

## EAST GREENBUSH FIRE DISTRICT #3 RESPIRATORY PROGRAM rev 2

## 1) USAGE

Self-contained Breathing Apparatus (SCBA) will be used at all of the following alarms, or any alarm or situation that the officer or senior firefighter in charge feels necessary to protect the health of the firefighters: Structure fires, Vehicle fires, Dumpsite fires, overhauling in Immediately Dangerous to Life or Health (IDLH) atmospheres, Odor of gas, Reports of spills or leaks of substances, Hazardous or unknown material calls, and any possible condition where the atmosphere may be IDLH. A Personal Alert Safety System (PASS) will be worn with all SCBA: the PASS device will be activated for all SCBA operations that could jeopardize that person's safety due to atmospheres that could be IDLH, incidents that could result in entrapment, structural collapse of any type, or as directed by the incident commander or incident safety officer (Per NFPA 1500). Use of the Multigas detectors and knowledge of the known hazards must be used to determine if an atmosphere is not IDLH.

## 2) SELECTION

The East Greenbush Fire Department will supply Scott 4.5 SCBA equipped with the positive pressure style EZ FLO regulator and NOMEX straps accepted and recognized for use by the fire service. The facepiece mounted regulator features a donning switch and a bypass valve. The Scott Pressure Demand Air Mask provides complete respiratory protection and is approved by the Mine Safety and Health Administration (MSHA) and National Institute for Occupational Safety and Health (NIOSH) as a "1/2 hour duration" unit. This apparatus can be used at temperatures down to -25 degrees F, however a nose cup must be used at temperatures below +32 degrees F. The air mask also provides an alarm that activates when approximately 20-25% of the rated service time remains. When the alarm begins vibrating during use, its loud warning signal indicates there is approximately six (6) minutes breathing supply left and it is time to return to a safe atmosphere. See "Service Life" statements for factors which affect service life. The Pressure Demand Regulator is spring loaded to provide a positive pressure in the face piece during inhalation and exhalation in order to reduce the possibility of inward leakage. The use of any other type of SCBA will require the prior approval of the officer in charge to assure that it will provide adequate respiratory protection against the particular hazard for which it is to be used. Any member requiring any special options must request those options in writing (i.e., spectacle kit).

## 3) SCBA PREPARATION FOR USE FROM APPARTUS JUMPSEATS.

The following consecutive steps should be followed in putting on the SCBA apparatus from Firetruck jumpseats before entering a toxic atmosphere.

- A. Check the pressure gauge in the cylinder valve to insure that the cylinder is full (4500 PSI). If there is less pressure, the service life will be reduced accordingly. When riding in the jump seats of apparatus, sit in the jump seat with your back against the jump seat.
- B. Make sure that the shoulder straps are fully extended and place yours arms (one at a time), through the respective shoulder straps. Adjust each strap accordingly by pulling down on strap ends.

- C. Connect the waist belt buckle and adjust by pulling forward on side mounted belt ends.
- D. Be sure NOMEX hood has been pulled back and down so that face opening is around your neck.
- E. The facepiece is then put on using the following method: pull out the facepiece head band straps so that the ends are at the full length, and grip the facepiece between thumb and finger. Insert the chin into the face piece and pull headband back over the head. To obtain a firm and comfortable fit against the face at all points adjust the two sets of side straps by pulling backward.
- F. Stroke the head harness net down the back of the head using one or both hands. Retighten the neck straps. For best comfort see that straps lie flat against the head and tighten "side" straps snugly.
- G. Place the palm of your hand over the breathing regulator opening and breathe in to check for leaks. This is to ensure that no leakage is found around the facepiece.
- H. If leakage is found readjust and repeat letter F.
- I. Pull the Nomex hood over your head and facepiece leaving no skin exposed.
- J. Put your helmet back on your head and tighten head strap. Be sure head strap is under your chin.
- K. Before opening cylinder valve depress the donning switch and be sure that the by-pass is off, (red knob located on the breathing regulator). Open the cylinder valve hand wheel fully (at least three turns). Be sure that alarm sounds, the PASS beeps, and the green LED is lit when first turned on to ensure that the alarm systems are functional.
- L. Observe the remote reading pressure gauge located on the left shoulder strap to ensure level in the cylinder is full (4500 PSI). If there is less pressure in the cylinder the service life will be reduced accordingly. Listen for any leaks and note there should be no drop in pressure if the equipment is leak-tight and there is no noticeable deflection of the gage needle. The equipment should be checked and the leak corrected before entering a toxic atmosphere.
- M. To correct leaks turn off the cylinder valve, open bypass valve to drain system, and check the connection from the cylinder to make sure that it is tightened properly and re-do procedure K.
- N. When ready to use SCBA bring the breathing regulator to the facepiece and attach in the hole provided in the facepiece and turn quarter turn until locking mechanism locks.
- O. Test the complete system for airflow from the cylinder to face piece by breathing normally. The regulator should follow the normal breathing pattern.
- P. Test the by-pass (red knob) valve by opening it briefly. With the by-pass valve open, a rush of air should be delivered to the face piece. If the rush of air is delivered, the apparatus is ready for use. Close the by-pass (red knob) valve.
- Q. Breathe normally as the apparatus automatically satisfies breathing requirements.

