



Military & Professional

SEA - 3000LW & 4500

(Survival Egress Air)



User's Manual

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SEA-3000LW & 4500 User's Manual PN 103642

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TRADEMARK NOTICE

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Warnings, Cautions and Notes:

Pay special attention to information provided in Warnings, Cautions and Notes that are accompanied by one of these symbols:



A **WARNING** indicates a procedure or situation that, if not avoided, could result in serious injury or death to the user.



A **CAUTION** indicates any situation or technique that could cause damage to the product and could subsequently result in injury to the user.



A **NOTE** is used to emphasize important points, tips and reminders.

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GENERAL PRECAUTIONS AND WARNINGS



WARNING: The SEA is intended for use only as an emergency device to assist a crew member or passenger in making an emergency egress from a submerged aircraft. Due to its limited air volume, it is not intended for use while SCUBA diving or egressing from depths greater than 45 ft/ 13.5 m.



WARNING: Before using the SEA, it is important to receive in-water survival training which simulates an emergency egress situation. You must also learn basic principles and techniques for breathing compressed air underwater. Use of the SEA without proper training is dangerous and can result in serious injury or death.



WARNING: Visual inspection and factory prescribed service for the SEA must be performed at least once every two years by a factory trained and qualified service technician. Repair, service and visual inspection must not be attempted by untrained or unqualified personnel.



WARNING: DO NOT attempt to overfill the SEA beyond its maximum fill pressure at 70°F/ 21°C. Doing so may seriously weaken the safety plug assembly and cylinder, resulting in serious injury or death.



WARNING: DO NOT fill or use the SEA if it has been exposed to extreme heat exceeding 250° F / 121° C or open flame. Instead, discharge the cylinder completely and return it to a factory trained service technician for inspection and possible hydrostatic re-testing.



WARNING: The SEA is designated compatible for use only with normal, atmospheric, compressed air (21% oxygen and 79% nitrogen by volume). DO NOT attempt to fill with other gases, including pure oxygen or air which has been enriched with oxygen exceeding 21% in content. Failure to observe this warning may result in serious injury or death due to fire and explosion or the serious deterioration and failure of the equipment.



WARNING: DO NOT apply any type of aerosol spray to the SEA. Doing so may cause permanent damage to certain plastic components.



WARNING: DO NOT apply any type of petroleum-based lubricant, such as household oil or motor oil to any part of the SEA. The SEA does not require any lubrication under normal circumstances, except during service performed by a factory trained service technician.



WARNING: It is important to ensure that the SEA is always pressurized whenever it is submerged in order to prevent the entrance of water into the system. If the system has been completely emptied of air underwater, it is important to return the SEA as soon as possible to a factory trained service technician for visual inspection and any necessary service before attempting to refill it.



WARNING: It is important to fill the SEA only with dry, filtered air with a water vapor content that does not exceed -65°F / -53°C dew point. Excess water vapor in the air can cause ice to form inside the SEA and interfere with the operation of the system at colder temperatures.



NOTE: When instructed to **remove, unscrew or loosen** a part, turn the part counter-clockwise.

When instructed to **install, screw, or tighten** a part, turn the part clockwise.



NOTE: When instructed to **“OPEN”** the handwheel, turn the handwheel counter-clockwise. The **red indicator ring will not be visible** in the handwheel window, this indicates the system is in the **“ON”** position.

When instructed to **“CLOSE”** the handwheel, turn the handwheel clockwise. The **red indicator ring will be visible** in the handwheel window, this indicates the system is in the **“OFF”** position.



NOTE: When instructed to depressurize the system, close the handwheel and depress the second stage purge button for 5 seconds and release for 5 seconds. Repeat this procedure until the system is depressurized.

PRODUCT DESCRIPTION

The Survival Egress Air (SEA) is specifically designed for use on a variety of aircrew vests and harnesses typically used in maritime environments. A light weight cylinder with integrated regulator provides a source of emergency breathing air to allow crew members or passengers to safely egress from a submerged aircraft.

