

SHOCKWAVE

MARINE SUSPENSION SEATING

USER MANUAL

S5



*MARINE
SUSPENSION
MODULE*

FEEL BETTER. TRAVEL FARTHER.

CUSTOMER SERVICE

At **SHOCKWAVE**, we've proven that innovation and attention to the highest safety standards can protect boaters from the shock of wave impact.

As avid boaters ourselves, we understand what our customers value most – and we create the best marine suspension seats in the world to provide a safer, more comfortable and exciting ride.

INCLUDED WITH YOUR S5 PURCHASE:

- **SHOCKWAVE S5** Marine Suspension Module
- **SHOCKWAVE S5** User Manual
- **SHOCKWAVE S5** Drill Template
- **Spacer Kit** - 2 spacers to change suspension module height
- **2 Product Cards** -Warning and Care Instructions
- **2 Decals** – **SHOCKWAVE** (all purpose), **SHOCKWAVE EQUIPPED** (for your boat)

ACCESSORIES SOLD SEPARATELY:

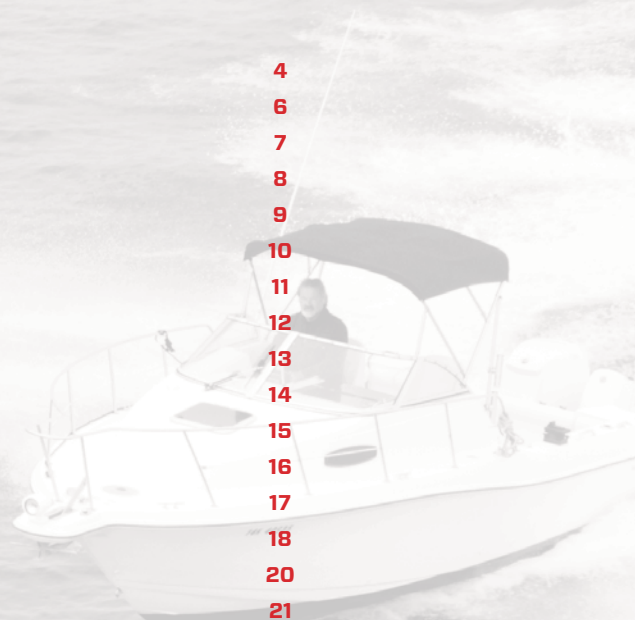
- **SHOCKWAVE S5** Pump
- **Corbin2** Seat (High-Back & Mid-Back)
- **Corbin2** Seat with Heated Cushions
- **SHOCKWAVE S5** Swivel Slide, Swivel, and Slide.

SHOCKWAVE

MARINE SUSPENSION SEATING

USER MANUAL CONTENTS

| | |
|---|----|
| IMPORTANT INSTRUCTIONS | 4 |
| BEFORE YOU START | 6 |
| MOUNTING YOUR SUSPENSION MODULE | 7 |
| SETTING UP THE SUSPENSION MODULE | 8 |
| STEPS TO SET UP THE SUSPENSION MODULE | 9 |
| SHOCK COMPRESSION ADJUSTMENT SETTINGS | 10 |
| CHANGING SUSPENSION MODULE HEIGHT | 11 |
| REBOUND ADJUSTMENT | 12 |
| SERVICE TIPS | 13 |
| DRAWINGS AND EQUIPMENT LIST | 14 |
| SUSPENSION MODULE DRAWING (SW-05026) | 15 |
| EMERGENCY PROCEDURES/TROUBLESHOOTING | 16 |
| HOW TO VIDEOS | 17 |
| S5 PRODUCT LINEUP | 18 |
| GENERAL BOATING BEST PRACTICES AND SAFETY | 20 |
| CAUTIONS AND WARNINGS | 21 |



