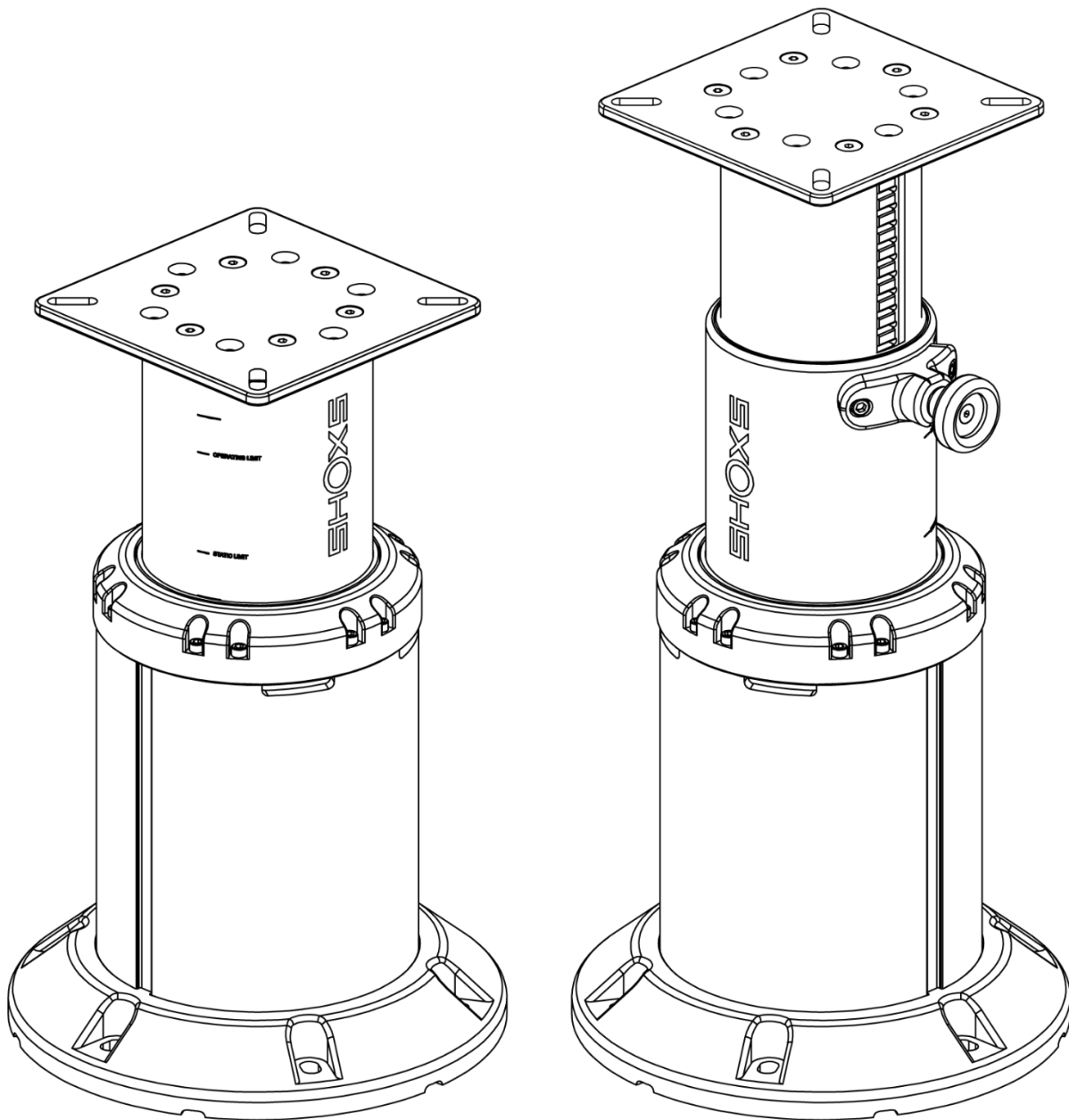




SHOXS X4 – Operation and Service Manual

U.S. Patent No. 10632876

Canadian Patent No. 3017867



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Section 1: General Information

