XS SCUBA

INSPIRE

XPLORE

Owner's Manual

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Introduction

Breathe easy, you own an XS Scuba Regulator! You can dive with confidence knowing each XS Scuba regulator is built to the highest standards. Your regulator is the result of quality engineering, material selection and precise assembly methods. Each XS Scuba regulator is 100% tested prior to final packaging so you know it works right the first time you breathe it.

With proper care and maintenance, your regulator will continue to deliver its factory-new performance for many, many years to come.

XS Scuba hopes that you have many exciting underwater adventures ahead of you. We are excited to be a part of those adventures.

Warnings, Cautions and Notes

It is important to pay special attention to the information provided in warnings, cautions and notes, which are accompanied by the following symbols:

A **WARNING** indicates any situation that, if not avoided, could result in serious injury or death.

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.

General Precautions and Warnings

⚠ **WARNING:** Before using this regulator, you must have successfully received training and certification in the technique of SCUBA diving from a recognized training agency (or any Military or government operated diving school). Use of SCUBA equipment by uncertified or untrained persons is dangerous and can result in serious injury or death.

⚠ **WARNING:** Keep your regulator in good working condition by having it serviced annually at an authorized XS Scuba Dealer. Service, disassembly, or adjustment must not be attempted by persons who are not properly trained to work on this regulator.

⚠ **WARNING:** This regulator is designed for use in water that is 50°F / 10°C and above. Use of this regulator in water temperatures below 50°F / 10°C could result in the regulator freezing and not performing as designed.

⚠ **WARNING:** DO NOT leave the cylinder standing unsecured with the regulator attached to the valve. Should the cylinder get knocked over, permanent damage may occur to the regulator and the cylinder valve.

General Precautions and Warnings

⚠ **WARNING:** DO NOT use the regulator first stage as a carry handle when lifting or transporting the cylinder as this can damage the regulator and / or the cylinder valve.

⚠ **WARNING:** Always pressurize the regulator gradually by opening the cylinder valve SLOWLY.

⚠ **WARNING:** This regulator is not configured for commercial use with surface supplied air.

Enriched Air Nitrox Use

⚠ WARNING: This section contains important information regarding the use of this regulator with enriched air nitrox. Do not use this regulator with enriched air nitrox if you do not fully understand this section. To do otherwise puts you at risk of serious injury or death.

⚠ WARNING: Obtain an enriched air nitrox diving certification. In order to fully understand the risks involved with diving elevated percentages of oxygen (above 21%), you must obtain a certification in enriched air nitrox from a recognized training agency.

Your XS Scuba regulator has been prepared for use with enriched air nitrox (EAN) where the oxygen percentage does not exceed 40% (EAN40). This is because your regulator was built to a high standard of cleanliness using EAN compatible parts and lubricant.

If it is your intention to use your new XS Scuba regulator with EAN up to 40% O2, it is critical that you maintain the internal cleanliness of your regulator (see section on Care and Maintenance).

If it is your intention to use your regulator interchangeably with breathing air, the breathing air should be “oxygen-compatible” or “hyper-filtered” whereas the condensed hydrocarbons in

the air do not exceed 0.1mg/m^3. Your local XS Scuba Dealer can help you determine whether the breathing air they provide meets this criterion.

Standard compressed breathing air, often referred to as "Grade E" does not necessarily meet this criterion. Grade E breathing air may contain certain levels of hydrocarbons, including traces of compressor oils, that while not considered harmful to breathe, can pose a risk in the presence of elevated oxygen content.

Passing hydrocarbons through a valve and regulator creates a cumulative effect where the hydrocarbons build up over time along the internal passageways of the equipment. When these hydrocarbons come in contact with high pressure oxygen enriched air, they can pose a very real hazard that can lead to combustion.

Therefore, if a regulator has been used with Grade E breathing air, it should receive overhaul service, including hydrocarbon cleaning, prior to being put back into nitrox service.

Although second stage components are not subjected to high pressure EAN, XS Scuba recommends that the same guidelines apply.

Your Regulator at a Glance

1. Yoke screw
2. Dust cap
3. Yoke
4. MP accessory port
5. HP accessory port
6. Mouthpiece
7. Venturi lever
8. Inhalation control knob
9. Purge cover
10. Ambient pressure ports

Preparation and Set Up

Your regulator has 1 or 2 high pressure ports and 4 medium pressure ports to attach your various accessories. High pressure ports are where you would attach such items as your submersible pressure gauge, console, transmitter or air-integrated computer.

Medium pressure ports are for your primary and alternate second stages, BC inflator hose and possibly a drysuit inflator hose.

