

SPARE AIR

OWNER'S MANUAL



Where is
your
next
breath?



Saving
Lives
for

30
YEARS

Congratulations on purchasing your new SPARE AIR system!

This product is a sophisticated, high-quality alternate air source designed for recreational divers. It is produced and tested by people with more than three decades of diving and manufacturing experience. We use the finest quality materials and techniques in the construction of this product. Enjoy the peace of mind that diving with SPARE AIR brings.

Your SPARE AIR has been packaged fully assembled and is ready to be filled with air. Before using it, however, it is very important to carefully read and understand the procedures outlined in this manual for filling the unit and performing a pre-dive inspection.

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**DON'T FORGET
TO REGISTER YOUR
SPARE AIR ONLINE AT
www.spareair.com**



IMPORTANT SAFETY PRECAUTIONS



WARNING: Do not use product until you have read and understand instructions and precautions.

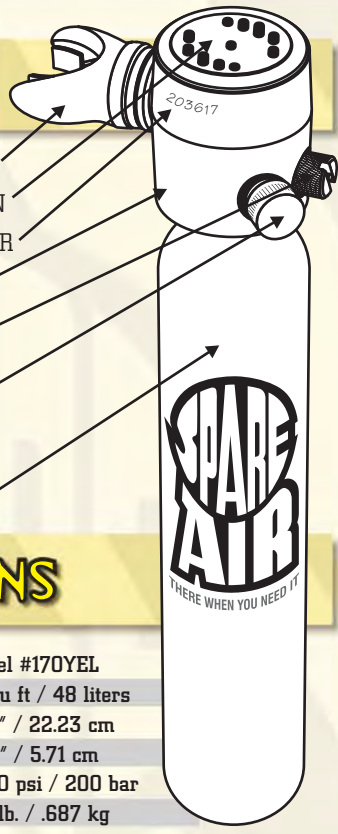
Submersible Systems, Inc. promotes responsible diving practices and the recommendations that have been promoted by all International Training agencies, including, but not limited to:

- Before any attempt is made to use this product underwater, you **MUST** have received **TRAINING** and **CERTIFICATION** in the technique of SCUBA diving from a recognized certification agency. Use of this equipment by a person who is not certified by a recognized agency shall render all warranties, express or implied, null and void. Use of underwater breathing devices by uncertified or untrained persons is dangerous and can result in severe injury or death.
- **SPARE AIR** is an **EMERGENCY** alternate air source. It is **NOT** designed or intended for any other use. Due to its limited volume, it must not be relied upon as a **PRIMARY** source of air.
- **SPARE AIR** should not be used as part of your planned air reserve.
- **SPARE AIR** does not meet the requirements of EN 250; 1993 and therefore should never be used as a primary air source.
- **SPARE AIR** is intended for use in water greater or equal to 10 degrees Celsius.
- Recommended Max ascent rates: 15 meters per minute (6 meters per minute for the last 6 meters).
- Swimming diver accepted as 25 liters/min., non-swimming will be less.
- Monitor diving disorders if ascent rates are exceeded or decompression stops are missed.
- Max depth recommendation is 20 meters (66 ft) for model #170.
- Max depth recommendation is 30 meters (99 ft) for model #300/300-N.
- Practice using **SPARE AIR** at normal rate ascents in shallow water.
- **ALWAYS** follow Submersible Systems' recommended pre-dive standards/post-dive checklist and annual inspection/repair guidelines.
- **NEVER** dive with a **SPARE AIR** system that shows signs of damage, leakage or substandard performance.
- **NEVER OVERFILL** the **SPARE AIR** system above 3000 psi, the air pressure stamped on the cylinder. **ONLY** use purified, dry compressed breathing air when refilling **SPARE AIR**.
- **DO NOT** fill or use the **SPARE AIR** if it has been exposed to extreme heat exceeding 250°F, or open flame. Instead, discharge the cylinder completely and return it to an Authorized **SPARE AIR** Dealer for inspection and possible hydrostatic testing.
- **STORE THE SPARE AIR** system **PRESSURIZED** in a cool, dry place. Avoid direct sunlight, automobile trunks or other areas subject to temperature extremes.
- In Europe, Cylinders fitted to **SPARE AIR** should meet national regulations and be tested and inspected in accordance with national regulations.
- EC type approval conducted by: SGS United Kingdom, Ltd., Ellesmere Port, Cheshire, CH65 3EN, UK. Notified Body No. 0120. This item complies with MOD (PE) Specification RO347. May 1991.
- This manual is supplied to the original **SPARE AIR** purchaser. Duplicate copies can be obtained free of charge from Submersible Systems, Inc. or www.spareair.com
- **SPARE AIR** is protected under US Patent #4996982. The Refill Adapter is protected by US Patent #7,182,108 B2.