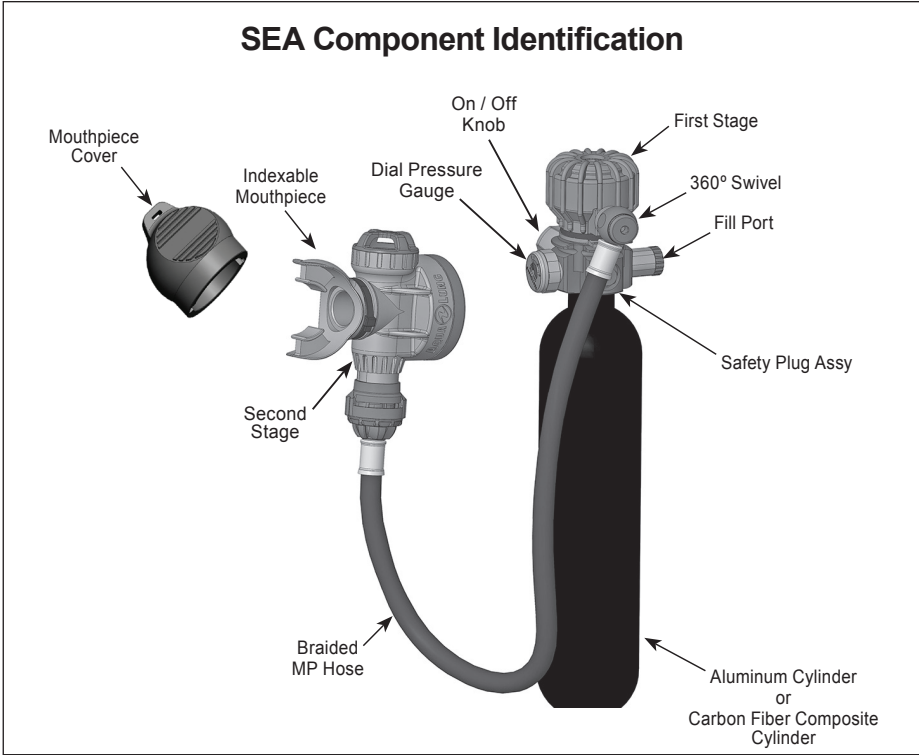


Figure 1

PREPARATION AND SETUP

The purpose of this manual is to familiarize personnel with the correct setup, filling, inspection and maintenance of the SEA.

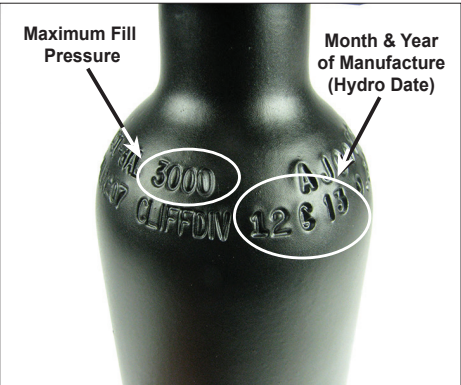
The SEA is packaged fully assembled and ready to use after it has been filled with air. Before using, it is very important to carefully read and understand the procedures outlined in this manual.

General Filling Procedures

NOTE: The average duration of air supply listed in the **Technical Specifications section of this manual** is based upon the maximum fill pressure as marked on the cylinder. It is strongly recommended that the cylinder be filled to its maximum fill pressure (cold fill), in order to provide maximum breathing volume.

- 1. Before attempting to fill the SEA, ensure that the fill adapter and first stage are completely dry – especially in the area surrounding the fill port.
- 2. The SEA is configured with a 3000 PSI (207 BAR) aluminum cylinder or 4500 PSI (310 BAR) carbon fiber composite cylinder. Examine the cylinder markings to determine the maximum fill pressure. Aluminum cylinders must have a current visual inspection. Carbon fiber composite cylinders must have a current visual inspection and hydrostatic test date (**Fig. 2**).

NOTE: Aluminum cylinders do not require hydrostatic re-testing. Carbon fiber composite cylinders require hydrostatic re-testing every 5 years (**Fig. 2**).



Month & Year of Manufacture (Hydro Date)

Maximum Fill Pressure

DOT -SP 10945-4500
ALT 1018L-XXXX
M6003

MFG PART NUMBER 336190		MFG TEST DATE XX @ XX	5 YEARS RETEST
CAGE CODE NO. 58943	EMPTY WEIGHT 0.60 MAX LB.	VOLUME 17.5 MIN CU. IN.	TEST PRESSURE 7500 PSIG
Aqua Lung America REJECTION ELASTIC EXPANSION REE: XXXXcc			CONTENTS AIR

Figure 2



WARNING: DO NOT attempt to fill the SEA if the cylinder markings indicate that it is assembled with a non standard cylinder rated for a different fill pressure. Doing so may result in rupture or explosion in the event of fire or overfilling. Instead, immediately return the unit to a factory trained service technician and do not use under any circumstances.



WARNING: DO NOT attempt to loosen or remove any components of the SEA other than instructed. Doing so could cause a dangerous malfunction which could result in serious injury or death.

3. Check to ensure the handwheel is closed and the system is depressurized (*Fig. 3*).



Figure 3

4. Unscrew the fill port cap from the fill port (*Fig. 4*).



Figure 4



CAUTION: If moisture is found to be present inside the fill port opening, this indicates that water may have entered the first stage and cylinder. DO NOT fill or attempt to use the SEA until it has received complete inspection and any required service by a factory trained service technician.