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Our Sales & Support Team

GLOBAL SALES TEAM

Tony Van Meter | VP Sales
Email: tonyvanmeter@allsalt.com

Philip Gibson | Business Development
Email: philipgibson@allsalt.com

Andrew Hughes | Managing Director - Europe
Email: andrewhughes@allsalt.com

Jordan Tilton | Dealer and OEM Programs Manager
Email: jordantilton@allsalt.com

Bryan Wood | VP Business Development & Marketing
Email: bryanwood@allsalt.com

Andy Toh | Director of Business Development - Asia
Email: andytoh@allsalt.com

Sarah Honebon | Sales Officer - Europe
Email: sarahhonebon@allsalt.com

PARTS SALES AND CUSTOMER SUPPORT

TOLL FREE (U.S.) | 888 637 4697

Main Office | +1 250 652 6003

Support Email | support@allsalt.com

Website | www.shoxs.com

MAILING ADDRESS

Allsalt Maritime Corporation
2952 Ed Nixon Terrace
Victoria, BC V9B 0B2
Canada

Allsalt Maritime Europe Ltd.
Unit 3 – Barnes Hill Farm, Milton Abbas
Blandford, Dorset DT11 0BB
United Kingdom

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YOUR PRODUCT INFORMATION

To serve you better, record the information below and have it ready if you require parts or technical support. Your serial number is located as shown below. Always keep your receipt as proof-of-purchase for Warranty Claims.

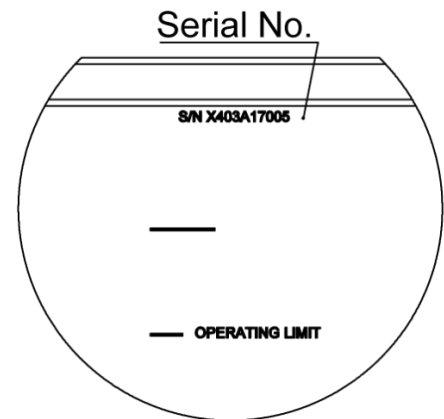
Model Serial

Number: S/N X _____

Purchased

From: _____

Purchase Date: _____ / _____ / _____



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SHOXS X4 – Operation and Service Manual

For Your Safety

SHOXS Shock Mitigating Pedestals are designed to be capable of use in extreme conditions. **SHOXS** can increase both vessel operating envelopes and crew and passenger endurance by increasing safe and comfort and aiding in the prevention of personal injury. These features can assist in completing operations that take place in challenging environments.

WARNING

TO REDUCE THE RISK OF SEVERE INJURY OR DEATH TO PERSONS:

READ AND FOLLOW ALL INSTALLATION INSTRUCTIONS. Failure to follow the installation instructions may cause serious injury or death to persons and damage to the vessel and product.

OPERATE YOUR VESSEL RESPONSIBLY. There are upper limits to the operation of any vessel or vehicle – **SHOXS** products are not a replacement for their responsible operation and will not prevent personal injury. High-G impacts can and will still exceed the product's ability to absorb them.

DO NOT USE THIS PRODUCT IF it is damaged or suspected to be malfunctioning.

REPAIRS OR ALTERATIONS made without prior approval of the manufacturer will void your warranty and may cause serious injury or death to persons and damage to the vessel and product.

CAUTION

Do not use this product outside of the scope of its intended purpose. Follow the **SETUP PROCEDURE** to ensure your shock mitigating pedestal is performing at its best capability for conditions.

LIMITED WARRANTY AND LIABILITY

SEE THE LAST PAGE FOR A DETAILED LIMITED WARRANTY STATEMENT.

The information contained in this Operation & Service Manual is subject to revision at any time without notice.

