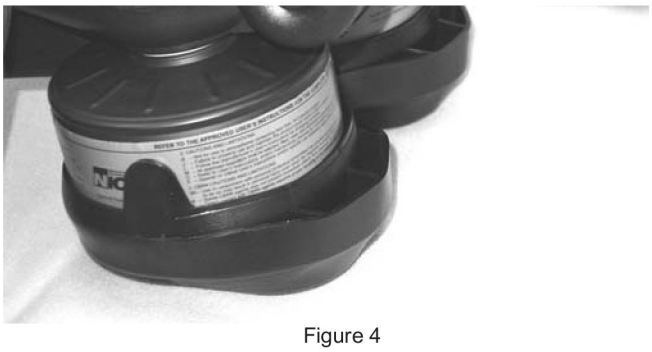

Figure 4

V. CANISTER SERVICE LIFE AND REPLACEMENT

⚠ *WARNING*

• Do not use the canister in IDLH environments or in areas where the contaminants are unknown.
• Replace the canister in accordance with the canister change out schedule for the incident to which you are responding. The canister change out schedule must be based on objective information or data that ensures the canister is changed before the end of its service life.
• Some contaminants are colorless, odorless, and/or tasteless and provide no indication of exposure. Immediately leave the contaminated area if you taste or smell contaminants, or if your eyes or throat become irritated. Follow decontamination procedures for the incident to which you are responding as established by the IC or ICS.
• You must replace the canister when breathing becomes uncomfortable or difficult. As particulates collect on the filter surface, the breathing resistance of the gas mask increases. If you wait too long to replace the canister, particulates may leak past the face seal instead of being collected on the filter.
• Failure to comply with this warning may lead to serious personal injury, serious illness, or death.

The service life of the canister depends on two characteristics: first, the gas/vapor service life, and second, the particulate filter service life. Always replace the canister in accordance with schedules established by the IC or ICS.

A. Gas/Vapor Service Life

The gas/vapor service life depends on the user's breathing rate, the characteristics of the contaminant,

and environmental conditions such as temperature and humidity. A saturated canister will leak trace amounts of contaminant to the wearer, which may not be detected by odor, taste, and/or irritation. Replace the canister in accordance with the change-out schedule for the incident to which you are responding. Replace the canister earlier if it shows any signs of damage, or if you detect a contaminant by smell, taste, or irritation.

B. Particulate Filter Service Life

The particulate filter service life depends on the user's breathing rate, the characteristics of the contaminant, and environmental conditions such as humidity. The canister must be replaced immediately whenever it is damaged, soiled, soaked with liquids such as water or alcohol, if it appears to be suspect in any manner, or if the user notices an increase in breathing resistance so that the gas mask becomes uncomfortable to wear. Before replacing the canister, follow applicable decontamination procedures for the incident to which you are responding. Always replace the canister with a new one taken from a sealed package.

The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours. Filter replacement should never be attempted while in a contaminated area or after having been in a contaminated area. You must first consult the IC or ICS having objective information or data on the concentrations of and types of contaminants in the work area and the applicable canister changeout schedule. Follow established decontamination procedures as required before attempting filter replacement. Only use canisters maintained in accordance with section VI, which have been kept in their unopened original foil/poly packaging and cardboard box. Always ensure your replacement filter is within its service life by checking the expiration date which may be found in any one of three locations: on the outside label affixed to the canister storage box, on the label affixed to the upper right hand corner of the poly/foil bag, and on the canister in the far right hand box of the olive colored label. These three locations are depicted in figures 3a, 3b, and 3c respectively.

⚠ *WARNING*

• Only install canisters taken from a sealed package. Failure to comply with this warning may lead to serious personal injury, serious illness, or death.
• Do not replace a canister in a contaminated area or without decontaminating first. Follow procedures established by the IC or ICS for the incident to which you are responding.
• Failure to comply with warning may lead to injury, illness, or death.

Replace the canister as follows:

1. Return to an uncontaminated area and perform decontamination as directed by the IC or ICS prior to removing the used canister.
2. Remove the canister by turning it counterclockwise. Dispose of the used canister in accordance with procedures established by the IC or ICS as required by Federal, state, and local laws.
3. Remove a new canister from a sealed package by pulling apart the flaps above the top seam.
4. Install the canister as described in section IV.
5. Perform a facepiece fit check.

