



SKILL SHEETS

- I** 6-I-1 Demonstrate the method for donning structural personal protective clothing for use at an emergency.
- 6-I-2 With structural personal protective clothing in place, demonstrate the over-the-head method of donning an SCBA.
- 6-I-3 With structural personal protective clothing in place, demonstrate the coat method of donning an SCBA.
- 6-I-4 With structural personal protective clothing in place, demonstrate the method of donning an SCBA while seated.
- 6-I-5 Doff personal protective equipment, including SCBA and prepare for reuse.
- 6-I-6 Demonstrate the steps for inspecting an SCBA.
- 6-I-7 Demonstrate the steps for cleaning and sanitizing an SCBA.
- 6-I-8 Demonstrate the method for filling an SCBA cylinder from a cascade system, wearing appropriate PPE, including eye and ear protection.
- 6-I-9 Demonstrate the method for filling an SCBA cylinder from a compressor/purifier system, wearing appropriate PPE, including eye and ear protection.
- 6-I-10 Demonstrate the one-person method for changing an SCBA cylinder.
- 6-I-11 Demonstrate the two-person method for changing an SCBA cylinder.

NOTE: Ensure ensemble is worn according to manufacturer's guidelines or local standard operating procedures.



Step 1: Don pants and boots, which includes suspenders in place.

Step 2: Don hood.



Step 3: Don coat with closure secure and collar up.



Step 4: Don helmet with eye protection on and chin strap in place and fastened.



Step 5: Don structural firefighter gloves.

6-1-2

With structural personal protective clothing in place, demonstrate the over-the-head method of donning an SCBA.

NOTE: The following are general procedures for donning an SCBA. The specific SCBA manufacturer's recommendations for donning and use of the SCBA should always be followed.



Step 1: Position the SCBA with the valve end of the cylinder away from the body, the cylinder down, and back frame up. All harness straps are fully extended and untangled.

Step 2: Open cylinder valve fully. Listen for the activation of the integrated PASS Alarm if equipped. Listen for the activation of the Low Air Alarm.

Step 3: Check cylinder and regulator pressure gauges. Pressure readings within 100 psi (700 kPa) OR needles on both pressure gauges indicate same pressure.



Step 4: Grab the back frame so that the shoulder straps will be outside of arms. Using proper lifting techniques, raise the SCBA overhead while guiding elbows into the loops formed by the shoulder straps.

Step 5: Release the harness assembly and allow the SCBA to slide down the back.

Step 6: Fasten chest strap, buckle waist strap, and adjust shoulder straps.

Step 7: Don facepiece over the head and securely tighten the straps, pulling the straps straight backwards, not out to the side.



Step 8: After straps are tightened, test the facepiece for a proper seal and operation of the exhalation valve.

NOTE: Not all facepieces are designed for a seal check without the regulator being attached and activated.

Step 9: Don hood, ensure it covers all exposed skin.

Step 10: Connect air supply to facepiece.



Step 11: Activate external PASS device, if not equipped with integrated device.

Step 12: Don helmet, with chin strap secure and adjusted, and gloves.

6-1-3

With structural personal protective clothing in place, demonstrate the coat method of donning an SCBA.

NOTE: The following are general procedures for donning an SCBA. The specific SCBA manufacturer's recommendations for donning and use of the SCBA should always be followed.



Step 1: Position SCBA with the valve end of the cylinder toward the body, the cylinder down, and back frame up. All harness straps are fully extended and untangled.

Step 2: Open cylinder valve fully. Listen for the activation of the integrated PASS Alarm if equipped. Listen for the activation of the Low Air Alarm.

Step 3: Check cylinder and regulator pressure gauges. Pressure readings within 100 psi (700 kPa) OR needles on both pressure gauges indicate same pressure.



Step 4: Grasp the top of the left shoulder strap on the SCBA with the left hand and raise the SCBA overhead.

Step 5: Guide left elbow through the loop formed by the left shoulder strap and swing SCBA around left shoulder.

Step 6: Guide right arm through the loop formed by the right shoulder strap allowing the SCBA to come to rest in proper position.



