

# SPARE AIR™



MADE IN USA

OWNER'S MANUAL

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 two 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.

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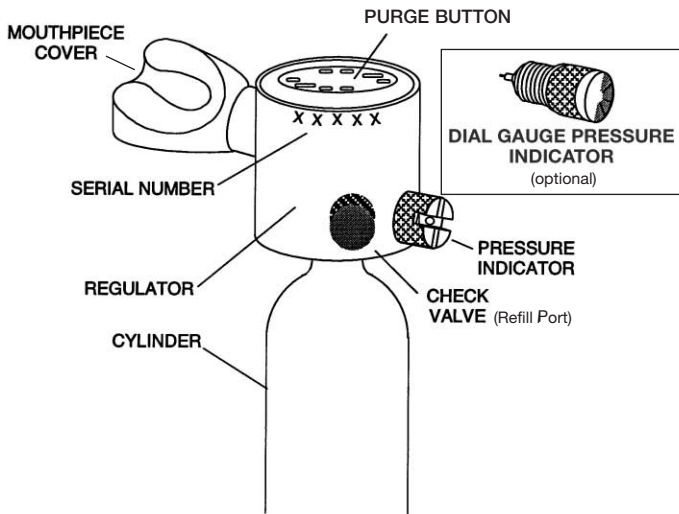
## IMPORTANT SAFETY PRECAUTIONS!

**⚠ 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.
- **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**.
- **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.

# SPARE AIR DIAGRAM



## Model Specifications

	<u>Model #300YEL/300-N</u>	<u>Model #170YEL</u>
Maximum 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 (full)	2.17 lb / .985 kg	1.51 lb / .687 kg
Surface Breaths*	57	30
Water Volume	26.62 cu in / .42 liters	13.7 cu in / .28 liters

\*Based on 1.6 liter breath size

# ACCESSORIES (Included In Package)

## SPARE AIR HOLSTER #973

Mount **SPARE AIR** in a variety of locations on virtually any BCD!



Upside Down On  
Your Tank Strap



Vertical On Your  
BC



Across Your  
Waist

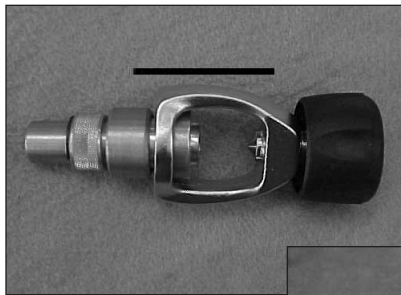


Diagonal

## ACCESSORIES (Included in Package)

### **SPARE AIR REFILL ADAPTER #910S**

Adapter fits onto Standard SCUBA tank for easy refilling.



## BEFORE YOU DIVE WITH SPARE AIR

- SPARE AIR 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 Gauge indicating that the unit is full. (The optional Dial Gauge indicator 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 12.

Push Purge Button down and release. Purge Button should move up and down freely. To maintain full pressure in SPARE AIR do not use purge unnecessarily.

Make sure SPARE AIR is mounted firmly and adjusted properly in Holster before entering the water. Velcro must be fully engaged.

- △ **NOTE:** For added security a safety leash/lanyard is recommended so that SPARE AIR is not lost if it is dislodged, dropped or released by accident. Hold SPARE AIR secure with a free hand on entry into the water or in rough surf or currents.

## 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.)
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 point on BC and cinch up so Holster is snug against the BC.
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.

## 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 rising rate of ascent.

**⚠ NOTE: SPARE AIR is only for use to recreational depths. Never deplete SPARE AIR entirely in a SIMULATED ascent, water will enter inner stages of regulator and may result in internal corrosion.**



# IMPORTANT WARRANTY INSERT


## Congratulations!

You've just joined the ranks of over 200,000 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**. **SPARE AIR** continues to be refined 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.