Filling Methods

1. Supply (SCUBA) cylinder with SCUBA fill adapter (PN 108325).
2. Compressor with compressor fill adapter (PN M100656).
3. Compressor with HP fill adapter (PN 102865).

Filling with a SCUBA Fill Adapter



NOTE: The SEA system does not include a SCUBA fill adapter. This adapter (PN 108325) may be purchased separately (**Fig. 5**).

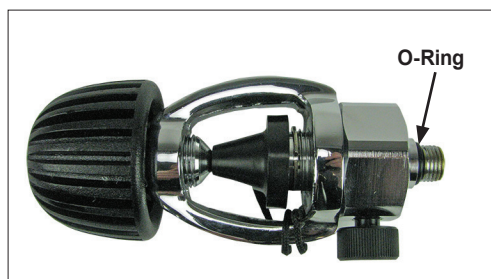


Figure 5



CAUTION: Do not attempt to fill the SEA directly from a supply cylinder unless you have received the necessary training and authorization to do so. If done incorrectly, this procedure poses certain hazards which may cause severe injury or death.



CAUTION: The dial pressure gauge is for reference only. Use the fill system gauge to indicate accurate cylinder pressure.



WARNING: DO NOT attempt to use the SCUBA fill adapter to fill the SEA from an air supply where the regulated pressure exceeds 3000 PSI (207 BAR). Doing so could cause a dangerous malfunction to the fill adapter or weaken the cylinder and safety plug, resulting in serious injury or death.

1. Using a calibrated pressure gauge, check the supply cylinder to ensure that it contains 3000 PSI (207 BAR). It is very important to ensure that the SEA is filled to its total capacity but not overfilled.

2. Remove the protector cap from the threaded male fitting of the fill adapter. Inspect the fill adapter to ensure that the o-ring is present and seated evenly at the base of the threads. Check the threads of the male fitting, making sure they are clean and not damaged.

3. Screw the threaded male fitting on the fill adapter into the fill port. DO NOT apply a wrench or otherwise over-tighten the fill adapter (**Fig. 6**).

4. Loosen the fill adapter yoke screw as needed so that the dust cap can be removed from the inlet fitting.



Figure 6

5. Inspect the supply cylinder o-ring to make sure it is present, in good condition and seated evenly in the supply cylinder valve.

6. While supporting the SEA with one hand, place the yoke of the fill adapter over the cylinder valve to align the inlet fitting flush against the valve o-ring. Screw the fill adapter yoke screw into the small dimple on the backside of the cylinder valve until finger-tight (**Fig. 7**).



Figure 7

7. Close the bleed valve screw on the fill adapter (**Fig. 7**).



NOTE: The SEA will fill with the handwheel in the “OFF” position (**red indicator ring visible**). In this position the dial pressure gauge will not register pressure. This is not recommended.

8. While holding the first stage and fill adapter secure, **slowly** open the handwheel to pressurize the system (**Fig. 8**).



Figure 8



NOTE: Always fill the cylinder as slowly as possible (**do not exceed 300 PSI / 20.7 BAR per minute**) by turning the handwheel of the supply valve slowly to control the rate of fill. Rapid filling will generate heat and will result in an incomplete fill after the cylinder cools. If the cylinder is warm to the touch afterward, the fill rate was too rapid.

9. While supporting the cylinder with one hand, **very slowly** open the handwheel on the supply cylinder to begin filling (**do not exceed a fill rate of 300 PSI / 20.7 BAR per minute**). Make sure the dial pressure gauge shows that the cylinder is filling properly.
10. When air can no longer be heard flowing from the supply cylinder into the SEA, completely open the supply cylinder valve. Verify the cylinder has been filled to its maximum capacity as marked.
11. While holding the first stage and fill adapter secure, close the handwheel on the supply cylinder. Close the handwheel on the SEA and depressurize the system.
12. Open the bleed valve screw on the fill adapter to relieve the line pressure.
13. While supporting the SEA cylinder with one hand, loosen the yoke screw on the fill adapter and remove it from the supply cylinder valve.
14. Unscrew the fill adapter from the fill port. Replace the dust cap over the inlet fitting and tighten the yoke screw finger-tight. Replace protector cap on the threaded male fitting of the fill adapter.
15. Return the fill adapter to its storage location.
16. Check that the o-ring on the fill port cap is present, not damaged and seated evenly at the base of the cap. Thread the fill port cap back into the fill port until finger-tight.

Filling with a Compressor Fill Adapter



NOTE: The SEA system does not include a compressor fill adapter. This adapter (PN M100656) may be purchased separately (Fig. 9).