Step 7: Fasten chest strap, buckle waist strap, and adjust shoulder straps.

Step 8: Don facepiece over the head and securely tighten the straps, pulling the straps straight backwards, not out to the side.



Step 9: After straps are tightened, test the facepiece for a proper seal and operation of the exhalation valve.

NOTE: Not all facepieces are designed for a seal check without the regulator being attached and activated.

Step 10: Don hood, ensure it covers all exposed skin.

Step 11: Connect air supply to facepiece.

Step 12: Activate external PASS device, if not equipped with integrated device.

Step 13: Don helmet, with chin strap secure and adjusted, and gloves.

6-1-4

With structural personal protective clothing in place, demonstrate the method of donning an SCBA while seated.

NOTE: The following are general procedures for donning an SCBA. The specific SCBA manufacturer's recommendations for donning and use of the SCBA should always be followed.



Step 1: Position body in seat with back firmly against the SCBA and release the SCBA hold-down device.



Step 2: Insert arms through shoulder straps.



Step 3: Fasten chest strap, buckle waist strap, and adjust shoulder straps.

Step 4: Fasten seat belt before apparatus gets underway.

Step 5: Safely dismount apparatus, using appropriate situational awareness.



Step 6: Open cylinder valve fully.

Step 7: Check cylinder and regulator pressure gauges. Pressure readings within 100 psi (700 kPa) OR needles on both pressure gauges indicate same pressure.

Step 8: Don facepiece over the head and securely tighten the straps, pulling the straps straight backwards, not out to the side.

Step 9: After straps are tightened, test the facepiece for a proper seal and operation of the exhalation valve.

NOTE: Not all facepieces are designed for a seal check without the regulator being attached and activated.

Step 10: Don hood, ensure it covers all exposed skin.

Step 11: Connect air supply to facepiece.

Step 12: Activate external PASS device, if not equipped with integrated device.

Step 13: Don helmet, with chin strap secure and adjusted, and gloves.

Doff SCBA



- Step 1:** Remove SCBA.
- Step 2:** Close cylinder valve completely.
- Step 3:** Bleed air from high- and low-pressure hoses, listen for low air alarm activation.
- Step 4:** Check air cylinder pressure and replace or refill cylinder if less than 90 percent of rated capacity.

- Step 5:** Return all straps, valves and components back to ready state.
- Step 6:** Inspect SCBA and facepiece for damage and need for cleaning.
- Step 7:** Clean equipment as needed and remove damaged equipment from service and report to company officer, if applicable.
- Step 8:** Place SCBA back in storage area so that it is ready for immediate use.

6-1-5

Doff personal protective equipment, including SCBA and prepare for reuse.

