



## Limited Warranty

Nauticus, Inc. Warrants to the original purchaser of this product that it is free from defects in material and/or workmanship for a period of:

- Five (5) years on all metal and composite components
- Two (2) years for rubber Boot Covers and Gas Actuators from the date of purchase.

The proper operation of this product is dependent upon your compliance with the Installation and Owners Manual instructions regarding installation, operation, maintenance and testing. Failure to comply with the instructions may void the warranty. If during the period of this warranty, it appears as though this product or component has a defect, call our telephone number for assistance and instruction 800-233-0194 or 440-746-1290. This Limited warranty is in lieu of any other warranties, express or implied. This warranty does not cover non-defective damage, damage caused by improper installation, operation or care (including but not limited to abuse, misuse, failure to provide reasonable and necessary maintenance, or any alterations to this product), labor charges for removal or reinstallation. Under no circumstances shall Nauticus Inc. be liable for consequential, incidental or special damages arising in connection with the use, or inability to use, this product. In no event shall the liability of Nauticus Inc. exceed the cost of the product covered hereby.

Some states do not allow the exclusion or limitation of consequential, incidental or special damages, so the above limitation or exclusion may not apply to you. This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.



Register your Smart Tabs online at [www.nauticusinc.com](http://www.nauticusinc.com) and receive a 1 Year Warranty Extension.

Scan the QR code on the right to access the registration form.



# SMART TABS™



## Installation & Owner Manual

### Designed for boats 10' - 30' in length with 10 to 4000 hp engines

The first and most effective fully automatic trim tab system provides better all around performance for most models and styles of boats. Our dependable trim tabs are designed with the boater in mind so that you can make your time on the water as enjoyable as it should be. All you do is drive, Smart Tabs do the rest!

**“ We Make The Best Boats Better”**



### Check Your Model Here:

- |                                    |                                    |                                    |                                     |
|------------------------------------|------------------------------------|------------------------------------|-------------------------------------|
| <input type="checkbox"/> ST780-20  | <input type="checkbox"/> ST980-30  | <input type="checkbox"/> ST1290-60 | <input type="checkbox"/> ST1610-120 |
| <input type="checkbox"/> ST780-30  | <input type="checkbox"/> ST980-40  | <input type="checkbox"/> ST1290-80 | <input type="checkbox"/> ST1610-160 |
| <input type="checkbox"/> MT1175-60 | <input type="checkbox"/> MT1175-80 | <input type="checkbox"/> MT1080-60 | <input type="checkbox"/> MT1080-80  |

View our installation video here:  
[www.nauticusinc.com/installation-instructions/](http://www.nauticusinc.com/installation-instructions/)



© 2021

8080 Snowville Rd. - Brecksville - Ohio - 44141  
PH: 440-746-1290 .Toll Free: 800-233-0194 . email: [info@nauticusinc.com](mailto:info@nauticusinc.com)

Web Site: [www.nauticusinc.com](http://www.nauticusinc.com)



**"You can get stern lift with trim tabs. I run Smart Tabs they dropped my planning speed down to 13 or 14 MPH.. The trim tabs take a bunch of the porpoising out of the boat when trimming it out to scoot, and really soften how it behaves when crossing wakes. My wife loves them. - R.S. www.iboats.com**

**" This item that I purchased is the best thing I ever installed on my boat. These trim tabs should be installed on every boat...Thank you Nauticus, for making a wonderful product." - Mulligam474**

**" Previously, the boat was very slow to plane, almost to slow to do anything but tube behind it. These (Smart Tabs) completley changed how this boat performs. It now planes out in what feels like half the distance and time, easily pulls a slalon skier up from a deepwater start."- Doghouse1 www.cabelas.com**

  
**GUARANTEED  
PERFORMANCE**  
OR YOUR MONEY BACK!

**100% MONEY BACK PERFORMANCE GUARANTEE**

Nauticus, Inc. warrants that any appropriately sized and applicable SMART TABS set will improve the overall performance of a planing hull boat, as claimed by the company, to the satisfaction of the original purchaser. This offer is extended to the original purchaser for up to 30 days from the date of purchase. Nauticus products may be returned for a full refund or credit by following these steps: 1) The original purchaser must contact the consumer help desk at 800-233-0194 or 440-746-1290 to discuss the perceived deficiencies 2) The purchaser must make all recommended adjustments 3) If the deficiency cannot be resolved to the original purchaser's satisfaction, a Return Authorization Number will be issued 4) The product must be returned to Nauticus, Inc., 8080 Snowville Road, Brecksville, OH 44141 5) Upon receipt and inspection of the returned product, a refund will be issued to the customer for the full purchase price of the SMART TABS.