IMPORTANT INSTRUCTIONS

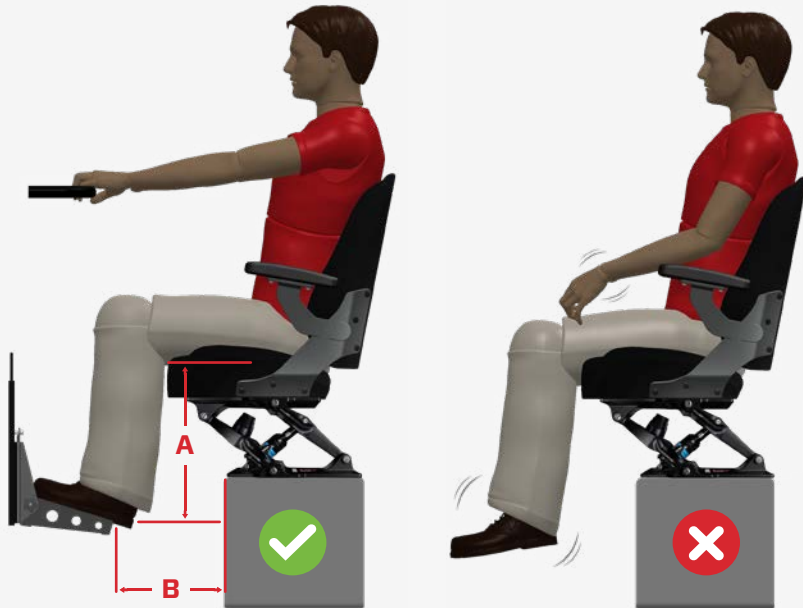
FOOTREST AND GRAB HANDLES

WARNING

All occupants are required to have footrests available, or feet placed on deck, at all times. The footrest surface should be 1" [25.4mm] - 6.0" [152.4mm] below the base of the S5 and 7" [177.8mm] - 16" [406.4mm] in front of S5 and be a minimum of 16" [406.4mm] wide.

(A) 15" [381mm] - 21" [533.4mm]

(B) 7" [177.8mm] - 16" [406.4mm]



SUSPENDED FOOTREST

WARNING

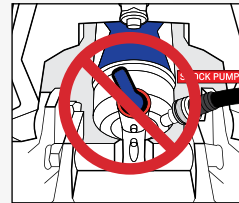
Do not install any suspended footrest onto the S5 suspension module or seat mounted to the S5. Footrests mounted to the module or seat will void the warranty.



FILL PUMP

WARNING

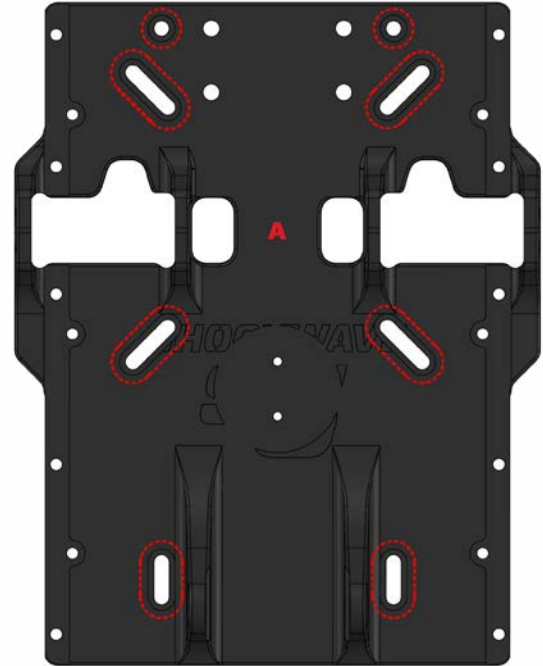
Do not leave pump attached when operating the seat, as it will damage the pump and fill valve.



BEFORE YOU START

The maximum occupant weight for the S5 module is 250lbs [113kgs] on a vessel that sees maximum deck accelerations of 3g's. For calm waters and deck of accelerations less than 2g's, a 300lb [136kg] occupant is acceptable. When mounting a seat to the module, always use the largest fasteners possible for the bolting configuration.

Third party seats should be properly positioned on the module with the center of mass being located across the main pivots shown by position (A).



DANGER

Any modifications done to the module that are not approved in writing by SHOCKWAVE, or installing a seat using incorrect bolting locations, can result in damage and injury, which will void the manufacturers warranty.

GETTING STARTED

Congratulations on your purchase of a SHOCKWAVE S5 Marine Suspension Module. We hope you enjoy this new boating experience offering you access to new possibilities on the water.