VI. MAINTENANCE AND INSPECTION

1. Inspect the canister before use and at least monthly when issued.
2. Under long term storage inspect the canister at least semi-annually and more frequently if prolonged storage occurs at temperature extremes.
3. Inspect exterior of the foil/poly bag for tears, cuts, or abrasions and inspect the expiration date to verify that the canister is in service. If any discrepancies are found, replace the canister.

VII. STORAGE AND TRANSPORTATION

⚠ *WARNING*

• Carefully inspect the facepiece and canister before each use to ensure that they are in serviceable condition.
• Ensure that the expiration date on the canister packaging is current.
• Failure to comply with this warning may lead to serious personal injury, serious illness, or death.

CAUTION

The maximum storage temperature for the gas mask is 140°F (60°C). Long-term storage at elevated temperatures may cause premature deterioration.

A. Facepiece

After inspection and cleaning, your Speriangas mask should be placed in Minimum Package Configuration (MPC) (i.e. the mask inside the vinyl bag, the zipper closed, and the bag inside the cardboard box). The MPC will protect the gas mask under typical storage and transportation conditions. The vinyl storage bag and cardboard box are included with the mask. Do not substitue other types of bags or boxes.

B. Canister

Canisters exposed to a CBRN environment must be properly decontaminated and discarded after use. Unused canisters should be kept in MPC prior to use (i.e. sealed in the foil/poly packaging and placed inside either the canister cardboard box or the facepiece cardboard box). The facepiece cardboard box will accomodate one canister. The canister may be removed from the box for inspection, but do not remove it from the foil/poly bag until you are ready to use it. Once the canister is removed from the bag, its service life is limited by the applicable canister change-out schedule established by the IC or ICS in the response area.

Minimum Package Configuration

ITEM	PACKAGING
Canister	In the original foil/poly bag placed inside cardboard box included with the canister or the box included with the facepiece.

VIII. ADDITIONAL INFORMATION

If you need assistance or additional information on any Sperianproduct, consult your local distributor or contact:

Sperian Respiratory Protection USA, LLC
3001 South Susan Street
Santa Ana, CA 92704
U.S.A.
(714) 545-0410 or (800) 821-7236
FAX (800) 201-4407
Email: apr@Sperian.com

IX. WARRANTY AND LIMITATION OF LIABILITY

LIMITED WARRANTY: Sperian® warrants this product to be free from defects in materials and workmanship for a minimum of 7 years for the CBRN canister and 1 year for the gas mask and all other components from the date of purchase. During this period, Sperian will repair or replace defective parts, at Sperian's option. Freight charges to and from the Sperianfactory shall be paid by the purchaser.

EXCLUSIONS: NOTWITHSTANDING ANY CONTRARY TERM IN THE PURCHASER'S PURCHASE ORDER OR OTHERWISE, THE ONLY WARRANTY EXTENDED BY Sperian IS THE EXPRESSED LIMITED WARRANTY DEFINED ABOVE. THIS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE.

CONDITIONS: To maintain this warranty, this product must be used, maintained, and inspected as prescribed in the owner's instruction manual, including prompt replacement or repair of defective parts and such other necessary maintenance and repair as may be required. Normal wear and tear; parts damaged by abuse, misuse, negligence, or accidents; and inhalation and exhalation valves are specifically excluded from this warranty. Exposure to materials that damage or render this product unusuable, such as CBRN agents, will void this warranty. All products returned to Sperian's factory, distributors, or repair centers must be decontaminated prior to shipment. Products contaminated with dangerous substances will be refused and returned freight collect.

LIMITATION OF LIABILITY: No other oral warranties, representations, or guarantees of any kind have been made by Sperian, its distributors, or the agents of either of them, that in any way alter the terms of this warranty. **EXCEPT AS HEREIN PROVIDED, Sperian SHALL HAVE NO LIABILITY FOR ANY LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL, TO ANY PURCHASER OR USER OF THIS PRODUCT ARISING FROM THE SALE, USE, OR OPERATION OF THIS PRODUCT.**

⚠ *WARNING*

The failure to use and maintain this equipment in strict conformance with the applicable instruction manual may result in serious personal injury, serious illness, or death. The equipment's use in any manner that is not expressly authorized pursuant to the applicable instruction manual may result in severe adverse impacts to human health.

X. CAUTIONS AND LIMITATIONS–CBRN APR

A-Not for use in atmospheres containing less than 19.5 percent oxygen.

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

L-Follow the manufacturer's User's Instructions for changing cartridges, canisters, and/or filters.

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

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

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

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

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.