**See the back page for additional warranty information**

**Service and Support**

We at Nauticus are committed to providing exceptional service and access to resources. Our technicians and administrative staff are available for assistance via telephone or email Monday through Friday from 9 a.m. to 5 p.m. EST. We also have a comprehensive website with installation instructions, videos and technical product specifications. For more information please contact us:

Nauticus, Incorporated  
8080 Snowville Rd.  
Brecksville, OH 44141

PH# 440-746-1290  
Toll Free: 800-233-0194  
email: [info@nauticusinc.com](mailto:info@nauticusinc.com)

*Dear Customer,*

*Someone once said to me that the best designed product was not necessarily the most sophisticated, but the one that was simple yet served the customer effectively and reliably. A legitimate value!*

*We believe Smart Tabs fall into this category. The trim tab concept has been proven, the installation is simple, and the cost is reasonable.*

*Are Smart Tabs really that effective? You be the judge and let us know one way or another, because your satisfaction is our only goal when it comes to the development of products.*

*Thanks for purchasing Smart Tabs, and have many fun filled days with your boat.*

*John E. DeAgro  
President*



8080 Snowville Rd. - Brecksville - Ohio - 44141  
Tel: 440-746-1290 . Toll Free: 800-233-0194 . Fax: 440-746-1291  
[info@nauticusinc.com](mailto:info@nauticusinc.com)

**Q: What is inside the actuator?**

**A:** The actuator's chamber is filled with nitrogen gas and hydraulic fluid. It technically behaves like a spring, but has no internal or external metal spring. By nature of design our actuators provide a dampened reaction to compression and extension, about 1.5 seconds, resulting in a smooth reaction to changes.

**Q: What is the life expectancy of the actuators?**

**A:** Life expectancy depends upon usage and exposure to the elements. The nitrogen gas is held in the actuator by rubber seals. Over time, the seals break down, and gas slowly escapes. Typically, this takes 3 to 5 years; the more the system is used, the longer they last. The actuator is protected by an air-tight, chemical- and UV-resistant EDPM rubber boot to increase longevity.

We recommend periodic inspection of the boot to ensure actuator integrity. Damage to the rubber boot allows water and debris to collect inside the boot and erode the actuator, leading to premature failure. Nauticus warrants rubber boot covers and gas actuators to the original purchaser for two years from the date of purchase.

**Q: My boat has a curved transom with ST tabs and the trim plate and transom bracket wont be on the same surface. What do I need?**

**A:** You would then move the plate bracket from step #5 to the last holes in the trim plate. This will reduce the angle needed to fit the actuator from 10" to 7.5" therefore eliminating any type of binding.

**Q: I need replacement actuators and your website/literature says the actuator measures 10 inches long. Mine is shorter. What should I order?**

**A:** All of our actuators are 10 inches long. If the shaft is corroded it will compress and get stuck, which could shorten the length. We do supply 7 ½ inch actuators for certain applications. These are special-order items available only from Nauticus. If you're unsure which size actuator you need, call Technical Support at 800-233-0194.

**Q: How can I retract the tabs for beaching / shallow water / rack storage?**

**A:** The PR500 trim plate retractor kit will retract the tabs and keep them from hanging down below the transom.

**INTRODUCTION**

Thank you for choosing Nauticus Smart Tabs! We sincerely believe they will live up to all of the performance standards that we have set, for years to come. It is our goal to insure your satisfaction, and we ask that you participate in this partnership.

**Please read this Manual so that you understand all of the benefits you can expect in performance from the simple installation procedure.**

**Principle of Operation:**

Smart Tabs utilize a nitrogen gas filled actuator to hold the trim plates down during low speed operation, and allow the water to "automatically" push the plates up (horizontal) at higher speeds. This provides additional "lift" to the stern at slow speeds, creating a more level attitude.

**ADVANTAGES****Reduced Bow Rise:**

In addition to a more level ride at slower speeds, the minimum planing speed is significantly reduced. The result is that you will be able to run at the intermediate (comfortable) range which is not available without tabs. This may be especially important when in rough sea conditions.