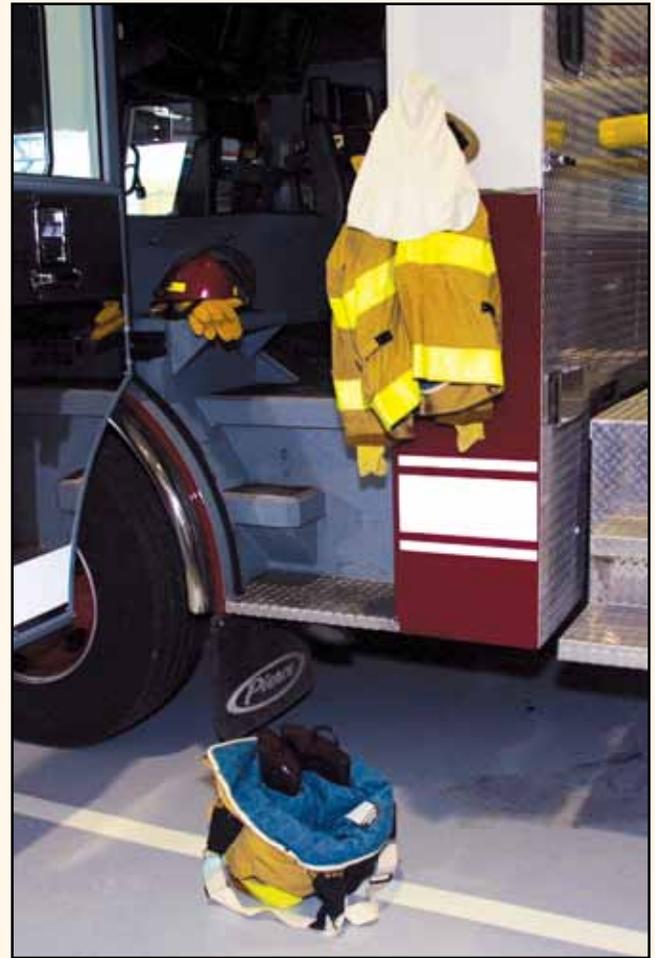
Doff PPE



Step 1: Remove protective clothing.

Step 2: Inspect PPE for damage and need for cleaning.

Step 3: Clean equipment as needed and remove damaged equipment from service and report to company officer, if applicable.



Step 4: Place clothing in a ready state.



Step 1: Identify all components of SCBA are present: harness assembly, cylinder, facepiece, and PASS device.

Step 2: Inspect all components of SCBA for cleanliness and damage.

Step 3: Immediately clean dirty components if found. If damage is found, remove from service and report to company officer.

Step 4: Check that cylinder is full (90-100 percent of capacity).

Step 5: Open the cylinder valve slowly; verify operation of the low-air alarm and the absence of audible air leaks.

NOTE: On some SCBA, the audible alarm does not sound when the cylinder valve is opened.

Step 6: If air leaks are detected, determine if connections need to be tightened or if valves, donning switch, etc. need to be adjusted. Otherwise SCBA with audible leaks due to malfunctions shall be removed from service, tagged, and reported to the company officer.



Step 7: Check that gauges and/or indicators (i.e. heads-up display) are providing similar pressure readings. Manufacturers' guidelines determine the acceptable range.

Step 8: Check the function of all modes of PASS device.



Step 9: Don facepiece over the head and securely tighten the straps, pulling the straps straight backwards, not out to the side.

Step 10: After straps are tightened, test the facepiece for a proper seal and operation of the exhalation valve.

NOTE: Not all facepieces are designed for a seal check without the regulator being attached and activated.

Step 11: Don regulator and check function by taking several normal breaths.

Step 12: Check bypass and/or purge valve, if applicable.

Step 13: Remove facepiece and prepare all components for immediate reuse.

Step 14: Place SCBA components so that they can be accessed quickly for donning in the event of a reported emergency.



Step 1: Prepare cleaning solution, buckets, etc. according to manufacturer's guidelines and departmental policies.



Step 4: Place all components in a manner and location so that they will dry.



Step 2: Clean all components of SCBA unit according to manufacturer's guidelines and departmental policies.

Step 3: After equipment is clean, inspect for damage. If any damage is noted, report in accordance with local SOPs.



Step 5: Assemble components so they are in a state of readiness.

NOTE: This skill sheet is only an example. The procedures outlined here may not be applicable to your cascade system. Always check the manufacturer's instructions before attempting to fill any cylinders.



Step 1: Check the hydrostatic test date and recommended fill pressure of the cylinder.

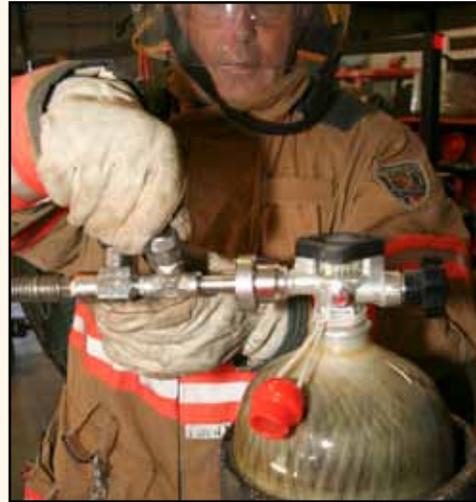


Step 2: Inspect the SCBA cylinder for damage such as deep nicks, cuts, gouges, or discoloration from heat. If the cylinder is damaged or is out of hydrostatic test date, remove it from service and tag it for further inspection and hydrostatic testing.