MOUNTING YOUR SUSPENSION MODULE

- Remove the red and blue spacers from your SHOCKWAVE S5 - these will be required if you need to adjust to one of the two additional height positions. See page 10 for instructions on changing suspension module height
- Through-bolt the suspension module or bolt to stainless steel inserts bonded into the deck or equivalent structure, using the largest fasteners possible
- There must be sufficient deck structure to support the weight of the seat and occupant within the vessels operational envelope
- Thin or weak decks or mounting boxes should have large washers or reinforcement plates placed under the bolting surfaces to prevent fasteners from pulling through
- There must be no flex in the seat mounting or deck plate when the seat is loaded
- Do not attach any equipment to the suspension module
- Do not mount the suspension module in the middle of an unsupported deck plate
- Ensure that the movement of the suspension module does not interfere with the vessel structure or equipment
- Properly torque the deck mount fasteners
- Check the operation of the suspension module after installation to ensure it does not bind or stick



IMPORTANT

Apply a quality marine grade sealant to all matting surfaces and hardware to prevent crevice corrosion.



IMPORTANT

The suspension module must not be modified.

SETTING UP THE SUSPENSION MODULE

To achieve the best performance from the suspension module's shock absorber, the pressure should be adjusted to attain the proper sag setting. Sag is the amount the suspension compresses under the occupant's weight. Sag should be set at 20% of total shock travel as indicated via red O-ring on shock.



IMPORTANT

Warranty is void on suspension modules where incorrect installation causes damage to the module.



DANGER

Incorrectly installed suspension modules can cause serious injury or death and can cause damage to the vessel and the seat.



IMPORTANT

Strength of decks and deck mountings is the responsibility of the boat builder or installer of the seats. SHOCKWAVE assumes no liability for suspension modules that are incorrectly installed.



DANGER

Prior to use be sure to pressurize the shock absorber! Do not operate the seat without sufficient pressure in shock absorber or serious injury and damage to the suspension module will result.



STEPS TO SET UP THE SUSPENSION MODULE

- 1 Turn the 3-position lever at the base of the shock absorber to the SOFT position. See page IO.
- 2 Install the pump and pressurize the shock absorber to 100 PSI then remove the pump.
- 3 Cycle the shock absorber by bouncing on the seat 5 times. This will equalize the positive and negative air chambers.
- 4 Use the pump to pressurize the shock absorber (in PSI) to match the weight in pounds (lbs) of the occupant. **Remove the pump before step 5.**
- 5 Cycle the shock absorber by bouncing on the seat 5 times.
- 6 Push the red O-ring against the shock body.
- 7 Gently sit on the seat.
- 8 Gently out of the seat.
- 9 Check the sag percentage marking on the shock absorber shaft. Sag is correct if the red O-ring sits at the 20% mark.
- 10 If the sag value is not at the desired level, inflate or deflate the shock absorber in 10 PSI increments and repeat steps 5-8 until the desired sag level is achieved.



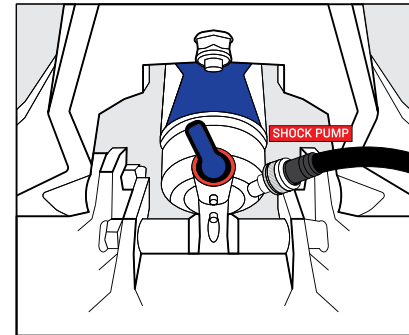
WARNING

Do not sit on the seat with the SHOCKWAVE S5 Pump attached! Damage will occur to the shock and pump. Note, SHOCKWAVE S5 Pump sold separately.



WARNING

Do not exceed 350 PSI. The maximum shock absorber pressure.



SHOCK COMPRESSION ADJUSTMENT SETTINGS

Setting the sag height is designed to be a starting point. To get the most out of the suspension module the shock absorber can be fine-tuned. This is done using a combination of compression and rebound tuning to optimize ride quality as well as for varying sea conditions.