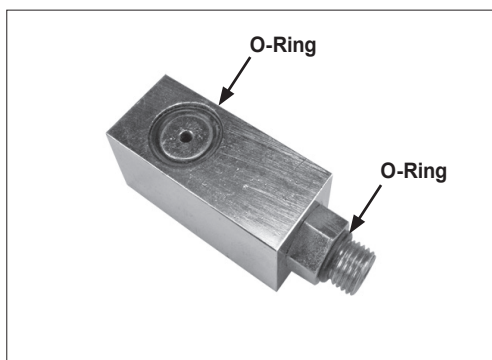


Figure 9



CAUTION: Do not attempt to fill the SEA directly from a compressed air filling station unless you have received the necessary training and authorization to do so. If done incorrectly, this procedure poses certain hazards which may cause severe injury or death.



CAUTION: The dial pressure gauge is for reference only. Use the fill system gauge to indicate accurate cylinder pressure.



WARNING: DO NOT attempt to use the compressor fill adapter to fill the SEA from a compressor or air supply where the regulated pressure exceeds 3000 PSI (207 BAR). Doing so could cause a dangerous malfunction to the fill adapter or weaken the cylinder and safety plug, resulting in serious injury or death.

1. Remove the protector cap from the threaded male fitting of the fill adapter. Inspect the fill adapter to ensure that the o-ring is present, not damaged and seated evenly at the base of the threads. Check the threads of the male fitting, making sure they are clean and not damaged. Inspect the o-ring in the groove on the fill block end of the adapter, making sure it is present, not damaged and seated evenly.
2. Screw the threaded male fitting on the fill adapter into the fill port of the first stage until finger-tight. DO NOT apply a wrench or otherwise over-tighten the fill adapter.
3. Loosen the yoke screw on the compressor fill yoke as needed so that the yoke can be placed over the block of the fill adapter.
4. While supporting the SEA with one hand, place the yoke over the block of the fill adapter to align the inlet fitting flush against the fill block o-ring. Screw the yoke screw into the small dimple on the backside of the fill adapter block until finger-tight (**Fig. 10**).
5. Close the bleed valve screw on the compressor fill yoke (**Fig. 10**).

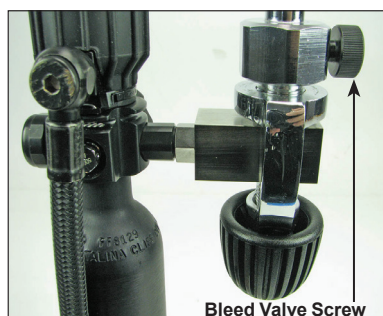


Figure 10



NOTE: The SEA will fill with the handwheel in the “OFF” position (**red indicator ring visible**). In this position the dial pressure gauge will not register PSI. This is not recommended.

6. While holding the first stage and fill adapter secure, **slowly** open the handwheel to pressurize the system (**Fig. 11**).



Figure 11



NOTE: Always fill the cylinder as slowly as possible (**do not exceed 300 PSI / 20.7 BAR per minute**) by turning the handwheel of the supply valve slowly to control the rate of fill. Rapid filling will generate heat and will result in an incomplete fill after the cylinder cools. If the cylinder is warm to the touch afterward, the fill rate was too rapid.

7. While supporting the cylinder with one hand, **very slowly** open the compressor valve to begin filling (**do not exceed a fill rate of 300 PSI / 20.7 BAR per minute**). Make sure the dial pressure gauge shows that the cylinder is filling properly.
8. When air can no longer be heard flowing from the compressor fill hose into the SEA, completely open the compressor valve. Verify the cylinder has been filled to its maximum capacity as marked.
9. While holding the first stage and fill adapter secure, close the handwheel on the compressor valve. Close the handwheel on the SEA and depressurize the system.
10. Open the bleed valve screw on the compressor fill yoke to relieve the line pressure.
11. While holding the SEA cylinder, loosen the yoke screw on the compressor fill yoke and remove it from the fill adapter. Return the compressor fill yoke to its storage location.
12. Unscrew the fill adapter from the fill port. Replace protector cap on the threaded male fitting of the fill adapter.
13. Return the fill adapter to its storage location.
14. Check that the o-ring on the fill port cap is present, not damaged and seated evenly at the base of the cap. Thread the fill port cap back into the fill port until finger-tight.

Filling with a HP Fill Adapter



NOTE: The SEA system does not include a HP fill adapter. This adapter (PN 102865) may be purchased separately (Fig. 12).



Figure 12



CAUTION: Do not attempt to fill the SEA directly from a compressed air filling station unless you have received the necessary training and authorization to do so. If done incorrectly, this procedure poses certain hazards which may cause severe injury or death.



CAUTION: The dial pressure gauge is for reference only. Use the fill system gauge to indicate accurate cylinder pressure.