⚠ **CAUTION:** XS Scuba recommends that you have your XS Scuba Dealer install your accessory items to prevent over-torquing the hose fittings and to optimize placement of accessory hoses.

Venturi Lever

You will notice a lever on the side of the second stage opposite the hose connection. Moving this lever back and forth changes the direction of the air internally in the second stage. When pulled back, towards your mouth, to the plus "+" setting, the air flow creates a "venturi" effect which creates a nice boost in breathing performance. When moved forward, away from the mouth, to the minus "-" setting, the venturi effect is interrupted which increases your breathing effort. The deeper you go, the more noticeable this becomes.

It is important to note, that when the lever is on the plus "+" setting

and the regulator is out of your mouth, the second stage can get bumped and begin freeflowing. Should this happen, just move the lever to the minus " - " position and the freeflow will stop.

NOTE: The simplest way to use this performance feature is to place the lever in the plus "+" position when the regulator is in your mouth and move it to the minus " – " position when it is out of your mouth.

Inhalation Control Knob

The Inhalation Control Knob, located next to the venturi lever on certain model second stages, adjusts the effort required to initiate the inhalation cycle. As it is turned in (clockwise), the opening effort will increase. This will make the second stage less sensitive to sudden changes in ambient pressure.

Turning the knob “out” (counter-clockwise) will decrease the opening effort to make breathing easier. Sometimes a slight hissing may be heard in this setting. If this occurs, turn the knob clockwise just enough to stop the hissing.

The Inhalation Control Knob is particularly useful at deeper depths, or in variable conditions that affect the opening effort of the second stage, such as facing into strong currents or while using a diver propulsion vehicle (DPV). It will also allow compensation for a difference in the hydrostatic pressure between your second stage and the center of your lungs, such as when you are in a head-down position. You can use the Inhalation Control Knob to tune your regulator to maintain its peak performance throughout the course of your dive, or you can leave it set in its mid-range position and dive with as you would any non-adjustable second stage.

Preparing to Dive

Partially loosen the yoke screw to remove the dust cap.

Vent a small amount of air from the cylinder valve to blow out any dust, debris or moisture.

Inspect the condition of the cylinder valve o-ring. Replace if damaged or missing.

Place the regulator's connection yoke over the valve so that the inlet fitting of the regulator seats against the valve o-ring AND the primary second stage hose routes over the divers right shoulder. Hold in place while you turn the yoke screw clockwise until snug. Confirm that the yoke screw engages the small dimple on the back of the cylinder valve.

⚠ **CAUTION:** Over-tightening the regulator on the valve can cause damage and make it difficult to remove the regulator after the dive. It is the valve o-ring that forms the seal, not excessive tightening of the yoke screw.

Place the venturi lever in the minus "-" position. Turn the inhalation control knob, if applicable, clockwise, all the way inward.

Make sure that your pressure gauge or computer faces away from you.

Pressurize the regulator by SLOWLY opening the cylinder valve. Continue to open the valve all the way.

Listen for leaks near both stages of the regulator, any accessories and along the length of the hoses. If there is air leaking between the regulator and the cylinder valve, follow the procedures for removing the regulator from the valve. Replace the valve o-ring and reseat the regulator. If leakage persists, return the regulator with cylinder to your local XS Scuba Dealer for inspection and repair.

⚠ **WARNING:** Do not dive if your regulator or its accessories are leaking.

Depress the purge button briefly to ensure sufficient air flow and to blow out any dust or debris.

Place the regulator in your mouth. Move the venturi lever to the plus "+" position. If applicable, turn the inhalation control knob counterclockwise, all the way out. Then turn it, clockwise, back in until the regulator breathes comfortably for you without being overly sensitive. Inhale and exhale slowly and deeply. The regulator should breathe easily without noticeable resistance.

Diving

If you are making an entry or surface swimming with the regulator out of your mouth, be sure to set the venturi lever in the minus "-" position and have the inhalation control knob turned all the way in. Once you place the regulator into your mouth, move the venturi lever to the plus "+" for the remainder of the dive. Where you set the inhalation control knob will be based upon environmental conditions as well as your personal preference. See earlier section on the Inhalation Control Knob.

Go ahead, enjoy your dive. If you don't have to think about your regulator during the dive, then we succeeded!

As a reminder, this regulator is not designed for coldwater use (<50°F / 10°C).

WARNING: This regulator is designed for use in water that is 50°F / 10°C and above. Use of this regulator in water temperatures below 50°F / 10°C could result in the regulator freezing and not performing as designed.

Post Dive Procedure

NOTE: If freshwater is readily available, rinse your regulator thoroughly prior to depressurizing it. This will prevent water from entering the first stage.