The suspension module comes with a 3-position blue lever that is designed to make quick adjustments to optimize the performance of the shock absorber in varying sea conditions. You can select three settings:

1 SOFT MODE

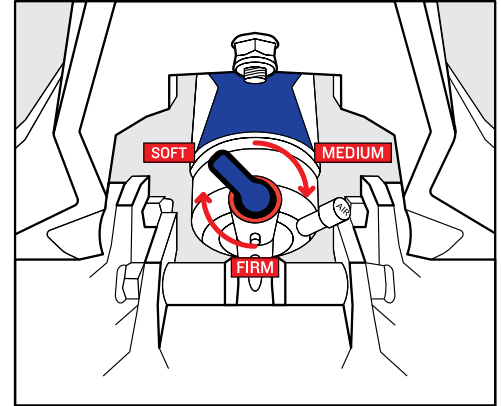
For operating in flat water and light chop where the likelihood of experiencing a slam is low. Mostly inshore use. Gives a soft ride.

2 MEDIUM MODE

For operating in moderate to rough conditions where some slamming could occur. Gives a medium ride.

3 FIRM MODE

For operating in big seas and at higher speeds where regular slamming will occur. Gives a firm ride.



CHANGING SUSPENSION MODULE HEIGHT

The SHOCKWAVE S5 comes with the shock absorber in the front mount position which is the lowest height configuration.

If a higher installation height is required you will need to install one of the two spacers provided. These are required to properly change the height of your suspension module. Use the procedure below to change the suspension module height.

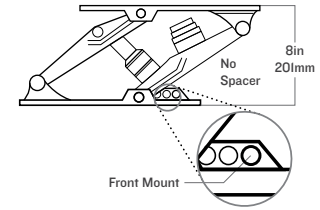


WARNING

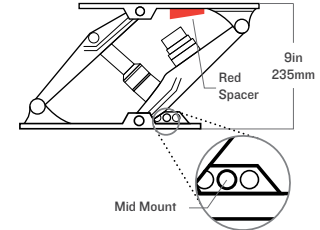
Do not change the suspension module height without using the appropriate spacer.

- The height of your suspension module can be changed by 1-inch (25mm) to Mid Mount or 2-inch (50mm) to Rear Mount.
- Remove the bolt from the Front Mount and place it into either the Mid Mount or Rear Mount position.
- For the Mid Mount setting, install the red spacer to the top module plate using the supplied fastener.
- For the Rear Mount setting, install the blue spacer to the top module plate using the supplied fastener.

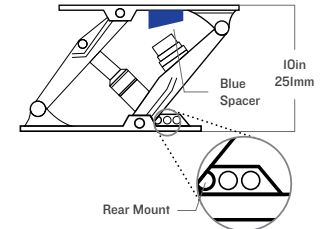
8-inch Height Configuration



9-inch Height Configuration



10-inch Height Configuration



REBOUND ADJUSTMENT

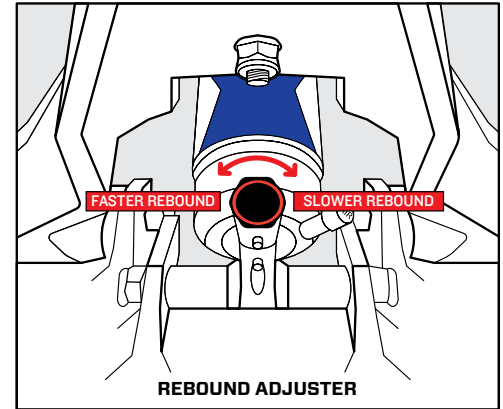
Rebound controls the rate of speed at which the shock returns to the sag position after compressing. The rebound adjustment is dependent on the air pressure setting. Higher pressure requires slower rebound settings. Use the procedure below to find the correct rebound setting.

FASTER REBOUND

- In high frequency and small wave activity a faster rebound can improve your suspension performance.
- Turning the red rebound adjuster counter-clockwise will make the seat rebound faster.

SLOWER REBOUND

- In low frequency and large wave activity a slower rebound can improve your suspension performance.
- Turning the red rebound adjuster clockwise will make the seat rebound slower.



WARNING

Do not sit on the seat with the SHOCKWAVE S5 Pump attached! Damage will occur to the shock and pump. Note, SHOCKWAVE S5 Pump sold separately.

