



SCBA MAINTENANCE

SCOPE

Self-contained breathing apparatus provides respiratory protection under conditions of oxygen deficiency or in concentrations of toxic gases immediately dangerous to life or health. The period over which the device will provide protection is limited by the amount of air in the apparatus. These types breathing apparatus offers no protection against skin irritation or against skin absorption of materials.

All self contained breathing apparatus purchased by the Stoney Point Fire Department shall meet the National Fire Protection Association standard for open-circuit self contained breathing apparatus and also be approved for firefighting operations through the MSHA and the NIOSH standards.

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PURPOSE

The purpose of this standard is to identify safety guidelines for those involved in the fire suppression, rescue, training, and related activities in a toxic, contaminated or oxygen deficient environment. This standard also identifies when respiratory protection equipment will be used, when to exit due to reduced air supply, the guidelines for proper face piece fit, and the inspection, care and maintenance of respiratory protection equipment.

DEFINITIONS

Hazardous Atmosphere – Any atmosphere that is oxygen deficient or that contains a toxic or disease producing contaminant. A hazardous atmosphere may or may not be immediately dangerous to life and health.

MSHA – Mine Safety and Health Administration

NIOSH – National Institute for Occupational Safety and Health.

NIOSH / MSHA approved – Tested and certified jointly by the National Institute of Occupational Safety and Health (NIOSH) of the US Dept. of Health and Human Services and the Mine Safety and Health Administration (MSHA) of the US Dept. of Labor, in accordance with the



requirements of Title 30, Code of Federal Regulations (CFR), Part-II, Subpart H. Approval by the Bureau of Mines of the US Dept. of Interior shall not fall under the definition of approved. For the approval to remain in effect the SCBA must be used and maintained in the approved condition.

Open-circuit SCBA –A self-contained breathing apparatus in which exhalation is vented to the atmosphere and not re-breathed. **PRESSURE DEMAND TYPE (Positive Pressure)** – An SCBA in which the pressure inside the face-piece, in relation to the immediate environment, is positive during both inhalation and exhalation when tested accordance with 30 CFR, Part II, Subpart H by NIOSH and using NIOSH test equipment.

Oxygen deficient atmosphere – Oxygen concentrations less than 19.5 %.

Respiratory hazard – Any exposure to products of combustion, superheated atmospheres, toxic gases, vapors, or dust, potentially explosive or oxygen deficient atmospheres, or any condition that created a hazard to the respiratory system.

Respiratory protection equipment (RPE) – Those devices that are designed to protect the respiratory system against exposure to gases, vapors or particulate. Examples are filter respirators, chemical cartridge or canister respirators, airline respirators, powered air-purifying respirators, and self-contained breathing apparatus.

SCBA – Self-contained breathing apparatus

Guidelines

All personnel who are exposed to respiratory hazards or who will be exposed to such hazards without warning shall use self-contained breathing apparatus. Personnel, who are operating in areas that may be subject to the hazards with sufficient warning to don breathing apparatus, shall have respiratory protection equipment readily available for use.

All personnel operating in confined spaces, below ground level shall use self-contained breathing apparatus, or where the possibility of a contaminated or oxygen deficient atmosphere exists.

Division officers shall monitor personnel operating in and around such Divisions for signs of fatigue or factors that can result in unsafe conditions, and replace personnel as needed to provide for effective and safe fire fighting operations.

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Personnel using self contained breathing apparatus **shall operate in teams of two or more** who are in communications with each other through visual, audible, physical, safety lines (rope, hose line), or other means to coordinate their activities and are in close proximity to each other to provide assistance in case of an emergency.

Personnel operating in the hazardous atmosphere **shall not remove the self-contained breathing apparatus until the command officer has issued the decision**. The decision will be based on information the command officer receives from the Division and Operational officers after proper air monitoring has taken place. The carbon monoxide levels as well as other gases actually increase during salvage and overhaul due to incomplete combustion.

The low air alarm/whistle system on the self-contained breathing apparatus is designed to provide an approximate five minute evacuation time from the hazardous atmosphere when activated. Therefore, as the alarm/whistle sounds personnel operating in a hazardous atmosphere shall immediately notify the officer in charge of that Division and begin evacuation. The Division officer may, depending on the urgency and the conditions at that time, evacuate all personnel within that Division until adequate manpower can be achieved.

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Self-contained breathing apparatus shall not be worn when conditions prevent a good face seal. Such conditions may be beards, excessive facial hair, sideburns, a skullcap that projects under the face piece, or temple pieces on glasses. Also, the absence of one or both dentures can seriously affect the fit of a face piece. If eyeglasses are worn, the person shall use frames that do not pass through the seal area of the face piece.

Inspection, cleaning and sanitizing SCBA & face piece

Self-contained breathing apparatus shall be inspected and properly put back into service after each use. Personnel using a self-contained breathing apparatus under any condition are expected to do the following after each use:

1. Ensure a 4500-psi in cylinder.
2. Inspect all lines and connections.
3. Ensure harness/mask straps are adjusted out to the don position.
4. Turn SCBA on and check for normal operation (confirm no leaks).
5. Check exhalation valve for proper operation.
6. Ensure bypass/purge valve is closed.



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7. Shut cylinder valve, and breathe low-air alarm/whistle to ensure operation.
 8. Clean SCBA with mild soap and water if needed.
 9. Clean and sanitize face piece as listed below:
 - a. Rinse in warm water to remove ash, dirt, soot, etc.
 - b. Carefully wash in warm water, and mild soap detergent.
 - c. Rinse the face piece thoroughly in fresh warm water.
 - d. Hang face piece to dry over air pack in its stored location.

Note * If the face piece is just put on, you must follow the disinfecting guidelines listed above.

The above guidelines are all recommendations and are supported by the manufacturer.

SCBA storage

After inspection and cleaning, SCBA shall be stored back in their respectful location on each apparatus, with straps and harness assembly readily accessible for the next operator. Any problems with SCBA holding brackets should be reported through on a **written maintenance report work order form**.

Preventive Maintenance

Shift personnel shall conduct the daily and monthly maintenance check on all SCBA. A record shall be kept of all maintenance checks and findings along with dates and repairs made by the department Maintenance Officer.

SCBA developing a problem operating shall immediately be taken out of service and a written maintenance work report shall be filed and the Shift Leader notified.

No SCBA shall be left on any apparatus in a defective state or non-operational.

ANNUAL FLOW TEST MAINTENANCE

Annual flow test of all SCBA shall be done in accordance with manufacturers recommendations.

It shall be the responsibility of the SCBA maintenance repair section to schedule and conduct annual flow test on all SCBA. All records of each test shall be maintained in the individual SCBA maintenance file.

Only trained personnel are to make any repairs or adjustments to an SCBA.

After any repairs to any pneumatic component of the SCBA a flow test shall be conducted to ensure its proper function.

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No attempt shall be made to replace components or make adjustments beyond the manufacturer's recommendations.

ANNUAL FACE-PIECE FIT TESTING

Annual Face-Piece fit testing shall be conducted by the SCBA maintenance repair section. Fit testing shall be completed on each member of Stoney Point Fire Department prior to the expiration of the previous test.

The record of each annual fit test shall be maintained in each members training file and maintained for one year. Upon completion of the next annual test the old record can be removed from the members file and destroyed.

Training

For safe use of a SCBA, it is essential that the user be properly instructed in its use and maintenance. All personnel shall be instructed in the use of SCBA by authorized personnel. Training shall be conducted no less than annually for all personnel.

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