**Send in your warranty card NOW in order to be eligible for our monthly accessory drawing!!!!**

# Important Warranty Information

Retain this section for your records

Name

Address

Authorized Dealer's Name

Dealer's Address

Model #  170YEL  300YEL  300-N

Purchase Date

Regulator Serial #

## 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 shall be considered null and void if the registration card is not filled out completely and mailed to SSI within 15 days of purchase. 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 and a copy of the owner's portion of this warranty registration. 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, 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.

PLEASE READ ALL INSTRUCTIONS AND FOLLOW ALL PRE-AND-POST-DIVE PROCEDURES. REMEMBER THAT THE BEST WARRANTY IS PREVENTATIVE MAINTENANCE. HAVE YOUR SPARE AIR SERVICED ANNUALLY!

# Submersible Systems Limited

## One-Year Warranty Registration

*This registration card must be filled out and returned within 15 days of purchase for warranty coverage. Please print.*

\_\_\_\_\_  
Last Name First Name MI

\_\_\_\_\_  
Street Address Apt. #

\_\_\_\_\_  
City State Zip/Postal Code Country

\_\_\_\_\_  
Phone Date of Purchase month/date/year

\_\_\_\_\_  
Regulator Serial # Authorized Dealer's Name

\_\_\_\_\_  
Dealer's Address

\_\_\_\_\_  
E-Mail Address (for special offers, important product information)

**Model #**  170YEL  300YEL  300-N

### Number of Years Diving

Less than 1  1-3  4-6  7+

### Average Number of Dives per Year

1-12  13-25  26-50  51-100  100+

### Certification Level

Advanced  Rescue  Divemaster

Open water  Instructor  Other

### Age Group

Under 18  18-25  26-35  36-45  46-50  51+

### Sex

Male  Female

### What influenced your purchase?

Magazine ad  Magazine editorial  Brochure  Store display

Store personnel  Instructor  Dive Buddy

Other \_\_\_\_\_

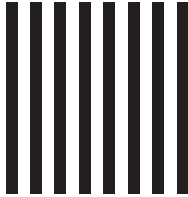
**Occupation** \_\_\_\_\_

**Why did you purchase SPARE AIR?** \_\_\_\_\_

\_\_\_\_\_



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES



**BUSINESS REPLY MAIL**

FIRST-CLASS MAIL PERMIT NO. 1243 HUNTINGTON BEACH CA

POSTAGE WILL BE PAID BY ADDRESSEE

SUBMERSIBLE SYSTEMS, INC  
18072 GOTHARD ST.  
HUNTINGTON BEACH, CA 92648-9942



## AFTER YOU DIVE WITH SPARE AIR

1. Visually check the Pressure Indicator Gauge 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. Remove SPARE AIR from the Holster to rinse and dry.
4. With pressure in the SPARE AIR, rinse or soak in fresh water for 30 minutes and run fresh water inside the mouthpiece and around the regulator.
5. Shake excess water from the system and dry thoroughly.

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

## PRODUCT COMPATIBILITY AND USE WITH NITROX—MODEL 300-N

- 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 CARE FOR YOUR SPARE AIR

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.

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).**

## HOW TO TRAVEL WITH SPARE AIR

1. When taking Spare Air on commercial aircraft TSA (Transportation Security Administration) requires air cylinders to be empty. Purge Spare Air until empty of air.
2. Remove regulator from cylinder (they are attached hand tight) by turning counter clock-wise. Leave o-ring, washer etc. on the regulator.
3. Pack Spare Air in your check on luggage (NOT carry on).
4. Notify counter personnel when checking in for your flight that you have a Spare Air mini-breathing system that is empty and disassemble in your luggage.
5. When you reach your dive destination, reassemble Spare Air and refill. 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 resistance stop and unscrew and start again.
6. Replace tank o-ring after product has been disassembled and re-assembled 3 times, or o-ring shows signs of wear or air leakage.
7. Keep Spare Air regulator and cylinder threads clean and dry.