SERVICE TIPS

CLEANING: Rinse your SHOCKWAVE S5 Suspension Module with fresh water after each use to prevent build up of salt and corrosion. Treat the suspension module with Boeshield or similar protectant every month or as often as possible to prolong appearance and service life. To remove any dirt/salt build up on seat, use upholstery cleaner as required.

LEAKS: The shock absorber should hold pressure and only need to be topped up occasionally. While it is recommended to regularly check sag and shock settings, the shock absorber does not require constant pressure adjustment.

SHOCK LEAKS: Check the fill valve to see if debris is interfering with its operation or perform a simple soap solution test to identify the source of the problem. If a leak is found, replace the shock absorber or the fill valve core.

BOLT TORQUE (TIGHTNESS): All fasteners are prone to becoming loose from sustained high performance use. SHOCKWAVE recommends that all bolts should be visibly inspected for signs of being loose after every 125 hours of use. Always use a thread-locker on threads to prevent loosening of parts.



IMPORTANT

Be sure to wash your suspension module properly. Thoroughly wash module with fresh water and boat or car wash detergent, removing all contaminants and surface corrosion.



IMPORTANT

Following CLEANING instructions is the most important way to maximize seat life.

DRAWINGS AND EQUIPMENT LIST

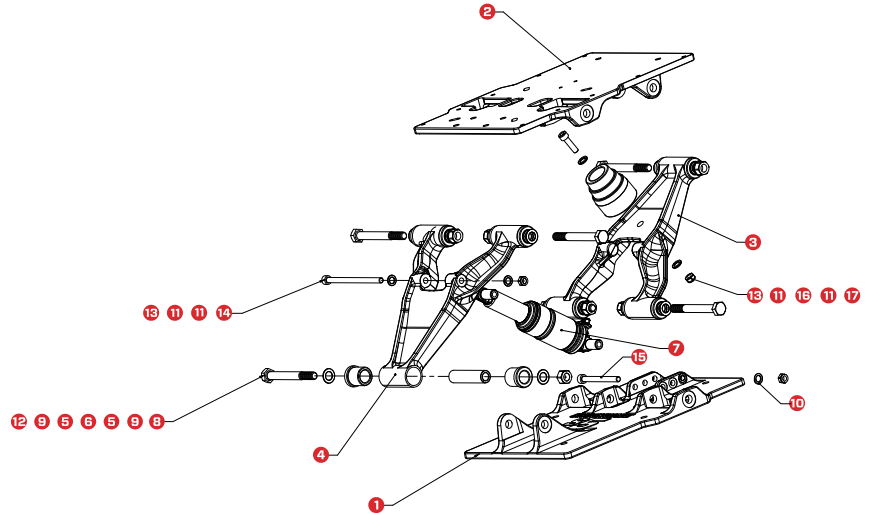
The illustrated parts breakdown is designed to provide a functional overview of the **SHOCKWAVE S5 Marine Suspension Module** and provide a reference to points covered in the user manual. These drawings show:

- The name and location of major components
- A breakdown of the major components in your suspension module order

These drawings can be used to order spare parts and for replacing or repairing parts.

SUSPENSION MODULE DRAWING (SW-05026)

| ITEM | QTY | PART NO. | DESCRIPTION |
|------|-----|-----------------------|-------------------------------|
| 1 | 1 | SW-04963 | S5-PRO BOTTOM-PLATE |
| 2 | 1 | SW-04964 | S5-PRO TOP PLATE |
| 3 | 1 | SW-04938 | S5 CAST A-ARM FORWARD |
| 4 | 1 | SW-04937 | S5 CAST A-ARM AFT |
| 5 | 12 | SW-04747 | S5 PIVOT BUSHING |
| 6 | 6 | SW-04748 | S5 BUSHING SPACER |
| 7 | 1 | SW-04867 | SHOCK ABSORBER |
| 8 | 6 | FA-MI2XI10-HH-CS | S5 BOLT HEX HEAD |
| 9 | 12 | FA-1/2-FW-AN960C8I6L | WASHER, FLAT |
| 10 | 2 | FA-5/16-FW-AN960C8I6L | WASHER, FLAT |
| 11 | 4 | FA-3/8-FW-AN960C8I6 | WASHER, FLAT |
| 12 | 6 | FA-MI2LN-S5 | NUT, NYLOCK |
| 13 | 3 | FA-M8LN-S5 | NUT, NYLOCK |
| 14 | 1 | FA-M8X130-AS-C5-NC-SS | SCREW, SOCKET, HEADCAP |
| 15 | 1 | FA-M8X85-AS-C5-NC-SS | SCREW, SOCKET, HEADCAP |
| 16 | 1 | SW-04754 | BUMPSTOP |
| 17 | 1 | FA-M8X30-AS-CS-NC-SS | SCREW, SOCKET, HEADCAP METRIC |