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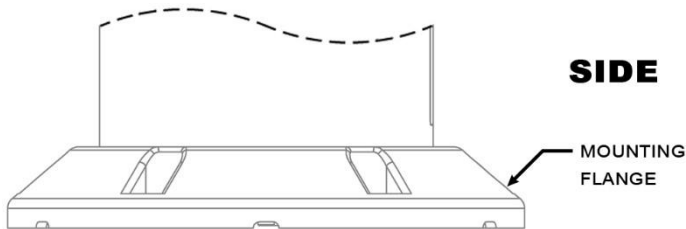
Section 2: Pedestal Instructions



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Mounting Flange Torque Procedure

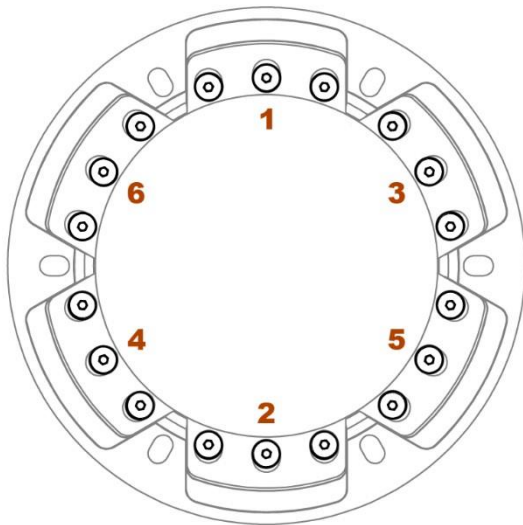


SIDE

The **mounting flange** of your shock mitigating pedestal is shipped installed in the lowest position available. This torque procedure **must be followed** if loosening the fasteners to adjust the position* of the mounting flange.

Following the numbered sequence (left), tighten the middle bolts:

- 1) Hand-tight
- 2) ½ required torque
- 3) Full required torque



BOTTOM

Tighten all remaining fasteners by hand, then apply the full required torque to all fasteners.

All fasteners must be torqued and checked until applying torque no longer tightens any fasteners more than 1/16 of a turn.

Required torque for S/N starting with X403B18:

120 inch-pounds (13.5 N.m)

Required torque for all other Serial Numbers:

78 inch-pounds (9.0 N m)

***NOTE:** Do not adjust the mounting flange all the way up the Base tube such that it is covering the slot openings at the top of the tube.

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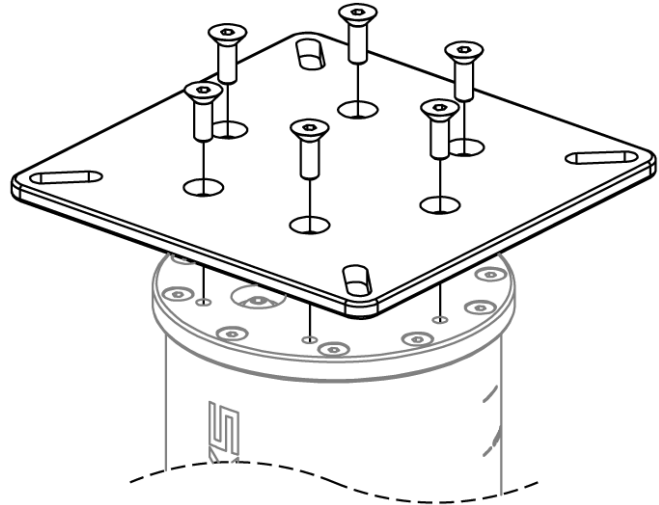
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Adapter Mounting

A standard square adapter plate for mounting with a 5.25" square hole pattern is typically pre-installed.

Mount your seat to this adapter plate or remove it to mount your own adapter or another **SHOXS** adapter in its place.

All fasteners should be installed with a medium-strength threadlocker such as Loctite® 243™.