**Faster Hole Shot & Acceleration:**

The additional "lift" not only reduces the "on plane" speed, but it allows the prop to efficiently attack the water, using all of the energy to propel the boat forward. Trimming the engine (which uses the prop energy to correct the boat attitude) can be minimized resulting in more forward thrust.

**Improved Stability: (Especially at Top Speeds)**

The additional surface/planing area on either side of the prop along with its continuous pressure, will improve high speed stability and minimize, if not eliminate, "chine walk" & porpoising.

Since the operation of each trim plate is independent, automatic, and speed sensitive, the stability through turns will also improve. When turning the inside tab will take a shorter path than the outside tab, and tend to move down due to the lower water pressure. This also helps anchor the turn.

**Improved Economy:**

This advantage will come in two forms; reduced fuel consumption, and reduced engine fatigue due to less resistance and stress.

**Improved Safety:**

Better visibility at slower speeds is an obvious advantage, but improved handling, reduced hull stress, and a smaller wake also add up to more safety.

## Parts List

**Note:** Each Gas Actuator is coded with a colored cable clamp to denote the pressure as follows: all **Black** cable clamps = GA5000-80

one **Blue** cable clamp = GA5000-60

one **Red** cable clamp = GA5000-40

one **Purple** cable clamp = GA5000-30

one **Green** cable clamp = GA5000-20

### ST 780's

Bag A- Hinge Kit = 1 ea

Bag B- Plate Bracket Kit = 1 ea

Bag C- Transom Bracket Kit = 1 ea

Bag D- Sealing Tape Kit = 1 ea

GA5000-20 or 30- 10" Gas Actuator w/boot = 2 ea

TP780- 7"x8" Stainless Steel Trim Tab = 2 ea

PH6150- 6" Stainless Steel Plate Hinge = 2 ea

### ST 980's

Bag A- Hinge Kit = 1 ea

Bag B- Plate Bracket Kit = 1 ea

Bag C- Transom Bracket Kit = 1 ea

Bag D- Sealing Tape Kit = 1 ea

GA5000-30 or 40- 10" Gas Actuator w/boot = 2 ea

TP980- 9"x8" Stainless Steel Trim Tab = 2 ea

PH8150- 8" Stainless Steel Plate Hinge = 2 ea

### ST 1290's

Bag A- Hinge Kit = 1 ea

Bag B- Plate Bracket Kit = 1 ea

Bag C- Transom Bracket Kit = 1 ea

Bag D- Sealing Tape Kit = 1 ea

GA5000-60 or 80- 10" Gas Actuator w/boot = 2 ea

TP1290- 12"x9" Stainless Steel Trim Tab = 2 ea

PH10155- 10" Stainless Steel Plate Hinge = 2 ea

### MT 1175 & MT1080

Bag A- Hinge Kit = 1 ea

Bag B- Plate Bracket Kit = 1 ea

Bag C- Transom Bracket Kit = 1 ea

Bag D- Sealing Tape Kit = 1 ea

GA5000-60 or 80- 10" Gas Actuator w/boot = 2 ea

TP1175 angled or MT1080- Stainless Steel Trim Tab = 2 ea

PH10155- 10" Stainless Steel Plate Hinge = 2 ea

### ST 1610's

Bag A- Hinge Kit = 1 ea

Bag B- Plate Bracket Kit = 2 ea

Bag C- Transom Bracket Kit = 2 ea

Bag D- Sealing Tape Kit = 1 ea

GA5000-30 or 40- 10" Gas Actuator w/boot = 4 ea

TP1610- 16"x10" Stainless Steel Trim Tab = 2 ea

PH14155- 14" Stainless Steel Plate Hinge = 2 ea



## Common Questions and Answers

### Q: What is the optimal position for tab mounting?

**A:** It is preferable *when possible* to mount the outside edge of the tabs to the inside of the chines. The inside edge of each tab must be at least 10" from the center line of the boat (for instance, the location of the drain plug.)

### Q: Your instructions say to install the tabs so the outside edge of the trim plate is 5" from the edge of the transom. What if this is not possible?

**A:** This is suggested as the optimal mounting location, but we realize that some transoms preclude this configuration. The further outboard you can mount the tabs the more benefit you will have for port to starboard control. However, location may be dependent on transom design. Most importantly, make sure the inside edge of the trim plate is at least 10" from the center of the transom.