△ **Note: We recommend the purchase of the SPARE AIR Travel Pack #963 which includes a durable plastic carrying bag, 3 extra tank o-rings and protective caps for the regulator and cylinder threads (go to website for more information).**

△ **Note: This product, Spare Air, is an emergency breathing system that utilizes breathing air and is not hazardous.**

## HOW TO REFILL SPARE AIR

- △ **NOTE:** Always refill **SPARE AIR** immediately after use, so the system is ready for subsequent use.
- △ **CAUTION:** **DO NOT** stand directly over top of **SPARE AIR** regulator while filling.

A feature of this adapter is that as you rotate the knurled ring on the adapter to the right it automatically closes the vent. When unscrewing to the left it vents the pressure, allowing the adapter to unscrew easily.

1. Unscrew black knurled Cap from the **SPARE AIR** Check Valve filling port.
2. Place the Adapter onto Check Valve and turn the knurled part of the adapter to the right until finger tight.
3. Attach Adapter to SCUBA tank valve.
4. **Fill (Important: Gently** open SCUBA valve to fill slowly, take 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 part of the Adapter to the left to relieve pressure in the adapter.



7. Remove Adapter from SCUBA tank and SPARE AIR.

8. Replace black knurled Cap on Check Valve.

△ **NOTE:** If air is escaping from the adapter during filling, close tank valve, wait for air to stop and retighten knurled ring by turning to the right.

△ **NOTE:** If SCUBA tank WAS NOT FULL at beginning of refill procedure, then 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.

**If you have any questions concerning this product,  
please call:**

**Submersible Systems, Inc. Customer Service at  
800-648-3483 or 714-842-6566**

**8 am-5pm PST, Monday-Friday,**

**or log on to our website at**

**[www.spareair.com](http://www.spareair.com)**

# ANNUAL SERVICE RECORDS

Date: \_\_\_\_\_

By: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Comments: \_\_\_\_\_

\_\_\_\_\_

**Distributor Stamp:**



18072 Gothard Street, Huntington Beach, CA 92648 USA

800-648-3483 P: 714-842-6566 F: 714-842-4626 [www.spareair.com](http://www.spareair.com)

Rev. 5/04

## SPARE AIR ACCESSORY ORDER FORM

Call your local dive shop or log on to our website at [www.spareair.com](http://www.spareair.com) to order SPARE AIR accessories or order direct by mail:

Model#	Description	Price	Qty
0030GS	Dial Gauge Pressure Indicator	\$64.00	
Bag	Drawstring Nylon Carrying Bag	\$12.00	
961	Safety Leash (Lanyard that prevents accidental loss)	\$14.00	
910S	Scuba Tank Refill Adapter	\$54.00	
973	SPARE AIR Holster (Fits 3.0 cu. ft. models)	\$30.00	
971	SPARE AIR Holster (Fits 1.7 cu. ft. models)	\$30.00	
920C	Air Compressor Refill Adapter	\$28.00	
963	SPARE AIR Travel Pack (Includes durable plastic carrying bag, 3 extra tank o-rings and protective caps for the regulator and cylinder threads)	\$12.00	

**Ship To:**

Name \_\_\_\_\_

Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Country \_\_\_\_\_

Phone (\_\_\_\_\_) \_\_\_\_\_

Sub Total	\$
U.S. Shipping	\$8.00
Shipping Abroad	\$15.00
<b>Total</b>	<b>\$</b>

**Method of Payment:**

Check Enclosed                       VISA / MasterCard / AMEX      (circle one)

Credit Card # \_\_\_\_\_

Exp. Date \_\_\_\_\_

Name on Card \_\_\_\_\_

Signature \_\_\_\_\_

\*Allow 3-4 weeks for delivery

Mail order form to:  
Submersible Systems, Inc.  
18072 Gothard Street  
Huntington Beach, CA 92648 USA

or

Log on to our website at  
**www.spareair.com**  
to purchase  
SPARE AIR Accessories



18072 Gothard Street, Huntington Beach, CA 92648 USA  
800-648-3483 P: 714-842-6566 F: 714-842-4626 [www.spareair.com](http://www.spareair.com)