CAUTION

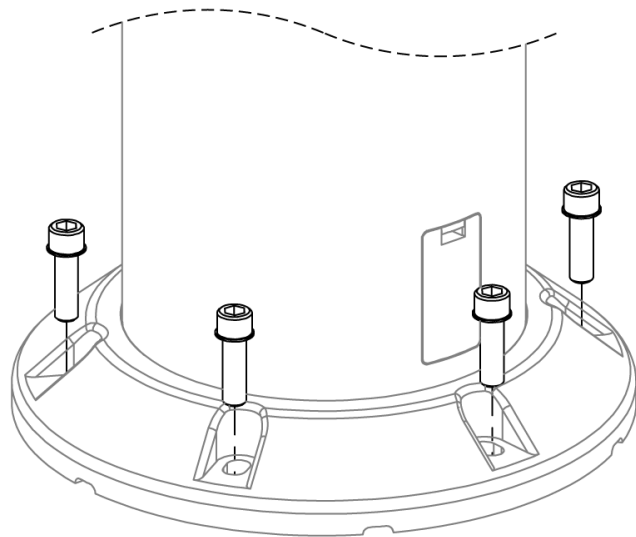
Ensure the centre of mass of any installed seat top is positioned no more than 6 inches off the centreline of the pedestal. Exceeding this limit could place undue side loads on the pedestal leading to premature wear and reduced performance.

Pedestal Mounting

The fastener size for pedestal mounting should be **3/8"-16 UNC** or **3/8"-24 UNF**, with sufficient length for full engagement with the threads of the mounting provisions (either bonded stainless steel inserts or stainless steel nylon lock nuts).

Minimum thread engagement should be **at least 0.56"** for a 3/8" bolt.

All fasteners should be installed with a medium-strength threadlocker such as Loctite® 243™.