WARNING: DO NOT attempt to use the HP fill adapter to fill the SEA from a compressor or air supply where the regulated pressure exceeds the cylinders maximum fill pressure. Doing so could cause a dangerous malfunction to the fill adapter or weaken the cylinder and safety plug, resulting in serious injury or death.

1. Remove the protector cap from the threaded male fitting on the fill adapter. Inspect the fill adapter to ensure that the o-ring is present, not damaged and seated evenly at the base of the threads. Check the threads of the male fitting, making sure they are clean and not damaged.

2. Insert the threaded male fitting of the fill adapter into the fill port on the first stage. Screw the adapter nut into the fill port until finger-tight. **DO NOT** apply a wrench or otherwise overtighten the fill adapter (**Fig. 13**).

3. Close the bleed valve screw on the fill adapter (**Fig. 13**).

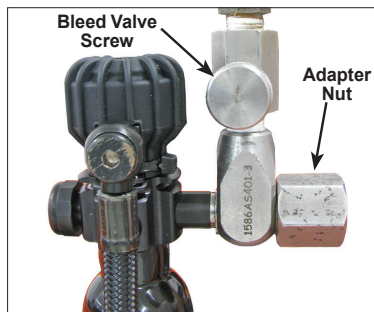


Figure 13



NOTE: The SEA will fill with the handwheel in the “OFF” position (**red indicator ring visible**). In this position the dial pressure gauge will not register pressure. This is not recommended.

4. While holding the first stage and fill adapter secure, **slowly** open the handwheel to pressurize the system (**Fig. 14**).



Figure 14



NOTE: Always fill the cylinder as slowly as possible (**do not exceed 300 PSI / 20.7 BAR per minute**) by turning the handwheel of the supply valve slowly to control the rate of fill. Rapid filling will generate heat and will result in an incomplete fill after the cylinder cools. If the cylinder is warm to the touch afterward, the fill rate was too rapid.

5. While supporting the cylinder with one hand, **very slowly** open the compressor valve to begin filling (**do not exceed a fill rate of 300 PSI / 20.7 BAR per minute**). Make sure the dial pressure gauge shows that the cylinder is filling properly.
6. When air can no longer be heard flowing from the compressor fill hose into the SEA, completely open the compressor valve. Verify the cylinder has been filled to its maximum capacity as marked.
7. While holding the first stage and fill adapter secure, close the handwheel on the compressor valve. Close the handwheel on the SEA and depressurize the system.
8. Open the bleed valve screw on the fill adapter to relieve the line pressure.
9. While supporting the SEA cylinder with one hand, unscrew the adapter nut and remove it from the fill port. Replace protector cap on the threaded male fitting of the fill adapter.
10. Return the fill adapter to its storage location.
11. Check that the o-ring on the fill port cap is present, not damaged and seated evenly at the base of the cap. Thread the fill port cap back into the fill port until finger-tight.

Additional Filling Options

Several filling options for the SEA are available through Capewell / Aerial Systems LLC. For additional information please contact:

Capewell / Aerial LLC
4298 JEB Stuart Highway
Meadow of Dan, Va 24120
Phone: 276-952-2006
Website: capewellaerialsystems.com

Adjusting the Mouthpiece Position

The second stage incorporates a position keying feature that enables the user to adjust orientation of the second stage body in relation to the mouthpiece. This unique feature keeps the hose closer to the body and allows for more flexibility in various cylinder-mounting configurations.

The mouthpiece-to-body default position is horizontal which allows the hose to route either to the right or left of the regulator second stage. The mouthpiece boss on the body is hexagonally shaped, which allows the mouthpiece to rotate to six different positions (**Fig. 15**).

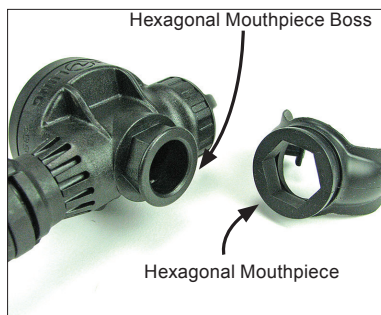


Figure 15



WARNING: The mouthpiece clamp must always be installed before returning regulator to service. Failure to install the clamp will result in the mouthpiece separating from the regulator body during deployment.

Changing the Mouthpiece

1. Mount the SEA cylinder in user preferred position.

2. Remove the black clamp with side cutters and discard (**Fig. 16**).



Figure 16

3. Rotate the mouthpiece to preferred position (**Fig. 17**).



Figure 17

4. Install a new black clamp with the clamp tab positioned in-line with the center of the right bite-tab on the mouthpiece. This orientation prevents discomfort during use (**Fig. 18**).