PROPRIETARY AND CONFIDENTIAL

NOTICE: THIS DRAWING MAY REVEAL DESIGNS OR INFORMATION PROPRIETARY TO PROFESSIONAL COMPONENTS LTD. BY ACCEPTANCE OF REPRODUCTIONS, RECIPIENTS AGREE TO PROTECT PROFESSIONAL COMPONENTS LTD. RIGHTS AND ARE WARNED AGAINST USE OF THE DOCUMENT FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS ISSUED.

EMERGENCY PROCEDURES/TROUBLESHOOTING

| CONDITION | CAUSE | SOLUTION(S) |
|---|---|--|
| Suspension module is lower than normal or shock absorber will not pressurize | <ul style="list-style-type: none"> Leak in system Worn or corroded fill valve Defective shock absorber | <ul style="list-style-type: none"> Check system for leaks by applying soapy water to system connections and look for bubbles. If a leak is found, replace the shock absorber Remove the fill valve core and replace with a new one from an auto supply store Replace the shock absorber - this is required only on extremely rare occasions |
| Suspension module is bottoming out | <ul style="list-style-type: none"> Shock pressure is too low | <ul style="list-style-type: none"> Attach pump and add air as per this manual |
| Suspension module is topping. Ride is rough and erratic. Noise heard or shock felt when seat comes to top of travel | <ul style="list-style-type: none"> Shock pressure is too high | <ul style="list-style-type: none"> Reduce shock air pressure |
| Seat is “bucking off” or bouncing occupant | <ul style="list-style-type: none"> Rebound speed is too fast | <ul style="list-style-type: none"> Adjust red rebound adjuster as per instructions on page I2 of this manual |
| Squeaking noise when underway | <ul style="list-style-type: none"> Loose components Shock absorber mounting bolts are dry | <ul style="list-style-type: none"> Tighten loose components Apply grease to shock mounting bolts |
| Moving components or accessories will not move | <ul style="list-style-type: none"> Bearing or sliding mechanism is corroded, dry or binding | <ul style="list-style-type: none"> Disassemble if necessary and lubricate with marine grade grease |

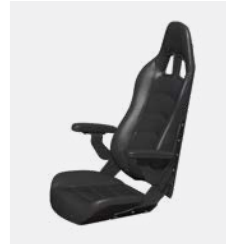
S5 PRODUCT LINEUP & ACCESSORIES



CORBIN2 MID-BACK SEAT

SW-04920-B (black)

The Corbin2 seat is designed to add an extra element of comfort and support for your suspension module. Crafted in the U.S., these seats are the definition of quality and strength, made using only the best materials available today. **Available in** White (SW-04920-W) and Heavy Duty fabric (SW-04920-HD). **Also available** with heated cushions.



CORBIN2 HIGH-BACK SEAT

SW-06328

The Corbin2 seat is designed to add an extra element of comfort and support for your suspension module. Crafted in the U.S., these seats are the definition of quality and strength, made using only the best materials available today. **Available in** Heavy Duty fabric (SW-06328-HD).



S5 Jockey

SW-S5-2400 (handrail not included)

The SHOCKWAVE S5 Jockey offers an integrated seat frame to minimize size and weight. It comes with a closed cell foam cushion, heavy-duty fabric called 'Grabber' and is designed for comfort and durability in extreme outdoor conditions. One of our most compact solutions.