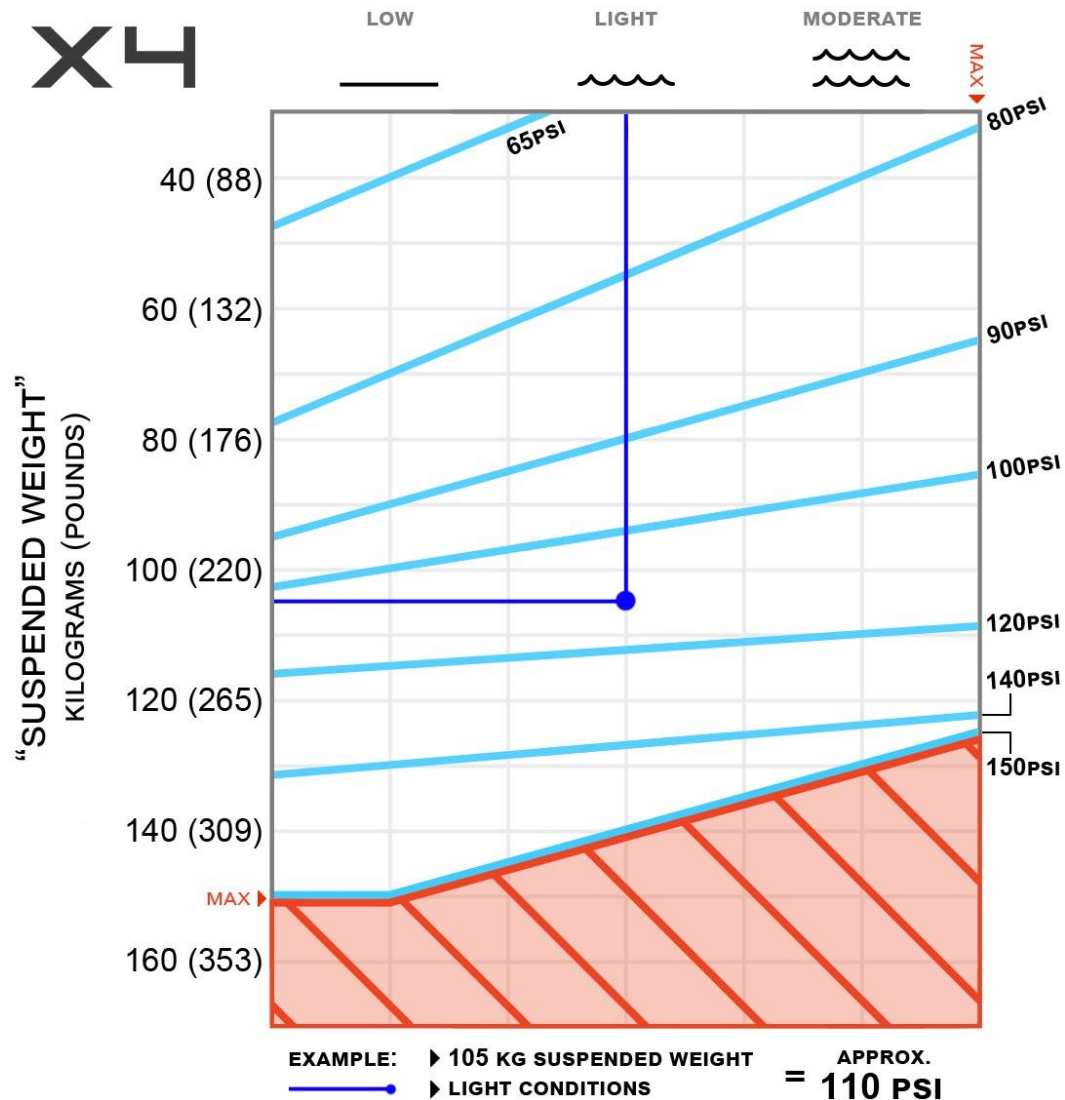


Note: Preferred installation orientation is with the **side access door** of the pedestal facing **aft**. SHOXS logos on the upper pedestal will be on the STBD and PORT sides of the unit.

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Pedestal Setup Instructions

It is essential to correctly setup your shock mitigating pedestal to achieve the best performance for expected conditions. Setup is performed by adjusting the pressure of the isolator.



THE PRESSURES INDICATED IN THE CHART ABOVE ARE RECOMMENDATIONS ONLY. THE RESULTS OF TESTING IN ACTUAL CONDITIONS USING THE **STATIC LIMIT** AND **OPERATING LIMIT** INDICATORS ARE THE FINAL DECISIVE FACTORS IN WHICH PRESSURE TO USE IN SERVICING AND OPERATING YOUR SHOCK MITIGATING PEDESTAL. ALWAYS ERR TOWARDS A HIGHER PRESSURE TO ENSURE PROTECTION FROM ‘BOTTOMING’ THE ISOLATOR.



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Step 1

Choose a starting pressure, rounded to nearest 5 psi, based on the expected average operating conditions and the “suspended weight” (the **combined weight** of the seat mounted atop the pedestal, including any accessories, and the weight of the occupant).

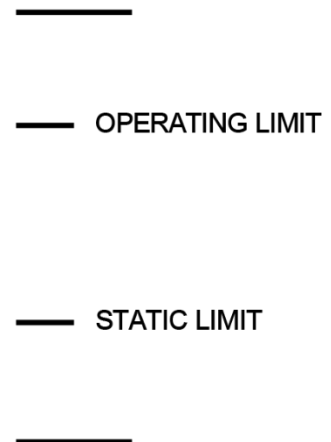
Step 2

Get the isolator moving by bouncing in the seat a few times, then service the pressure in the isolator using the side access port or the bottom access port **without occupant or extra weight in the seat**. See the **Recommended Service** section for details on servicing the isolator.

Step 3

The intended occupant should take a seat normally, and then step out and inspect the indicator O-ring on the upper tube of the pedestal against the markings engraved in the side, as shown on the right (NOT TO SCALE).

The indicator should be at or below the **STATIC LIMIT** line on the seat. If the indicator is above the static limit, then increase the pressure of the isolator by 5-10 psi (up to a maximum of **150 psi**), return the indicator O-ring to the bottom of the tube and repeat the test.





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CAUTION

**INJURY TO SEAT OCCUPANTS MAY RESULT FROM
REGULARLY EXCEEDING THE OPERATING LIMIT.**

The **OPERATING LIMIT** is the upper limit of normal travel for your shock mitigating pedestal. If you are observing the indicator to be above the operating limit, first ensure the isolator is at your set pressure, and either