CAUTION: Never attempt to fill a cylinder that is damaged or that is out of hydrostatic test date.

Step 3: Place the SCBA cylinder in a fragment-proof fill station.

Step 4: Connect the fill hose to the cylinder and close bleed valve on fill hose.



Step 5: Open the SCBA cylinder valve.

Step 6: Open the valve at the fill hose, the valve at the cascade system manifold, or the valves at both locations if the system is so equipped. Check that the regulator setting is appropriate for the cylinder pressure.

NOTE: Some cascade systems may have a valve at the fill hose, at the manifold, or at both places.



Step 7: Open the valve of the cascade cylinder that has the least pressure but that has more pressure than the SCBA cylinder.

6-1-8

Demonstrate the method for filling an SCBA cylinder from a cascade system, wearing appropriate PPE, including eye and ear protection.



Step 8: Close the cascade cylinder valve when the pressures of the SCBA and the cascade cylinder equalize.

- a. If the SCBA cylinder is not yet completely full, open the valve on the cascade cylinder with the next highest pressure
- b. Repeat Step 8 until the SCBA cylinder is completely full



Step 9: Close the valve or valves at the cascade system manifold and/or fill line if the system is so equipped.

Step 10: Close the SCBA cylinder valve.



Step 11: Open the hose bleed valve to bleed off excess pressure between the cylinder valve and the valve on the fill hose.

CAUTION: Failure to open the hose bleed valve could result in O-ring damage.



Step 12: Disconnect the fill hose from the SCBA cylinder.

Step 13: Remove the SCBA cylinder from the fill station.

Step 14: Return the cylinder to proper storage.

NOTE: This skill sheet is only an example. The procedures outlined here may not be applicable to your compressor/purifier system. Always check the compressor/purifier manufacturer's instructions before attempting to fill any cylinders.



Step 1: Check the hydrostatic test date of the cylinder.



Step 4: Connect the fill hose to the cylinder and close bleed valve on fill hose.

Step 5: Open the SCBA cylinder valve.

Step 6: Turn on the compressor/purifier and open the outlet valve.



Step 2: Inspect the SCBA cylinder for damage such as deep nicks, cuts, gouges, or discoloration from heat. If the cylinder is damaged or out of hydrostatic test date, remove it from service and tag it for further inspection and hydrostatic testing.

CAUTION: Never attempt to fill a cylinder that is damaged or that is out of hydrostatic test date.

Step 3: Place the SCBA cylinder in a shielded fill station.



Step 7: Set the cylinder pressure adjustment on the compressor (if applicable) or manifold to the desired full-cylinder pressure. If there is no cylinder pressure adjustment, watch the pressure gauge on the cylinder during filling to determine when it is full.

6-1-9

Demonstrate the method for filling an SCBA cylinder from a compressor/purifier system, wearing appropriate PPE, including eye and ear protection.



Step 8: Open the manifold valve (if applicable), and again check the fill pressure.

Step 9: Open the fill station valve and begin filling the SCBA cylinder.



Step 13: Disconnect the fill hose from the SCBA cylinder.



Step 10: Close the fill station valve when the cylinder is full.

Step 11: Close the SCBA cylinder valve.

Step 12: Open the hose bleed valve to bleed off excess pressure between the cylinder valve and valve on the fill station.

CAUTION: Failure to open the hose bleed valve could result in O-ring damage.



Step 14: Remove the SCBA cylinder from the fill station and return the cylinder to proper storage.



- Step 1:** Place the SCBA unit on a firm, clean surface.
- Step 2:** Fully close the cylinder valve.
- Step 3:** Release air pressure from high- and low-pressure hoses.
- Step 4:** Disconnect the high-pressure coupling from the cylinder.
- Step 5:** Remove the empty cylinder from harness assembly.
- Step 6:** Verify that replacement cylinder is 90-100 percent of rated capacity.
- Step 7:** Check cylinder valve opening, the high-pressure hose fitting for debris, and the O-ring.
- Step 8:** Place the new cylinder into the backpack.