SPARE AIR DIAGRAM

DIAL GAUGE
PRESSURE
INDICATOR
(OPTIONAL)

- MOUTHPIECE
- PURGE BUTTON
- SERIAL NUMBER
- REGULATOR
- PRESSURE INDICATOR
- CHECK VALVE
- REFILL PORT covered by BLACK CAP
- CYLINDER



MODEL SPECIFICATIONS

	Model #300YEL/300-N	Model #170YEL
Max Capacity:	3.0 cu ft / 85 liters	1.7 cu ft / 48 liters
Length:	13.4" / 34 cm	8.75" / 22.23 cm
Diameter:	2.25" / 5.71 cm	2.25" / 5.71 cm
Maximum Pressure:	3000 psi / 200 bar	3000 psi / 200 bar
Weight:	2.17 lb. / .985 kg	1.51 lb. / .687 kg
Surface Breaths*:	57	30
Water Volume:	26.62 cu in / .44 liters	13.8 cu in / .23 liters

*based on 1.6 liter breath size

ACCESSORIES

Included with all NEW SPARE AIR Packages

SPARE AIR HOLSTER #973

for the SPARE AIR 300YEL/300-N

SPARE AIR HOLSTER #971

for the SPARE AIR 170YEL



REFILL ADAPTER #910S

Adapter fits onto Standard SCUBA tank for easy refilling.

HOW TO FILL SPARE AIR

CAUTION: DO NOT stand directly over SPARE AIR regulator while filling.

1. Unscrew black cap from the SPARE AIR Check Valve filling port.
2. Place the Adapter onto Check Valve and turn the knurled ring of the adapter to the right until finger-tight.

NOTE: Filling too fast can result in an inaccurate air reading and can damage the internal components inside the Check Valve.

3. Attach Adapter to SCUBA tank valve.
4. To fill, **open SCUBA valve SLOWLY**, (allow 45 – 60 seconds to fill). The pin on the Pressure Indicator will rise while filling and when flush with the top, unit is full at 3000 psi. For Dial Gauge option, unit is full when needle points to 3.
5. Close SCUBA tank valve.
6. Turn the knurled ring of the Adapter to the left to relieve pressure in the Adapter.
7. Remove Adapter from SCUBA tank and SPARE AIR.
8. Replace black cap on Check Valve.



CAUTION: If air is escaping from the adapter during filling, close tank valve, wait for air to stop and re-tighten knurled ring by turning to the right.

NOTE: SCUBA tank must be filled to 3000 psi at beginning of refill procedure. If SCUBA tank has less than 3000 psi, the pressure indicator will not show full and your SPARE AIR will not be filled to its recommended full capacity, diminishing available air volume.

WARNING: If the SPARE AIR check valve or adapter threads are damaged or worn these parts will require replacement. Continued use may cause injury.

NOTE: If adapter knurled ring does not move freely, soak in 1 - 1 vinegar and water solution for 3 hours to loosen any salt water corrosion.

HOW TO MOUNT SPARE AIR

1. Determine where on BC you would like to mount SPARE AIR. Look for an area that has 2 places to attach the Quick Disconnect Straps (on D-rings, Straps, etc., *see photos*)
2. The Straps are movable by threading them through any of the webbing sections on back of Holster. Choose the 2 that would allow for the tightest fit possible.
3. Snap Quick Disconnect Straps around mounting points on BC and cinch up so Holster is snug against the BC. and clip other end onto Holster or BC D-ring.
4. Attach SPARE AIR leash snug around neck of cylinder and clip other end onto Holster or BC D-ring.
5. Insert SPARE AIR into Holster and secure velcro on top flap, attach Mouthpiece Cover.
6. Try on BC and try removal of SPARE AIR several times to become comfortable with the steps necessary to remove the unit.



Thread straps through webbing for best fit



Across Waist
(do not attach to weight belt!)



Diagonal from Tank to BC



Vertical on BC Shoulder Strap




Upside Down on Tank Strap

⚠ WARNING: DO NOT attach or mount the SPARE AIR Holster to your weight belt. The Holster may interfere with the removal of your weight belt in an emergency, and can cause loss of the SPARE AIR when you need it most.

⚠ WARNING: DO NOT attach or mount the SPARE AIR Holster to your BC in a way that will interfere with the inflation of the BC. Before diving, test BC inflation to make sure the Holster does not restrict air flow or does not come off if BC is over-inflated.