V-Not for use in atmospheres immediately dangerous to life or health, or where hazards have not been fully characterized.

W-Use replacement parts in the configuration as specified by the applicable regulations and guidance.

X-Consult manufacturer's User's Instructions for information on the use, storage, and maintenance of these respirators at various temperatures.

Y-The respirator provides respiratory protection against inhalation of radiological an dnuclear dust particles. Procedures for monitoring radiation exposure and full radiation protection must be followed.

Z-If during use, an unexpected hazard is encountered such as a secondary CBRN device, pockets of entrapped hazard, or any unforeseen hazard, immediately leave the area for clean air.

CC-For entry, do not exceed maximum use concentrations established by regulatory standards.

HH-When used at defined occupational exposure limits, the rated service time cannot be exceeded. Follow established canister change out schedules or observe End of Service Life Indicators to ensure that canisters are replaced before breakthrough occurs against

dermal hazard. Failure to do so may result in personal injury even when the respirator is properly fitted, used, and maintained.

QQ-Use in conjunction with personal protective ensembles that provide appropriate levels of protection against dermal hazard. Failure to do so may result in personal injury even when the respirator is properly fitted, used, and maintained.

UU-The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours.

XI. CAUTIONS AND LIMITATIONS–CBRN PAPR

A - Not for use in atmospheres containing less than 19.5 percent oxygen.

F - Do not use powered air-purifying respirators if airflow is less than four cfm (115 lpm) for tight fitting facepieces or six cfm (170 lpm) for hoods and/or helmets.

H - Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before breakthrough occurs.

I - Contains electrical parts that may cause an ignition in flammable or explosive atmospheres.

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

L - Follow the manufacturer's User's Instructions for changing cartridges, canisters, and/or filters.

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

N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.

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

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

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

Y - The respirator provides respiratory protection against inhalation of radiological and nuclear dust particles. Procedures for monitoring radiation exposure and full radiation protection must be followed.

Z - If, during use, an unexpected hazard is encountered such as a secondary CBRN device, pockets of entrapped hazard, or any unforeseen hazard, immediately leave the area for clean air.

BB - Not for use for entry into atmospheres immediately dangerous to life or health.

CC - For entry, do not exceed maximum use concentrations established by regulatory standards.

GG - Direct contact with CBRN agents requires proper handling of the respirator after use. Correct disposal procedures must be followed.

UU - The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours.

VV - PAPRs with TC-23C approvals may NOT be used for escape from IDLH atmospheres.

NOTE

This product is subject to export regulation by agencies of the U.S. Government, including the U.S. State Department Office of Defense Trade Controls as an item on the U.S. Munitions List and subject to the International Traffic In Arms Regulations (ITAR), set forth at 22 CFR Parts 120 through 129. Accordingly, any export of this product must be made pursuant to an appropriate export license issued by the Office of Defense Trade Controls by U.S. Department of Commer and must comply with the ITAR provisions and all other applicable U.S. Export control laws.

SPERIAN RESPIRATORY PROTECTION USA, LLC

3001 S. SUSAN STREET, SANTA ANA, CA 92704 USA
1-800-821-7236

1690 CANISTER

THIS CANISTER IS APPROVED ONLY IN THE FOLLOWING CONFIGURATIONS:

RESPIRATOR COMPONENTS

TC-	PROTECTION[1]	CANISTER	ALTERNATE FULL FACEPIECE												NOSECUP KIT			COMPONENTS								PACKAGING	ACCESSORIES															CAUTIONS AND LIMITATIONS[2]
		MODEL 1690 CANISTER, CBRN	FACEPIECE, HEADNET, SM	FACEPIECE, HEADNET, MD	FACEPIECE, HEADNET, LG	FACEPIECE, HEADNET, SM W/DRINK	FACEPIECE, HEADNET, MD W/DRINK	FACEPIECE, HEADNET, LG W/DRINK	FACEPIECE, 5-STRAP, SM	FACEPIECE, 5-STRAP, MD	FACEPIECE, 5-STRAP, LG	FACEPIECE, 5-STRAP, SM W/DRINK	FACEPIECE, 5-STRAP, MD W/DRINK	FACEPIECE, 5-STRAP, LG W/DRINK	NOSE CUP KIT, SMALL, BLACK	NOSE CUP KIT, MEDIUM, BLACK	NOSE CUP KIT, LARGE, BLACK	BLOWER ASSEMBLY	DECON BELT ASSEMBLY	BREATHING HOSE ASSEMBLY	NON-RECHRG BATTERY, LITHIUM	RECHRG BATTERY, NiMH	BATTERY CAP ASSY, RECHRG	ALKALINE BATTERY PACK	FLOWMETER	CARTON, 4.50 x 4.50 x 3.88	DRINK TUBE KIT	CLEAR LENS COVER	TINTED LENS COVER	NECKSTRAP KIT	NECKSTRAP KIT, 2020 PLUS	HEAD HARNESS KIT, 5-STRAP	HEADNET KIT, TWENTYTWENTY	D-RING KIT	SHOWER CAP	SPECTACLE KIT	SPECTACLE KIT, 2020/2020 PLUS	ANTI-FOG SOLUTION, 1 OZ.	ANTI-FOG SOLUTION, 16 OZ.	ANTI-FOG WIPE	ANTI-FOG WIPE. DRY	
		169001	759501	769501	779501	759511	769511	779511	759001	769001	779001	759011	769011	779011	702069	702070	702071	769512	769540	769515	769532	769531	769533	769535	769516	169006	769015	702028	702019	702031	962869	769538	969019	964869	769513	962260	964044	951015	951016	981805	981808	
14G-0272	CBRN Cap 1	X							X	X	X	X	X	X	X	X	X									X	X	X		X						X					X	AJLMORSTVWXYZ, CC, HH, QQ, UU
14G-0297	CBRN PAPR Cap 1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	AFHIJLMNORSYZ, BB, CC, GG, UU, VV

1. PROTECTION

CBRN Cap 1 - Capacity meets minimum 15 minutes test time

CBRN PAPR Cap 1 - Capacity meets minimum 15 minutes test time

CBRN - Chemical, Biological, Radiological and Nuclear

2. CAUTIONS AND LIMITATIONS

A - Not for use in atmospheres containing less than 19.5 percent oxygen.
F - Do not use powered air-purifying respirators if airflow is less than four cfm (115 lpm) for tight fitting facepieces or six cfm (170 lpm) for hoods and/or helmets.
H - Follow established cartridge and canister change schedules or observe ESLI to ensure that cartridges and canisters are replaced before breakthrough occurs.
I - Contains electrical parts that may cause an ignition in flammable or explosive atmospheres.
J - Failure to properly use and maintain this product could result in injury or death.
L - Follow manufacturer's User's Instructions for changing cartridges, canister and/or filters.
M - All approved respirators shall be selected, fitted, used, and maintained in accordance with MSHA, OSHA, and other applicable regulations.
N - Never substitute, modify, add, or omit parts. Use only exact replacement parts in the configuration as specified by the manufacturer.
O - Refer to User's Instructions, and/or maintenance manuals for information on use and maintenance of these respirators.
R - Some CBRN agents may not present immediate effects from exposure, but can result in delayed impairment, illness, or death.
S - Special or critical User's Instruction and/or specific use limitations apply. Refer to User's Instructions before donning.
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.
V - Not for use in atmospheres immediately dangerous to life or health or where hazard have not been fully characterized.
W - Use replacement parts in the configuration as specified by the applicable regulations and guidance.
X - Consult manufacturer's User's Instructions for information on the use, storage, and maintenance of these respirators at various temperatures.
Y - The respirator provides respiratory protection against inhalation of radiological and nuclear dust particles. Procedures for monitoring radiation exposure and full radiation protection must be followed.
Z - If during use, an unexpected hazard is encountered such as a secondary CBRN device, pockets of entrapped hazard or any unforeseen hazard, immediately leave the area for clean air.
BB - Not for use for entry into atmospheres immediately dangerous to life or health.
CC - For entry, do not exceed maximum use concentrations established by regulatory standards.
GG - Direct contact with CBRN agents requires proper handling of the respirator after use. Correct disposal procedures must be followed.
HH - When used at defined occupational exposure limits, the rated service time cannot be exceeded. Follow established canister change-out schedules or observe End-of-Service-Life Indicators to ensure that canisters are replaced before breakthrough occurs.
QQ - Use in conjunction with personal protective ensembles that provide appropriate levels of protection against dermal hazard. Failure to do so may result in personal injury even when the respirator is properly fitted, used and maintained.
UU - The respirator should not be used beyond eight (8) hours after initial exposure to chemical warfare agents to avoid possibility of agent permeation. If liquid exposure is encountered, the respirator should not be used for more than two (2) hours.
VV - PAPRs with TC-23C approvals may NOT be used for escape from IDLH atmospheres.