### Q: What is the minimum distance from the bottom of the transom to the mounting location for the upper bracket?

**A:** All the stainless steel trim tabs will require 10.5" of height clearance. There is an option for you to move the trim plate bracket back on the plate requiring only 7.5" of height clearance.

### Q: My boat has a Hydrofoil. Should I remove it once the tabs are installed?

**A:** Yes, ALWAYS remove the hydrofoil! Using both will provide too much stern lift at cruising speeds, causing the bow to plow into the water. A bow-down attitude can create other issues such as loss of top speed and a list to port.

### Q: I have tie-down straps on the back of my boat. Do I need to move the tie-down hooks to install SMART TABS? Or do I need to order smaller tabs?

**A:** In many cases moving the attachment location of the tie down straps and the trailer is easy. First, determine the mounting location of the trim tabs; then, review your options. Sometimes criss-crossing (X) the straps is all that is required.

### Q: What do the five-hole lift pressure settings mean?

**A:** The five adjustments on the trim tabs allow adjustments from lowest pressure (#1) to highest pressure (#5). Pressure increases with each hole moving away from the transom. The higher the pressure the more lift you get at the stern.

### Q: Why do you recommend placing the actuator in hole #3?

**A:** We recommend placing the actuator in hole #3 to begin with, then assess your boat's performance and make adjustments if required. Hole #3 is the mean – it measures closest to the actuator pressure rating. For example, SX9510-60 adjusted to hole #3 will provide 60 lbs of pressure.