#### 4. SCBA PREPARATION FOR USE FROM SCBA CASE.

- A. From SCBA case - Open lid of the case and extend the shoulder straps to full length. Lean forward, grasp the cylinder and back plate firmly with both hands between the

cylinder clamp and waist belt. Lift the apparatus straight up and over your head and rest it on your back.

- B. The shoulder straps will fall into place over the shoulders. While bending over pull downward on the shoulder straps until snug.
- C. Stand straight and connect the waist belt buckle and adjust by pulling forward on side mounted belt ends. Should further adjustment be necessary lean forward and adjust straps (follow the procedure in section 3-D for remainder of donning procedure).

#### 5. SCBA PREPARATION FOR USE FROM SIDE OF TRUCK.

- A. From the side of the truck pull the SCBA out of the bracket off the truck.
- B. Extend narrow shoulder straps. Don the apparatus like a vest. While bending over, tighten the shoulder straps snugly by pulling down on strap ends.
- C. Then stand up straight and connect the waist belt buckle and adjust by pulling forward on side mounted belt ends. Should further adjustment be necessary lean forward and adjust straps (follow the procedure in section 3-D for remainder of donning procedure).

#### 6. SCBA DOFFING PROCEDURE

- A. To doff regulator grasp regulator body with right hand. Pull forward on the right side locking button and rotate regulator quarter turn and remove from facepiece.
- B. Press on Donning switch to stop airflow thru regulator.
- C. Loosen the neck straps by simultaneously lifting the lower buckle release levers outward (away from the head) and lifting facepiece away from face. Upper straps can be released by lifting the upper buckle release levers. Remove the facepiece by pulling it up and over the head.
- D. Close cylinder valve by simultaneously pushing in on the cylinder valve knob and rotating it clockwise. Open bypass valve to purge air from system. Turn off Air pack electronics by pressing Reset Button twice. (NXg2 Console should show "OFF".)

#### 7. CHANGING SCBA AIR CYLINDER AND AFTER USE INSPECTION (Air Pack 50)

Once the SCBA has been used it will be necessary to change the air cylinder.

- A. Close cylinder valve by simultaneously pushing in on cylinder valve knob and rotating it clockwise. Open bypass valve to purge air from SCBA. Turn off Air pack electronics by pressing Reset Button twice. (NXg2 Console should show "OFF".)
- B. Unsnap the cylinder band toggle lock strap and release the toggle lever by pulling upward on, and then releasing the lock strap.
- C. Unthread the pressure reducer hose coupling from the cylinder valve by rotating counterclockwise. (NXg2 pull both SNAP\_CHANGE locks horizontally away from the pressure reducer.)
- D. Grasp the cylinder below the band, push the locking tab below the valve, lift the cylinder free from the bottom hook and remove.
- E. Replace with a fully charged cylinder. Slide the top of the cylinder upward under the band. Engage the cylinder hanger in the hook at the bottom of the backframe.
- F. While holding the lock strap, push the toggle lever to secure cylinder, then lock the toggle lever in position by attaching the cylinder toggle lock strap to the snap on the

- toggle lever. Note: do not force the toggle lever, Adjust the band for a snug fit by sliding the band assembly on the angled side rails.
- G. Align and tighten the hose coupling to the cylinder valve. NEVER tighten with a wrench. (NXg2 Engage the cylinder SNAP CHANGE by pushing the connector into the pressure reducer until both locks click and lock.)
  - H. Sanitize each air mask after every use or when found to be dirty. Sanitize per attached guideline.
  - I. Inspect the pack using the AFTER USE inspection report; which are kept in the apparatus that the SCBA is assigned to. The sample inspection reports are enclosed.
  - J. Then the SCBA is placed back in the original place on the proper apparatus.

#### 8. INSPECTION AND MAINTENANCE PROGRAM:

The East Greenbush Fire Department inspection and maintenance guideline for SCBA is conducted after every use, weekly, and monthly as per Scott Aviation guidelines and NFPA 1500 for inspection and maintenance of Scott pressure pack 4.5 30 minute positive pressure with donning switch SCBA. The procedures are to be followed and any areas of deficiency shall require the SCBA to be removed from service, tagged, and reported to the chief or assistance chief. A qualified person must do repairs to any SCBA. This qualification will come from Scott Aviation and be of three different levels per-attached safety standards, repairs and record keeping.