BEFORE YOU DIVE

- **SPARE AIR is shipped empty - fill prior to use.**
- SPARE AIR is always ON and ready for use. The White Pressure Indicator Pin should extend flush with the top of the Pressure Indicator showing that the unit is full. (The optional Dial Gauge will show full when dial is at "3".) If Pressure Indicator Pin is less than flush SPARE AIR MUST be refilled. Do not dive until you have refilled SPARE AIR. See refilling instructions on page 5.
- Push Purge Button down and release. Purge Button should move up and down freely. To maintain full pressure in SPARE AIR do not purge unnecessarily.
- Make sure SPARE AIR is mounted firmly and adjusted properly in Holster before entering the water. Velcro must be fully engaged. Be sure the leash is attached to the SPARE AIR **AND** your BCD.
- Before diving with SPARE AIR for the first time, practice breathing from the unit, either above the surface or below the water to become familiar with the product. The amount of air you will receive will vary based on your lung capacity, depth, water temperature, etc.

 **NOTE: Never deplete SPARE AIR entirely in a SIMULATED ascent. Water will enter inner stages of the regulator and may result in internal corrosion.**

NITROX MODEL 300-N COMPATIBILITY AND USE

- Submersible Systems Nitrox SPARE AIR shall not be used with Pure Oxygen, or Nitrox with greater than 40% Oxygen.
- Only gas from storage and supply equipment cleaned and maintained for Oxygen Service is acceptable for use with Nitrox SPARE AIR.
- If the SPARE AIR Nitrox is used with equipment or connected to air supply systems which are not rated for Oxygen Service, it will be considered contaminated and will require cleaning for Oxygen Service prior to use again with Nitrox.
- Equipment users must be trained and certified in the specific use of Nitrox by dive industry training agencies.
- Only a halocarbon based lubricant such as Christo-Lube MCG 111 should be used on SPARE AIR Nitrox.

HOW TO OPERATE SPARE AIR

1. Upon ascent, pull D-ring on flap of Holster to open.

⚠ CAUTION: Begin ascending immediately to avoid using valuable time and air.

2. Grab SPARE AIR regulator head and pull out of the Holster. This action will release the Mouthpiece Cover.

3. Place SPARE AIR into user's mouth.

4. Press Purge Button lightly or exhale sharply to clear regulator before inhaling.

⚠ CAUTION: Failure to purge the SPARE AIR regulator before inhaling will result in swallowing water.

5. Continue to inhale and exhale to a safe and normal rate of ascent.

⚠ NOTE: SPARE AIR is only for use to recreational depths.

AFTER YOU DIVE

1. Visually check the Pressure Indicator and press Purge Button.

2. White Indicator Pin should be extended and airflow should occur. This ensures pressure was maintained during your dive.

⚠ NOTE: If Indicator Pin is not extended or no air flow occurs, water and contaminants may have entered the regulator's internal stage and could lead to corrosion and/or failure of the system. Contact your Authorized SPARE AIR Dealer or Submersible Systems, Inc. for service and/or check-up.

3. As soon as possible after diving, the SPARE AIR should be removed from its holster and soaked thoroughly for at least 30 minutes in warm fresh water. Be sure the SPARE AIR has some pressure in the cylinder to prevent the entrance of moisture into the system.

4. After the system has been properly soaked, rinse it vigorously by flushing the cavity of the mouthpiece with a steady stream of water.

5. If necessary, rinse refill adapter in fresh water.

6. Wipe the system and refill adapter as dry as possible with a clean towel and gently shake to dislodge any water.

⚠ CAUTION: Never use chemicals or solvents to clean SPARE AIR.

7. Store SPARE AIR system pressurized in a cool, dry place. Avoid direct sunlight, automobile trunks or other areas subject to temperature extremes.

CARE AND MAINTENANCE

Providing the best possible preventative maintenance and following routine pre- and post-dive steps diligently will help to ensure the maximum life of your SPARE AIR system. SPARE AIR should be serviced ANNUALLY by an Authorized SPARE AIR Dealer or by Submersible Systems, Inc.

Prolonged or improper storage can result in internal corrosion and/or deterioration of O-ring seals. SPARE AIR may require service even if the unit has received little or no use.

If you notice damage, wear or suspect any leaking or missing parts, have SPARE AIR examined by an Authorized SPARE AIR Dealer immediately.

⚠ WARNING: DO NOT attempt to repair SPARE AIR yourself. Unauthorized repairs or tampering are hazardous and WILL VOID your warranty.

The SPARE AIR cylinder has a DOT 3AL3000 rating and will require HYDROSTATIC TESTING EVERY FIVE (5) YEARS and a VISUAL INSPECTION ANNUALLY.

Keep the Threads on both the Check Valve and Refill Adapter clean and lubricated. Use a high-quality, non-toxic, food grade spray silicone for best results.

⚠ WARNING: NEVER use a hydrocarbon based oil (i.e. household oil or motor oil).

SPARE AIR used for rental or training purposes in salt, chlorinated, or silted fresh water, will require complete overhaul and factory prescribed service every three to six months, or whenever it is suspected that moisture has entered the system. Use in chlorinated swimming pool water will accelerate the deterioration of most rubber components, and require more frequent service than in other typical conditions.