S5 MODULE WITH HEIGHT ADJUST

SW-05047

The SHOCKWAVE S5 height adjust system integrates seamlessly with your suspension module to provide a full 3 inches of vertical travel at the touch of a button. Built to last and made with the highest-quality components this is the perfect option for giving your S5 the ultimate in adjustability.



SHOCKWAVE S5 PUMP

SW-01983

The high-pressure shock pump features an integrated pressure gauge and bleed valve for simple adjustment with a maximum inflation pressure of 350 psi.



RISER BOX

SW-07255

This riser box can be ordered at various heights. It is designed to be paired with the S5 Suspension Module and the S5 Jockey Seat, fitting perfectly below the S5 Module. Call for pricing and available height options.

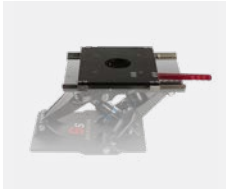
S5 ACCESSORIES



SWIVEL SLIDE

SW-05488

The ultimate in adjustability for your suspension module, this swivel and slide system is designed specifically for the S5 and built to the same high level of durability and corrosion resistance. The slide offers 5 inches of fore-aft travel and the 360-degree swivel locks in place in any of 16 positions for excellent flexibility.



SLIDE

SW-05489

The SHOCKWAVE S5 high-quality seat slide offers a full 5 inches of fore-aft travel allowing for comfortable seating options for a wide variety of occupants and uses.



SWIVEL

SW-05592

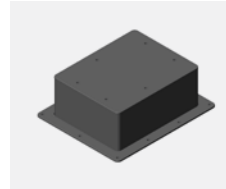
This remarkable SHOCKWAVE S5 seat swivel offers 360-degree swivel. It locks in place in any of its 16 positions for excellent flexibility.



ADJUSTABLE FOOTREST

SW-03264

Our folding footrest bolts securely to virtually any bulkhead and provides a stable platform 17" wide. Thanks to the 6" of vertical adjustability it can accommodate almost anyone and when not in use folds conveniently out of the way. Made in Canada with a powder coated aluminum frame and stainless steel fasteners it's a quality product made to last in the marine environment.



S5 RISER BOX

SW-07251

The 6 inch riser box is designed to be paired with the SHOCKWAVE S5 module that is mounted flat to the deck. This will provide a sufficient seat height for resting feet on deck. Additional riser box heights are available. Please call for details.



JOCKEY WIDE HANDRAIL

SW-04732

A wide profile grip provides enhanced ergonomics and increased grip surface to ensure a safer ride at high speeds. **Available for** the S5 Jockey (SW-S5-2400), front and rear mounted.

GENERAL BOATING BEST PRACTICES AND SAFETY

SHOCKWAVE Marine Suspension Modules are designed to mitigate shock and vibration encountered in high-speed vessel operation in rough seas. Following the suggestions in this section will ensure that you are getting the most out of the product.

OPERATE IN THE VESSEL'S OPERATIONAL ENVELOPE Driving a boat beyond its limitations can have damaging effects on the hull, engines and equipment. SHOCKWAVE seats are designed to provide shock mitigation to the occupant. They will not protect the occupants from injury caused from operating the vessel outside of its operational envelope.

OPERATE THE VESSEL IN YOUR CREW'S PHYSICAL CONDITIONING ENVELOPE Personal fitness is a limiting factor to the amount of sustained G loads a person can endure without injury. If you have inexperienced, relatively unfit or overweight persons aboard, extra caution must be exercised to prevent injury. The helmsman must be keenly aware of the shock loads being transmitted to others not in a suspension seat or standing as serious injury can occur. Installation of SHOCKWAVE seats provides an extra level of protection but they will not protect a person from ALL shock loads.

OPERATE IN YOUR OWN ABILITY ENVELOPE SHOCKWAVE seating will increase the confidence of the helmsman. Sometimes over confidence can lead to loss of control. Generally, the seats will permit greater control of the vessel and the helmsman should focus on using the control advantages of shock mitigated seating to better look after the vessel and crew.

DO NOT SIT IN SEATS WITH HARD OR SHARP OBJECTS. DO NOT WALK ON SEATS Ensure that sharp objects and heavy gear are worn so that they will not tear upholstery.