#### 9. INSTRUCTION AND TRAINING:

Prior to anyone using a SCBA, they will have to be certified by the department physician for interior fire fighting and certification received stating same. Any member with a beard, sideburns or facial hair that may cause a leakage will not be allowed to wear a face piece (nose cup). Any member of the East Greenbush Fire Department who is under 18 years of age, or who has not completed his/her Essentials of Firefighting or equivalent class, shall not wear a SCBA for interior structural firefighting. The users will be provided training in donning the SCBA properly, getting a proper face piece to face seal, and using SCBA in firematic atmospheres. These instructions will be provided by an instructor of competency for SCBA'S. All members certified to wear a SCBA must have a minimum of two hours in service training yearly to continue their certification. Each certified member will wear a red/orange scotchlite maltese cross on the back of the firefighters helmet designating them as a certified interior firefighters

**East Greenbush Fire District #3**  
**Air Compressor/ Fill Station operating procedure**

1. Open front door of compressor and check site glass for oil level. If oil is not visible contact Chief to have oil added. Close compressor door.
2. Start compressor by depressing white compressor “power on” button. Button should light up.
3. The compressor will stop automatically when air pressure reaches 6000 psi and then start automatically when air pressure drops back to 5500 psi. Water is drained automatically every 15 minutes. If a problem develops the system will stop and alert you. In event of problem turn breaker switch to 'OFF' and contact a chief.
4. When finished filling SCBA bottles and restoring storage to 6000 psi, depress “power on” button to shut off compressor. Fill out log. Eventually, because the CO Detector uses a constant flow of air, the compressor will lose air pressure. If “on” it would restart in an idiot loop wasting electricity. **BE SURE TO SHUT OFF COMPRESSOR BEFORE LOWERING DOOR TO COMPRESSOR ROOM .**

**Fill Station Procedures**

1. Tilt the SCBA bottle rack out for loading. Place empty bottles in the rack and connect the appropriate fill hose for each bottle. Fill hoses that are not being used must be connected to the dummy connections inside the enclosure. On Nxg2 bottles do not open the bottle valve. On other styles of bottles open the valves on each SCBA bottle. Note the PSI rating on the bottles. (All bottles must be the same pressure rating). Push the SCBA rack back into the fill position inside the enclosure. Check that the bleed valve is closed.
2. Close the enclosure access door slowly, do not slam! The fill process will then automatically start with the 2216 regulator. The fill valve on the control panel is preset, do not touch, (if the valve has been closed, open 1/4 of a turn to allow filling and then leave alone.)
3. This is a regulated system, to choose the 4500 psi regulator push in the red button. (When the door is opened this will automatically reset to the 2216 psi regulator.)
4. Once the SCBA gage has reached the desired pressure, open the enclosure door to stop the air fill. Hint: the source gage will read 4600 psi.
5. Tilt the SCBA rack out. Close the bottle valves. Slowly open the bleed valve on the panel; this releases trapped air from the fill hoses. Disconnect the fill hoses from the bottles. Remove bottles from the fill enclosure. Close bleed valve and leave enclosure access door open. Fill out log when done. **BE SURE TO SHUT OFF COMPRESSOR BEFORE LOWERING DOOR TO COMPRESSOR ROOM**

Notes:

1. All valves should be hand tight -- NO WRENCHES!!
2. The main breaker for the air compressor is located in the breaker box in the truck bay.

Written by Tom Whittemore 4/1/2003. Revised 8/15/07

**East Greenbush Fire District #3**  
**Truck 11 or Rescue 8 Filling procedure**

1. Use Black hose stored on back of fill station. Connect hose to fill station, tighten using a 1-1/8" and a 1-1/4" wrenches, and test airflow by cracking open the fill valve.
2. Open cylinder valve on truck and test airflow by opening truck fill valve.
3. Connect fill hose to truck
4. Start air compressor.
5. Open fill valves on fill station outlet and truck to begin filling cylinders on truck.
6. When the air pressure in the fill station storage system is the same as the air pressure in the Truck cylinders close the fill storage valve located on the upper back corner of the fill station.
7. Continue to fill truck bottles from the air compressor.
8. When the air compressor shuts off or a satisfactory pressure has been reached turn off the air compressor and close the fill station fill valve, truck fill valves and truck cylinder valves,.
9. Purge air from the fill hose by opening the bleed valve on the hose. Alternatively with the truck fill valve open you could open the bleed on the truck air filter in front of the turntable control stand.
10. Disconnect hose, and reopen the fill storage valve located on the upper back corner of the fill station.
11. Restart compressor to top off the fill station storage system.
12. Be sure to shut off air compressor before lowering door to compressor room and leaving.

After developing an operating guideline it is very important that the guidelines be revised on a regular basis. This will enable a department officer to save time and, most importantly, maintain up to date materials.

You will also have to add inspection checklists and some manufacturers offer them to their customers in addition to the checklist the owners/operations manual and an accountability program is required to fulfill the guideline.