

TOWNSHIP FIRE DEPARTMENT CHAPTER 2: STANDARD OPERATING GUIDELINES

Part 1: Response Guidelines

Subject: Self-Contained Breathing Apparatus

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Section: 2-1-6

Effective Date: 10-28-92

Review/Revised Date: 05-28-19

- 6.01 Purpose. To provide a guideline for the use and care of Self-Contained Breathing Apparatus.
- 6.02 Goal. To provide a guideline which will provide the following:
Permit members to use "SCBA" as a protection from toxic and oxygen deficient atmospheres. Promote skill retention by providing a department standard.
Promote safety by following manufactures' directions and field tested methods of operation.
- 6.03 Reference. "Mine Safety Appliance Company"(MSA) Pittsburgh, Pennsylvania, USA 15230. "Essentials of Fire Fighting" (IFSTA 200), International Fire Service Training Association, Stillwater, OK.
- 6.04 Equipment Description. The Department uses the MSA Firehawk Air Mask with the slide to connect regulator with Quick-Fill adaptor. This unit consists of an MMR Air Mask, slide to connect regulator and high pressure hose assembly, audible low pressure warning device, FHR (flame and heat resistant) harness, carrier assembly, and 30 minute air cylinder.
- 6.05 Service Life. The apparatus is rated and approved by NIOSH/MSHA as a 30 minute duration unit when properly donned, used and maintained by trained personnel. An alarm actuates when approximately 20% of the full rated air pressure remains in the cylinder. The alarm will continue to operate until the cylinder is nearly depleted. The user should not expect to obtain exactly 30 minutes service life from this apparatus on each use. Where work is more strenuous, the duration will be shorter, possibly as short as one half the rated service time. The duration of the apparatus will depend on such factors as:
- A) The degree of physical activity of the user.
 - B) The physical condition of the user.
 - C) The degree to which the user's breathing is affected by excitement, fear or other emotional factors.
 - D) The degree of training or experience which the user has had with this or similar equipment.
 - E) Whether or not the cylinder is fully charged at the start of the activity.
 - F) The possible presence, in the compressed air, of carbon dioxide

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- concentrations greater than .04% normally found in atmospheric air.
- G) A loose or improperly fitting face piece.
- H) The condition of the apparatus.

6.06 Routine Inspection. The following steps shall be followed during SCBA inspection by department members:

- A) Check cylinder pressure gauge for full indication. If indicated cylinder pressure is below 4000 psi, replace with a fully charged cylinder.
- B) Check the latest cylinder hydrostatic test date to ensure it is current. (Within three (3) years for composite lightweight cylinders.)

Warning

Cylinders which show evidence of exposure to high heat or flame, such as paint turned brown or black, decals charred or missing, or gauge lens melted or damaged, shall be removed from service and retested prior to recharging.

6.07 Donning Procedures.

- A) Check the cylinder gauge for full indication and ensure that the cylinder is firmly locked into position by the cylinder lock strap.
- B) Test the Night Fighter Heads-Up display System and ICM Unit Gauge by opening the SCBA cylinder valve fully to pressurize the Nigh Fighter Heads-Up display System, then close the cylinder valve. Looking through the facepiece lens at the LED panel, all LED's must illuminate at the top of the receiver. The receiver must go through all LED light patterns when the system is pressurized.

Night Fighter Heads-Up Display System Start-Up Sequence:

- Four Green LED's for 20 seconds, Steadily ON.
 - Three Green LED's for 20 seconds, Steadily ON.
 - Two Yellow LED's for 30 seconds, Flashing.
 - One Red LED flashing.
 - Yellow LED for Low Battery.
- C) Stand at the top end of apparatus (with cylinder valve pointing away from you). Position and spread out the shoulder straps. Grasp the back-frame with both hands --one on each side of the cylinder.

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- D) Swing the apparatus straight up and over the head, keeping your elbows close to your body. Rest the apparatus on your back while still slightly bent over. Fasten chest strap to position shoulder straps.
- E) While standing upright, pull shoulder strap tabs out and straight up. Hike until up on your back.
- F) Fasten waist belt and pull tight for snug fit. Position regulators to reach Controls
- G) Grasp the mask mounted regulator and push the slide button.
- H) Check that the red bypass valve is fully closed
- I) Reach behind and fully open the cylinder valve. Listen for the audible alarm to ring briefly as pressure in the system increases.
- J) Don the face piece. Place neck strap over head and hold facepiece by the straps or bottom of mask and put chin into facepiece first.
- K) Pull harness back over head. To tighten straps, pull straight back--not out to the side.
- L) Hold the palm of your hand over the facepiece inlet adapter and inhale gently. Hold your breath at least ten (10) seconds. The facepiece should collapse and stay collapsed against face. If it does not, readjust the facepiece and test again. If this does not correct the leak, do not use the facepiece.
- M) To test exhalation valve, take a deep breath and hold. Block the inlet facepiece adapter with the palm of your hand and exhale. If valve is stuck you will feel a heavy rush of air around facepiece. You may need a sharp exhalation at first to open the valve. If this does not release the valve, do not use the facepiece.
- N) Open the cylinder valve fully. Push in on the slide button to stop air flow. Grasp the regulator and orient the regulator so that the red bypass knob is pointing to the right and slide button is on top. Slide the regulator onto the rail or the facepiece cover. Slide the regulator down the rail cover until the regulator stops. Insert the regulator into the facepiece adapter by pushing upward. Then check the proper engagement by pulling on the regulator to ensure regulator is securely attached to the facepiece.

O) Inhale sharply to start the

airflow. 6.08 To Remove Apparatus.

- A) Grasp the top on the regulator. Push the release button and pull the regulator down and out of the facepiece adapter.
- B) Slide the regulator up the cover rail until the regulator slide button is clear of the rail.
- C) Close the cylinder valve fully and open the bypass to release the system pressure. Close the bypass when completed.
- D) Stow the regulator with the slide button at the bottom in the stand-by belt mount when it is not in use.
- E) To remove facepiece, put thumbs under buckles to loosen headbands. Fully extend headbands. Hold facepiece by speaking diaphragm assembly and pull up and away from face.
- F) To remove the carrier harness, press the belt buckle IN.
- G) Disconnect the chest strap if used.
- H) To loosen the shoulder straps, grasp and release loops by pushing them out and away from your body.
- I) Slip your right arm out of the shoulder pad first, and then removed the harness.

6.09 Cylinder Replacement Procedure.

- A) Be sure there is no pressure in the system before replacing a cylinder by rotating the cylinder knob clockwise to close the valve.
- B) Open main line valve to bleed down residual pressure.
- C) Uncouple the high-pressure hose coupling for the cylinder valve by rotating counter clockwise.
- D) Loosen the cylinder band lock strap by turning the wing to loosen the cylinder clamp.

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- E) Remove the empty cylinder by sliding upward and replace with a fully charged cylinder with the gauge facing out, turn the latch wing clockwise to tighten fully. Fold the latch wing toward the back-plate, locking the latch wing in place.
- F) Check that the O-ring is inside the Audi-Larm Alarm with URC Assembly coupling nut. If the O-ring is damaged it must be replaced.
- F) Thread the Audi-Larm Alarm with URC Assembly coupling nut to the cylinder valve and hand tighten. Do not use any tools to tighten!

Caution

Do not leave the cylinder valve open when the apparatus is not in use!