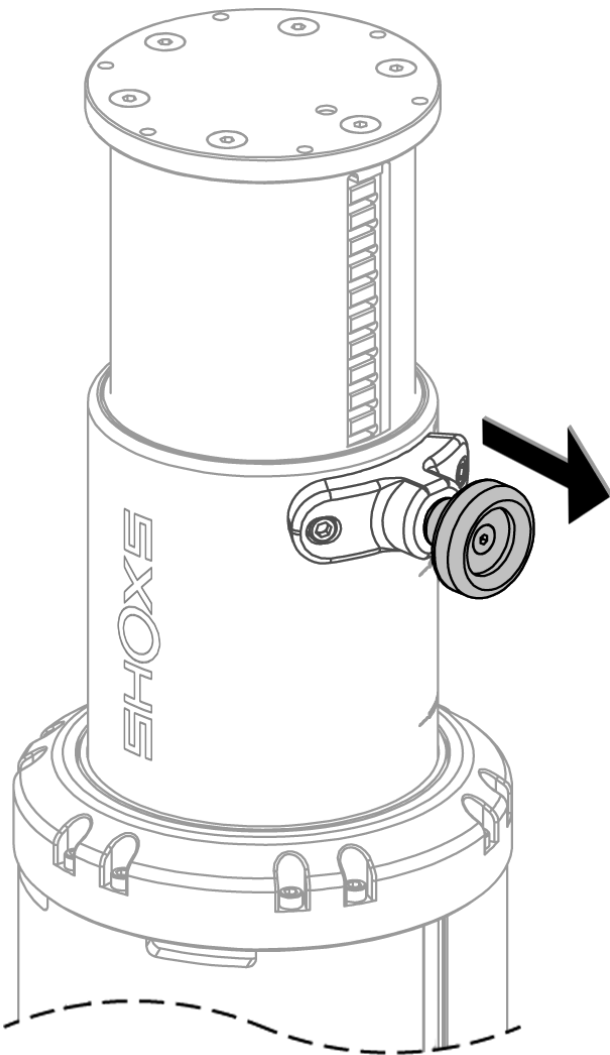
- a) Decrease the severity of vessel operating conditions
- b) Increase the pressure in your isolator by 5-10 psi.

In the event there is a conflict between the indications from the static limit check and the operating limit, the **operating limit** takes priority.

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Operating Instructions

Height Adjustment (Optional Feature)



A spring-loaded knob located on the side of the pedestal retracts the locking pin, allowing the seat to be raised or lowered.

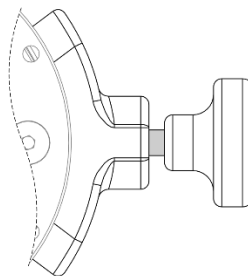
While in a standing position, pull the knob and adjust the seat to the desired height. The pedestal may not rise on its own, depending on the weight of the seat and components installed. For optimal operation, ensure the weight of any seat top is centred over the pedestal. Adjust any fore-aft options accordingly if necessary.

Release the spring-loaded knob and bounce in your seat to ensure the locking pin is engaged.

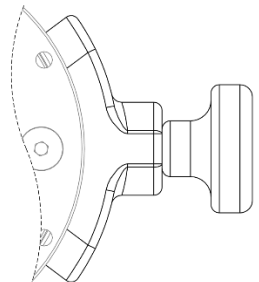
CAUTION

Always ensure your adjustment is locked before operation.

NOT LOCKED



LOCKED





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Section 3: Service Instructions

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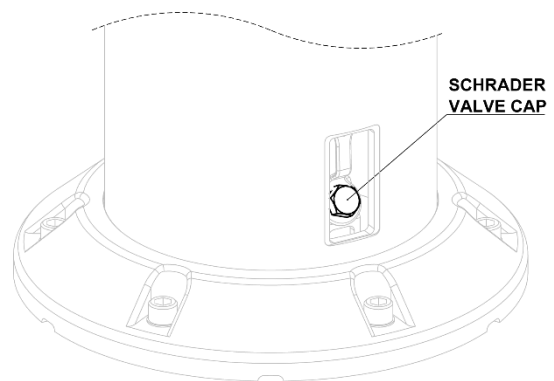
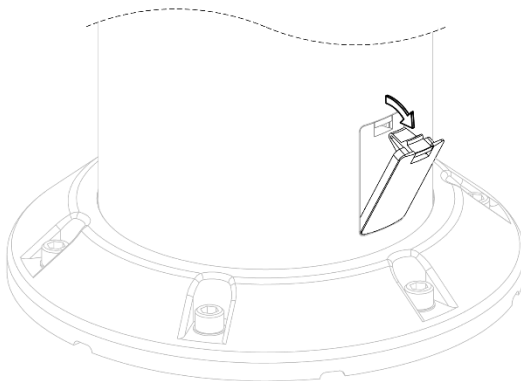
Recommended Service