If service is unavailable locally, Submersible Systems can perform authorized service through the mail. Visit our website at www.spareair.com for more details.

SERVICE RECORD:

Date: _____

By: _____

Comments: _____

Date: _____

By: _____

Comments: _____

Date: _____

By: _____

Comments: _____

Date: _____

By: _____

Comments: _____

Visit www.spareair.com for service locations world-wide.

TRAVELING WITH YOUR SPARE AIR

TSA (Transportation Security Administration) requires air cylinders to be **VISIBLY** empty and removed from regulators when taken on commercial aircraft.

Practice removing and assembling prior to packing for a trip.

1. Purge SPARE AIR until empty of air.
2. Remove regulator from cylinder (regulator is attached hand tight) by turning counter clock-wise. Leave o-ring, washer etc. on the regulator.

WARNING: Do not force regulator on or off cylinder. Excessive force may damage threads. If regulator does not remove easily, soak in a 1 to 1 vinegar & water solution for 3 hours to loosen any corrosion. If regulator still does not remove, take to a SPARE AIR Dealer for help.

3. Place the SPARE AIR in a protective container (plastic bag or box) to keep unit clean and to secure loose parts. We recommend our optional accessory Travel Pack #963, which includes a carry bag, dust caps, replacement tank o-rings and silicone lube (available online at spareair.com).
4. Pack SPARE AIR in your check or carry-on luggage.
5. When you reach your dive destination, reassemble SPARE AIR and fill the cylinder. You may lightly lubricate the tank o-ring with a small amount of silicone spray or grease – never use a hydrocarbon based oil. **DO NOT** force regulator onto tank – if you feel resist-ance, stop, unscrew, and start again.

6. Replace tank o-ring after product has been disassembled and reassembled 3 times, or o-ring shows signs of wear or air leakage. Tank o-ring size is 016 available for purchase at any dive shop.



WARRANTY INFORMATION

Register your SPARE AIR online at www.spareair.com

Retain this section for your records

_____ Name	_____ Address
_____ Authorized Dealer's Name	_____ Dealer's Address
_____ Purchase Date	Regulator Serial # _____ Model # <input type="checkbox"/> 170YEL <input type="checkbox"/> 300YEL <input type="checkbox"/> 300-N

Submersible Systems Limited One-Year Warranty

Statement of Warranty

Submersible Systems, Inc. (SSI) guarantees, to the original purchaser only, that the product purchased will be free of defects in materials and/or craftsmanship under normal SCUBA use for one year from date of purchase provided proper care has been performed as prescribed by the owner's manual supplied along with the product. Should this product prove to be defective for any reason (other than those listed in the limitations section below) the product will be repaired or replaced (at SSI's discretion) free of charge (excluding shipping and handling charges). This warranty is non-transferable and applies to the original purchaser only.

How to obtain warranty service

You must return your product to Submersible Systems to obtain warranty service. You must provide a copy of the original sales receipt. Freight must be prepaid. Please enclose a letter with your daytime telephone number describing the exact nature of the difficulty you are experiencing.

Statement of Limitations

General Warranty does not cover damage from accident, abuse, tampering, lack of proper care and maintenance and/or improper annual servicing. Modifications or repair by anyone other than an SSI Authorized Repair Facility voids warranty. SSI will not be responsible for recovery or replacement of the product in the event of loss or theft. SSI, its distributors, and retailers make no warranties, either expressed or implied orally or in writing, with respect to this product or its accompanying owner's manual except those stated in the preceding paragraphs. By purchasing this product it is agreed and understood that in no event will SSI, its distributors or retailers be held liable for any personal injuries resulting from its operation, or for any other damages whether direct, indirect, incidental, or consequential even if SSI has been advised of such damages. This Warranty is in lieu of all other warranties, express or implied, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose (some states do not allow the exclusion or limitation of incidental or consequential damages or allow limitations on the duration of an implied warranty, so the above exclusions may not apply to you).

PLEASE READ ALL INSTRUCTIONS AND FOLLOW ALL PRE-AND-POST-DIVE PROCEDURES.

Congratulations!

You've just joined the ranks of over 250,000 discriminating divers who enjoy the peace of mind of diving with **SPARE AIR®**.

SPARE AIR is the absolute best strategy for successfully dealing with out-of-air emergencies, because it is a completely independent air supply.

Submersible Systems is proud of the fact that we contribute to divers' safety. Every year more and more lives are saved because of **SPARE AIR**. We continue to refine our products out of our commitment to provide our customers with a Simply Dependable product.

SPARE AIR is made entirely in the U.S.A. by craftsmen dedicated to producing a quality product.

Go to www.spareair.com
to register your **SPARE AIR** online

Distributor Stamp:



**SUBMERSIBLE
SYSTEMS, INC.**

THERE WHEN YOU NEED IT



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