DO NOT TIE THE BOAT UP WITH THE SUSPENSION MODULE As tempting as it may be SHOCKWAVE seats are not designed to tie up the boat. A sudden surge or wave will likely bend the seats or attachment brackets and compromise performance.

TIE EVERYTHING DOWN Pay attention to how you have stowed your gear. Elastic shock cords and ratchet tie-downs should be used to secure all gear. Plastic containers of oil and other fluids must be protected from chafing and puncture. Electronic equipment must be secured to prevent damage from shock loads.

CHECK ALL EQUIPMENT Conventional mounting brackets for heavy items such as fire extinguishers are subject to much more loading than without shock mitigation. Make sure all of your equipment brackets are tight. Recheck major equipment bolts regularly. Wiring, cables and fluid hoses should be bundled tightly and not allowed to flail. Do not allow any objects under the seats or footrests as they will limit the stroke of the seat and damage the objects or the seat.

ENSURE THAT THE SUSPENSION MODULE IS FUNCTIONING PROPERLY Refer to the Caution Notes in the next section. The following is provided as a general checklist. Providing you have done everything correctly in the Caution Notes - do not operate the seat if:

- The shock absorber setting or sag is incorrect
- Components are loose, broken or missing
- The suspension module makes a strange noise

USE SEAT BELTS If supplied - seat belts prevent occupants from being ejected from the vessel and the seat. When not in use, the seat belt buckle ends should be fastened to prevent damage to the suspension module.

ADJUST HEIGHT AND FORE AND AFT ADJUST CORRECTLY If supplied - correct ergonomics and posture enhances the ability to operate the vessel safely and reduces the risk of shock and vibration related injury. Take the time to adjust the seat on the suspension module so that it's comfortable.

RINSE THE SUSPENSION MODULE WITH FRESH WATER AFTER EACH USE Rinse suspension module with fresh water after each use or every week if being stored outside to prevent a buildup of salt and debris.

CAUTION AND WARNINGS

Your SHOCKWAVE S5 Marine Suspension Module will mitigate the effects of shock and vibration, reducing the potential of injury, but it will NOT prevent the possibility of injury. The increased level of comfort and control provided by SHOCKWAVE S5 Marine Suspension Seating will allow the craft to operate at higher speeds in sea states which create high shock loads on the craft and potentially the occupants. **HIGH SHOCK LOADS COULD POTENTIALLY EXCEED THE SEAT'S CAPABILITY TO MITIGATE.**

Operating marine craft in a high shock load environment is inherently hazardous. Tolerance to the effects of shock and vibration vary from person to person and it is the responsibility of the craft operator to ensure the safety of each person on board. Pain and/or discomfort are indicators of a potential injury. Constantly monitor the physical state of the craft and the personnel on board. Hazardous operation of the craft may result in serious injury, death or damage to the craft.

DO NOT

- Operate seat without sufficient pressure in shock absorber or serious injury and damage to suspension module will result.
- Place hands near module when in use. Serious injury can result.
- Modify the equipment by drilling any holes, removing material, or adding extra equipment. Serious injury can result.
- Use the suspension module if it is or appears to be damaged. Serious injury can result.
- Use the suspension module if the module to deck attachments are loose. Serious injury can result.
- Use the suspension module if module resting height is lower than normal. This may be an indication of a damaged shock and serious injury can result.
- Operate the suspension module with insufficient air pressure in the shock to prevent bottoming. Serious injury and damage to the seat can result.
- Use the suspension module for uses other than its intended purpose. Use of the seating for other than its intended purpose may result in damage to the equipment or bodily harm.
- Use the suspension module if fasteners are loose. Damage to the equipment or bodily harm may result.
- Attempt to open, perform maintenance or repair the suspension module while craft is underway. Damage to the equipment or bodily harm may result.
- Place items under or around the suspension module that may interfere with the suspension module's range of motion. Damage to the equipment or bodily harm may result.
- Operate the seat if the occupants weight exceeds 250lbs [113kgs] for deck accelerations greater than 3g's.
- Mount footrests directly to seats.



IMPORTANT

Follow **IMPORTANT** instructions located throughout this User Manual to prolong the appearance and service life of your SHOCKWAVE S5 Marine Suspension Module.