- **After each use:**
 - All components should be rinsed with **fresh water**
- **Every 30 days:**
 - Check isolator pressure and ensure STATIC LIMIT check is normal
 - Inspect all fasteners for security

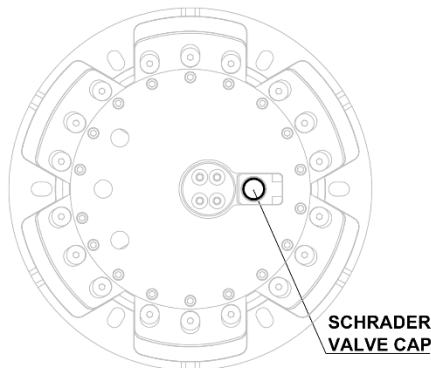
Servicing Your Isolator

To provide flexibility, there are two points by which you can access the Schrader valve of your isolator to check and service the pressure, as shown below.

SIDE ACCESS



BOTTOM ACCESS



BOTTOM VIEW

CAUTION



This pedestal has internal moving parts. Use caution when using the **SIDE ACCESS** Schrader valve. Loss of pressure from connecting an air supply may cause the top portion of the pedestal to sink.

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Cleaning

The following products are recommended for cleaning your **SHOXS** seats:

- Upholstery (if applicable) – **303® Aerospace Protectant™**
- All other components – wet rag with mild soap detergent

Protecting

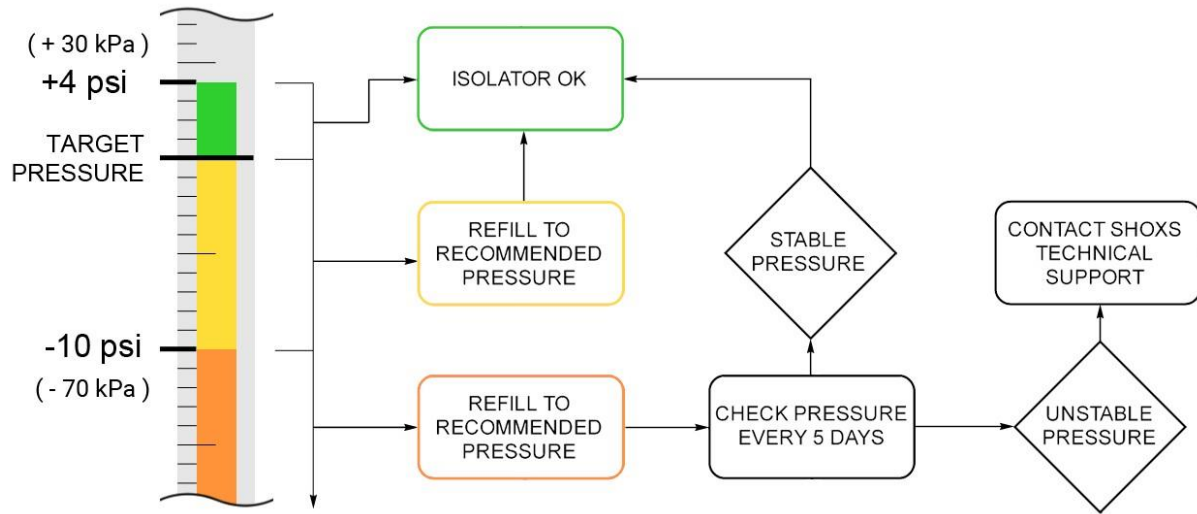
Regular application of a corrosion-inhibiting product such as **Rust Check** for stainless steel components and fasteners may be desired to protect these against harsh marine environments.