NOTE: When you remove the

first stage from the cylinder, exercise caution not to let any water enter the first stage through the inlet fitting, where the filter is located.
Shut off the cylinder gas supply by turning the cylinder valve handwheel until snug.

Depress the second stage purge button to drain the remaining gas from the regulator and hoses. Keep the purge button pressed in until no more gas can be heard exiting the regulator.

Turn the yoke screw counterclockwise to loosen the regulator on the cylinder valve. While removing the regulator, keep the first stage inverted with the yoke screw facing down. This will prevent water drops for going in the inlet area where the filter is located.

Care and Maintenance

As soon as possible after the dive, it is important to soak or rinse your regulator in fresh water. Warm water (<120°F / 49°C) is best.

The best method is to soak it in a tub of water while it is still connected to the cylinder and pressurized. This keeps rinse water out of the hoses and the first stage.

If this is not possible, then you may soak it while it is depressurized as long as you follow these steps:

- Ensure that the dust cap is making a watertight seal over the regulator's inlet fitting.
- If your regulator has an inhalation control knob, be sure to turn it clockwise, all the way in.
- DO NOT depress the purge button. This will allow water to enter the regulator and make its way down the hose to the first stage.
- Keep the second stage lower than the first stage.

While rinsing, move the venturi lever back and forth several times to remove any salt, sand or contaminants.

If soaking is not possible, then, as a minimum, rinse with a garden hose. Do not use a high pressure nozzle as this could compromise the second stage internal parts. Be sure to rinse the inside of the second stage via the mouthpiece as well as the venturi lever. If applicable, be sure to direct freshwater into the ambient pressure ports on the first stage to flush out the main spring cavity.

After rinsing, shake any residual water out of the second stage. Hang the regulator by the first stage in a cool, dry environment, out of direct sunlight. Turn the inhalation control knob all the way out, counterclockwise, to lessen spring tension on the second stage low pressure seat while the regulator is in storage. After the regulator is completely dry, you may store it in a regulator box or bag.

⚠ **CAUTION:** DO NOT store your regulator in a hot environment or near an electric motor, which produces ozone. Prolonged exposure to heat, ozone, chlorine fumes or ultraviolet rays can cause premature degradation of your regulator's soft parts and hoses.

Dealer Inspection and Service

Do not assume that your regulator is in good working order because it has received little use since its last servicing. Storage can be hard on a regulator as seals and other soft parts can take a set and dry out.

You must obtain factory authorized service from an XS Scuba Dealer at least once a year. Your regulator may require more frequent service depending on the amount of use it receives and the type of environmental conditions that it is subjected to.

If the regulator is used for rental or training purposes, it will require factory prescribed service every three to six months. Chlorinated swimming pool water is an especially damaging environment for scuba equipment, due to the high levels of chlorine and pH balancing chemicals that can cause certain components to rapidly deteriorate.

⚠ **WARNING:** Be sure to have your regulator serviced at least once a year by an XS Scuba Dealer. Your personal safety and the mechanical integrity of your regulator may depend on it.

Warranty

XS Scuba offers a Limited Lifetime Warranty against defects in material and workmanship on their regulators.

This warranty is limited and subject to the following restrictions:

- The warranty is offered to the original owner only.
- The regulator must have been purchased from an authorized XS Scuba dealer.
- This warranty does not cover normal wear. Factory prescribed service by an authorized XS Scuba Dealer is required at least once annually.
- Some parts are subject to wear under minimal or normal use. O-rings, seats, filters, diaphragms, valves, tie wraps, mouthpieces and hoses should be inspected for wear on a regular basis. Replacement of these items is usually necessitated based upon normal wear rather than defects.
- This warranty does not extend to damages caused by improper use, improper maintenance, neglect, unauthorized repairs, modifications, accidents, fire, or casualties.
- Cosmetic damage, such as scratches dents or nicks, is not covered by this warranty.
- This warranty does not extend to regulators used for rental, training, commercial or military purposes.

- This warranty is limited to repair or replacement at the discretion of XS Scuba.

NOTE: All warranty transactions must be accompanied by proof of original purchase from and authorized XS Scuba dealer. Be sure to save your sales receipt along with proof of prior annual service.

XS SCUBA DISCLAIMS AND EXCLUDES ANY LIABILITY FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some states in the U.S, and some foreign countries do not allow exclusions or limitations of liability for incidental or consequential damages, so this may not apply to you.

For additional information about your regulator be sure to visit www.xsscuba.com. Here you can learn about an optional DIN connection for your regulator, attaching an alternate air source, specifications and more.

ANNUAL SERVICE RECORD

Date	Dealer's Name	Technician's Name	Service Performed


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714.424.0434
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RM-0232 rev. 24B