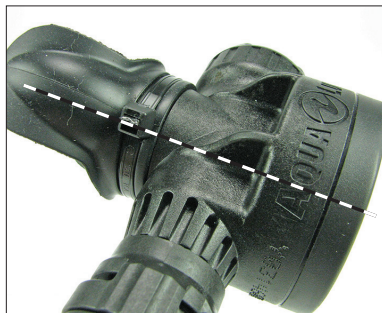


Figure 18

PRE-ISSUE INSPECTION

Before each use, the unit must be given a thorough visual inspection and functional test. NEVER use an SEA which shows signs of damage, leakage or substandard performance until it has received inspection and service from a factory trained service technician.

1. Carefully inspect the first stage to make sure all external components (dial pressure gauge, swivel port plug, safety plug, etc) are properly secured. Ensure the safety wire is firmly attached and in good condition (**Fig. 19**).

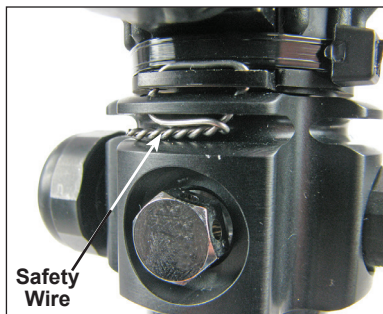


Figure 19



WARNING: DO NOT issue an SEA if the safety wire is missing or damaged. An inspection must be performed and the safety wire replaced prior to issue.

2. Ensure the medium pressure hose is securely connected to the second stage. Inspect the hose and hose fittings to ensure that there is no blistering, cuts, or corrosion present.
3. Visually inspect the entire system for any external damage, such as dents, gouges, cracks or external corrosion.
4. Confirm the handwheel is closed and the system depressurized. Inspect the dial pressure gauge to ensure that it reads "0 PSI / BAR" (**Fig. 20**).

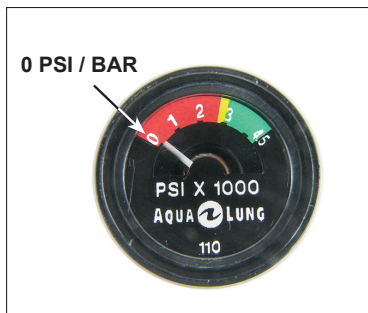


Figure 20



CAUTION: The dial pressure gauge should read "0 PSI / BAR" when the handwheel is in the closed position and the system is depressurized. DO NOT attempt to use the SEA if the gauge indicates pressure until it has received inspection and service from a factory trained service technician.



CAUTION: DO NOT attempt to pressurize the SEA without first checking to ensure all components are securely fastened to the first stage and second stages.

5. Open the handwheel to pressurize the system. Closely examine the dial pressure gauge to ensure the cylinder is filled to its maximum capacity as marked (**Fig. 21**).



Figure 21



NOTE: The operational range for a carbon fiber composite cylinder unit is 3000 - 4500 PSI (207 - 310 BAR) or in the "GREEN ZONE". A 13 in³ (63.4 L) carbon fiber composite cylinder is equivalent to a 1.5 ft³ (42.5 L) aluminum cylinder when both are filled to 3000 PSI (207 BAR). A 17.5 ft³ (85.5 L) carbon fiber composite cylinder is equivalent to a 2.0 ft³ (56.6 L) aluminum cylinder when both are filled to 3000 PSI (207 BAR). Aqua Lung classifies carbon fiber composite cylinders by floodable volume (cubic inch) and aluminum cylinders by expanded volume (cubic feet). Values in liters are metric expanded capacity.

6. Remove the mouthpiece cover from the second stage. Immerse the SEA in water to check for any signs of leakage coming from the first or second stages. If any leakage is found, do not attempt to use the SEA until it has received a thorough visual inspection and functional test by a factory trained service technician. Upon completion of immersion test, remove the SEA from water.

7. Briefly depress the purge button to ensure that sufficient airflow is provided to clear the second stage of water. Immediately after releasing the purge button, listen closely to ensure that the second stage does not continue to allow any airflow.

8. Close the handwheel and depressurize the system, refill the cylinder to its maximum capacity as marked. Reinstall the second stage into the mouthpiece cover when finished.

Provided that these Pre-Issue Inspection requirements have all been met, the SEA is now ready for use.

PRE-FLIGHT INSPECTION

The Pre-Flight Inspection shall be performed on the SEA prior to each flight by the aircrew member to whom the unit is assigned. Pre-Flight Inspection procedures are as follows:



WARNING: Strict compliance with Pre-Flight and Post-Flight Inspections shall be adhered to by all aircrew members utilizing the SEA. Any discrepancies shall be reported immediately to maintenance personnel.