Isolator Troubleshooting

Use the flowchart below to troubleshoot when an issue is suspected with your isolator.

Fill your isolator to 2-4 psi above your desired pressure to account for some pressure loss when disconnecting, unless using a lossless type connector.

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Pedestal Trouble Shooting

Problem:

Pedestal has developed a noticeable squeak during vertical motion.

Solution:

Under certain circumstances some users have experienced squeaking when the pedestal operates. Allsalt Engineering staff have investigated the cause of this sound and have identified no negative impact on the performance or longevity of the pedestal. It does not denote a seized component or accelerated wear of parts and is not a cause for concern.

A lubricant can be applied to the inside of the pedestal to eliminate this squeak and has been laboratory tested to be effective for up to 350,000 cycles.

Please follow the procedure outlines in *CST-TB-0001 – Technical Bulletin Pedestal Squeak R-01* for details on how to properly apply the lubricant in the event of a squeak developing.



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Limited Warranty Statement

All products and accessories come with a limited warranty against defects in materials and workmanship from the original date of invoice.

1. Limited Warranty Conditions

The limited warranty is provided to the original owner only and is not transferable. Proof of purchase will be required for any limited warranty on ALLSALT MARITIME products. ALLSALT MARITIME's warranty covers only those defects which arise as a result of normal use of the product, and do not apply to any product which:

- (i) has been repaired or altered unless done or approved by ALLSALT MARITIME,
- (ii) has not been maintained in accordance with any servicing or handling instructions provided by ALLSALT MARITIME,
- (iii) has been altered or damaged by accident,
- (iv) has been subjected to unusual physical or mechanical stress, misuse, abuse, or negligence,
- (v) has been used other than in accordance with the product operating and handling instructions,
- (vi) has been used and handled beyond what is considered to be a normal duty cycle in a typical marine operating environment.
- (vii) was not manufactured by ALLSALT MARITIME

2. Limited Warranty Coverage

Within the period of time from the original date of invoice identified below, if ALLSALT MARITIME receives notice of and verifies a defect in any ALLSALT MARITIME product which is covered by ALLSALT MARITIME's warranty, ALLSALT MARITIME shall either repair the defective product or replace with a new or refurbished unit, at ALLSALT MARITIME's option. ALLSALT MARITIME shall have no obligation to perform a repair or replacement until the customer returns the defective product to ALLSALT MARITIME according to the Warranty Procedure below. Accessories include, but are not limited to, seat options (such as workstations, consoles, safety harnesses) or any ALLSALT MARITIME products which are not part of a fixed or suspended seat. All warranty periods are defined from the original date of invoice.

Allsalt Product Duration of Limited Warranty

Fixed or suspended seats (new) (excluding accessories or upholstery) - 2 years

Fixed or suspended seats (refurbished) (excluding accessories or upholstery) - 1-year

Accessories (including pedestals) or seat upholstery by Allsalt Maritime - 1 year

Seat upholstery modified, cut, sewn, embroidered, and/or installed by third party shall be warranted by the respective entity that performed the work

3. Warranty Procedure

If a product is suspected of being defective, the owner should contact ALLSALT MARITIME's Customer Support department. A representative will assess the report and, if validated, authorize the exchange or repair of the defective item. On request from ALLSALT MARITIME, warranted products must be shipped in the original or comparable packaging with shipping to a ALLSALT MARITIME approved facility with insurance charges prepaid in U.S. currency.

4. Limitation of Warranty

Neither ALLSALT MARITIME nor its third-party suppliers make any other warranty or condition of any kind whether expressed or implied, with respect to the ALLSALT MARITIME products, and specifically disclaim any statutory or implied warranties or conditions, including without limitation, any such warranties or conditions in respect of merchantability, quality, durability, or fitness for a particular purpose.

5. Limitation of Liability

Except for the limited obligations specifically set forth in this warranty statement, in no event shall ALLSALT MARITIME or its third-party suppliers be liable for direct, indirect, special, incidental, or consequential damages, whether based on contract, tort, or any other legal theory and whether advised of the possibilities of such damages.

To activate your warranty, please register your product at <https://shoxs.com/warranty>

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