- Step 9:** Connect the high-pressure hose to the cylinder and hand-tighten.
 - Step 10:** Slowly and fully open the cylinder valve and listen for an audible alarm and leaks as the system pressurizes.
- NOTE:** On some SCBA, the audible alarm does not sound when the cylinder valve is opened. You must know the operation of your own particular unit.

6-I-10

Demonstrate the one-person method for changing an SCBA cylinder.



Step 11: If air leaks are detected, determine if connections need to be tightened or if valves, donning switch, etc. need to be adjusted. Otherwise SCBA with audible leaks due to malfunctions shall be removed from service, tagged, and reported to the officer.

Step 12: Don regulator and take normal breaths.



Step 13: Check pressure reading on remote gauge and/or indicators and report reading.



Step 11: Slowly open the cylinder valve fully and listen for an audible alarm and leaks as the system pressurizes.

NOTE: On some SCBA, the audible alarm does not sound when the cylinder valve is opened. You must know the operation of your own particular unit.

Step 12: If air leaks are detected, determine if connections need to be tightened or if valves, donning switch, etc. need to be adjusted. Otherwise SCBA with audible leaks due to malfunctions shall be removed from service, tagged, and reported to the officer.

Step 13: Don regulator and take normal breaths.

Step 14: Check pressure reading on remote gauge and/or indicators and report reading.

Step 1: Disconnect the regulator from the facepiece or disconnect the low-pressure hose from the regulator.

Step 2: Position the cylinder for easy access by kneeling down or bending over.

Step 3: Fully close the cylinder valve.

Step 4: Release the air pressure from the high- and low-pressure hoses.

Step 5: Disconnect the high-pressure coupling from the cylinder.

Step 6: Remove the empty cylinder from harness assembly.

Step 7: Inspect replacement cylinder and ensure that cylinder is 90-100 percent of rated capacity.

Step 8: Place new cylinder into the harness assembly.

Step 9: Check the cylinder valve opening and the high-pressure hose fitting for debris, clearing any debris by quickly opening and closing cylinder valve, and the O-ring.

Step 10: Connect the high-pressure hose to the cylinder and hand-tighten.



NFPA® Safety Alert Issued for SCBA Facepiece Lenses

On July 2, 2012, the National Fire Protection Association® issued the following safety alert:

Safety Alert

Exposure to high temperature environments, which firefighters can encounter during fires they are attempting to extinguish, can result in the thermal degradation or melting of a Self-Contained Breathing Apparatus (SCBA) facepiece lens, resulting in elimination of the protection meant for the user's respiratory system and exposing the user to products of combustion and superheated air.

This alert was based on data gathered by the National Institute for Occupational Safety and Health (NIOSH) while investigating firefighter line of duty deaths between 2002 and 2011. The investigations into three fatalities indicated that firefighters encountered thermal conditions that exceeded the level of protection the facepiece lenses were designed to withstand. At the same time it was determined that the facepiece lens offered the lowest level of thermal protection of any part of the personal protective ensemble. The degradation of the lens resulted in the inhalation of products of combustion and thermal injuries to the firefighter's respiratory system.

The NFPA® will be incorporating new test methods and performance requirements into the 2013 edition of NFPA® 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*. In the meantime, the NFPA® made the following recommendations:

- SCBA facepieces should be inspected before and after each use in accordance with NFPA® 1852, *Selection Care and Maintenance of Open-Circuit Self-Contained Breathing Apparatus*.
- SCBA facepieces that exhibit evidence of exposure to intense heat, such as cracking, crazing, bubbling, discoloration, deformation, or gaps between the lens and frame must be removed from service and repaired or replaced.
- Fire department training programs must contain information on the limitations of respiratory protection, the effects on the facepiece of prolonged or repeated exposures to intense heat, and how to respond to problems that may occur when the facepiece is exposed to intense heat.
- When firefighters and fire officers are evaluating structure fires they must consider the potential for facepiece failure during an interior fire attack. Situational awareness and an understanding of fire behavior are essential to preventing facepiece failure.
- When interior conditions deteriorate, firefighters must be able to recognize the change in conditions and withdraw or seek a safe refuge.