1. Ensure the handwheel is closed and the system depressurized. Visually inspect the entire system for any signs of damage or contamination. Check the front cover of the second stage for tamper dot (if command uses tamper dot).



CAUTION: Do not press the second stage purge button when the system is pressurized during Pre-Flight Inspection. Unnecessary purging of the SEA will deplete air from the cylinder and it will have to be topped off by maintenance personnel.

2. Open the handwheel to pressurize the system, ensure the dial pressure gauge reads in the “**GREEN ZONE**” (Fig. 22).

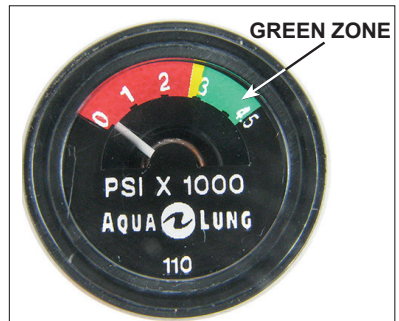
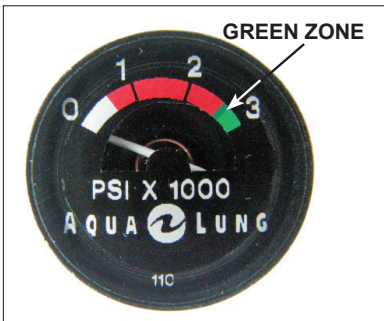


Figure 22

POST-FLIGHT INSPECTION

1. Upon completion of the flight, close the handwheel and completely depressurize the system. Check SEA for signs of damage and contamination. Report any discrepancies to maintenance personnel.

CARE AND MAINTENANCE

It is important to provide the proper preventative maintenance in order to ensure the best possible performance and reliability of the SEA. The following maintenance procedures should be performed routinely after each use of the equipment.

1. After each in-water use, the SEA must be cleaned, inspected and prepared for the next use or storage.
2. As soon as possible after in-water use, the SEA should be soaked thoroughly for at least one hour in warm (not over 120°F / 49°C) tap water to loosen and dissolve salt (if used in salt water) and mineral deposits. Before soaking, remove the mouthpiece cover to allow water into the second stage. Ensure the SEA is pressurized prior to submerging, this will prevent the entrance of moisture into the system.



NOTE: Due to the light weight aluminum first stage, the SEA is susceptible to galvanic corrosion and needs to be rinsed thoroughly after use in salt water.

3. After the system has been properly soaked, it is important to thoroughly rinse the first and second stages utilizing a pressurized stream of water. This will remove the salt and mineral deposits that were loosened during soaking.
4. When the system has been properly soaked and rinsed, wipe it dry with a clean towel. Press the purge button to blow any remaining water out of the second stage.
5. Close the handwheel and completely depressurize the system before storing or transporting. Reinstall the mouthpiece cover back onto the second stage.



WARNING: DO NOT store the SEA partially filled. Doing so may prevent the safety plug assembly from functioning properly in the event of fire or exposure to extreme heat. This may cause the cylinder to rupture or explode, possibly resulting in severe injury or death.

6. Due to the possibility of fire and exposure to extreme heat, the SEA must be stored either completely full or completely empty. If the system is exposed to fire while partially filled, the cylinder wall may rupture before the internal pressure becomes great enough to burst the safety plug assembly. For this reason, Aqua Lung recommends that the cylinder be completely emptied and the handwheel closed to prevent the entrance of moisture before storing the system for an indefinite period.

7. Store the SEA completely dry, in a clean equipment box or sealed inside a plastic bag. When possible, avoid storing it where it may be exposed to extreme heat or an electric motor, which produces ozone. Prolonged exposure to extreme heat, ozone, chlorine and ultraviolet rays can cause premature degradation to certain parts and must be prevented.

8. When transporting the SEA, take the necessary precautions to ensure that it is surrounded by a protective cushion to prevent undue shock or impact.

9. Do not use any type of solvent or petroleum based substances to clean or lubricate any part of the system. Do not expose the system to aerosol spray, as some aerosol propellants attack or degrade rubber and plastic.

INSPECTION AND SERVICE

1. It cannot be assumed that the SEA is in good working order on the basis that it has received little use since it was last serviced. Remember that prolonged or improper storage can still result in internal corrosion and/or deterioration of o-ring seals and valve springs.

2. It is imperative that you obtain factory prescribed service for your SEA once every two years from a factory trained service technician. Factory prescribed service consists of:

- Complete overhaul of the first and second stage regulator.
- Visual inspection of the cylinder.
- Verification of current hydrostatic test date on cylinder (if applicable). Re-test of cylinder is required every 5 years.

3. The SEA may require factory prescribed service more frequently, depending on the amount of use it receives and the environmental conditions it is used in.

4. DO NOT attempt to perform any disassembly or service of your SEA. Doing so may cause the system to dangerously malfunction. All service must be performed by a factory trained service technician.

OBTAIN FACTORY PRESCRIBED SERVICE FOR YOUR SEA AT LEAST ONCE EVERY TWO YEARS. YOUR PERSONAL SAFETY AND THE MECHANICAL INTEGRITY OF YOUR SEA DEPEND ON IT.

WARRANTY INFORMATION

For detailed information on product warranties, please refer to the ***Terms and Conditions Section*** of the ***Aqua Lung Military and Professional Buyer's Guide***.

The Buyer's Guide can be viewed or downloaded from the Aqua Lung Military and Professional website at **www.aqualung.com/militaryandprofessional**

TECHNICAL SPECIFICATIONS (SEA - 3000LW)

Cylinder Volume*	1.5 ft ³ (42.5 L) Expanded Volume 13 in ³ Floodable Volume 2.0 ft ³ (56.6 L) Expanded Volume 17.8 in ³ Floodable Volume
Cylinder Length with Regulator	10.0 in (25.4 cm) for 1.5 ft ³ Cylinder 12.0 in (30.5 cm) for 2.0 ft ³ Cylinder
Cylinder Material	Aluminum
Rated Cylinder Pressure	3000 PSI (207 BAR)
Regulator First Stage	Balanced Diaphragm
Pressure Indicator	Dial Gauge 0–3000 PSI (0–207 BAR)
Safety Plug Assembly	5000 PSI (345 BAR)
First Stage Hose Connection	360 Degree Swivel
Regulator Second Stage	Balanced Second Stage
MP Hose Length	20 in (50.8 cm) Braided 27 in (68.6 cm) Braided
System Weight	1.78 lb (0.80 kg) Empty w/ 1.5 ft ³ Cylinder 1.95 lb (0.88 kg) Empty w/ 2.0 ft ³ Cylinder
Duration of Air Supply**	18 Breaths 1.5 ft ³ Cylinder at 20 FSW 24 Breaths 2.0 ft ³ Cylinder at 20 FSW
<p>*Cylinder volume specifications are based upon the cylinder being filled to its maximum fill capacity as marked on the cylinder.</p> <p>**Based on an average breath volume of 1.5 liters at a breathing rate of 10 bpm, with a starting supply pressure of 3000 PSI (207 BAR).</p>	

TECHNICAL SPECIFICATIONS (SEA - 4500)

Cylinder Volume*	13 in ³ Floodable Volume 2.24 ft ³ (63.4 L) Expanded Volume 17.5 in ³ Floodable Volume 3.02 ft ³ (85.5 L) Expanded Volume
Cylinder Length with Regulator	11.0 in (28 cm) for 13 in ³ Cylinder 12.75 in (32.4 cm) for 17.5 in ³ Cylinder
Cylinder Material	Carbon Fiber Composite (AL Liner)
Rated Cylinder Pressure	4500 PSI (310 BAR)
Regulator First Stage	Balanced Diaphragm
Pressure Indicator	Dial Gauge 0–5000 PSI (0–345 BAR)
Safety Plug Assembly	7250 PSI (500 BAR)
First Stage Hose Connection	360 Degree Swivel
Regulator Second Stage	Balanced Second Stage
MP Hose Length	20 in (50.8 cm) Braided 27 in (68.6 cm) Braided
System Weight	1.57 lb (0.71 kg) Empty w/ 13 in ³ Cylinder 1.69 lb (0.77 kg) Empty w/ 17.5 in ³ Cylinder
Duration of Air Supply**	23 Breaths 13.0 in ³ Cylinder at 20 FSW 31 Breaths 17.5 in ³ Cylinder at 20 FSW
<p>*Cylinder volume specifications are based upon the cylinder being filled to its maximum fill capacity as marked on the cylinder.</p> <p>**Based on an average breath volume of 1.5 liters at a breathing rate of 10 bpm, with a starting supply pressure of 4500 PSI (310 BAR).</p>	

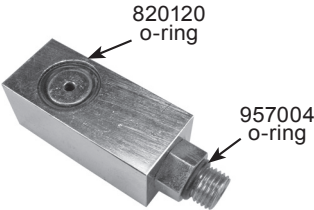
SEA ACCESSORIES



PN 108325
Scuba Fill Adapter
3000 PSI (207 BAR)



PN 102865
HP Fill Adapter
4500 PSI (310 BAR)



PN M100656
Compressor Fill Adapter
3000 PSI (207 BAR)

NOTES

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NOTES

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SEA - 3000LW & 4500

(Survival Egress Air)

User's Manual



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