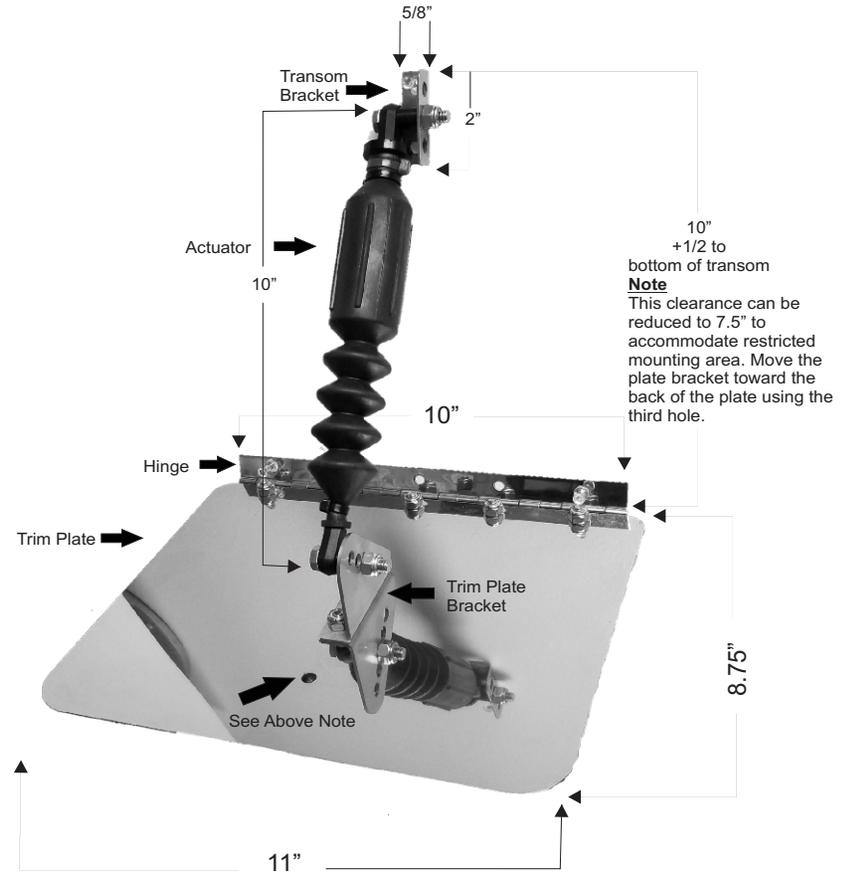
# Installation Examples



## Jet Boats



# St1290 Series Assembled Dimensions

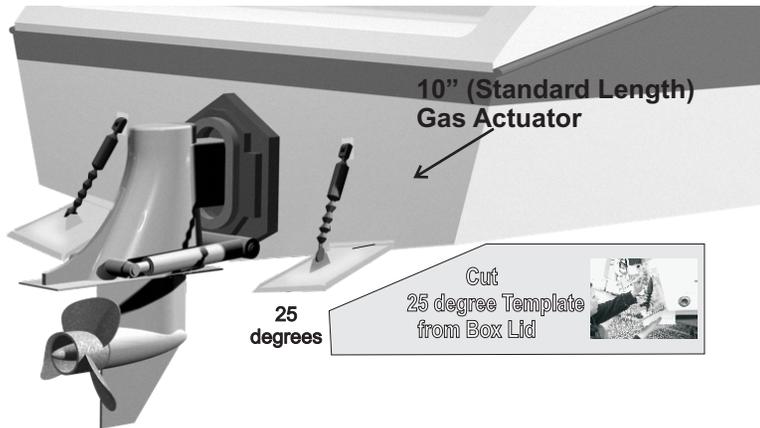


## Kit Includes full set

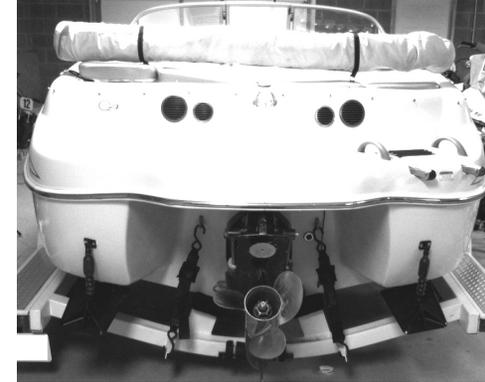


### Transom Bracket Installation 25 degree angle

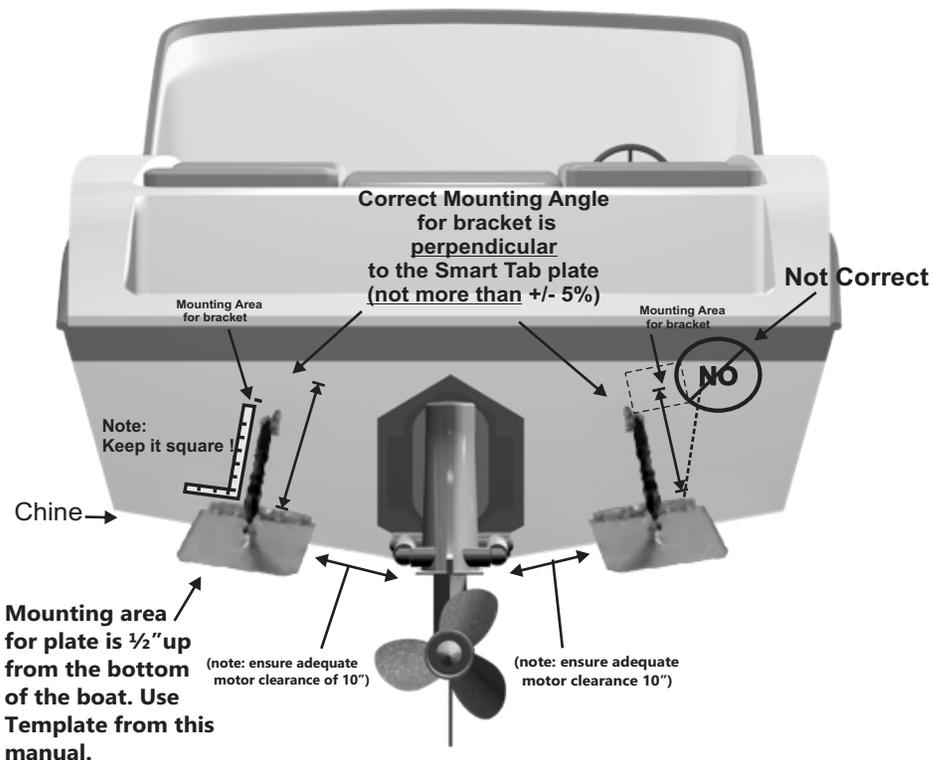
Note: All actuators are fully extended. Depending on the strength you will **NOT** be able to compress them by hand.



### Installation Examples



### Standard "V" Hull Designs



### Contoured & Molded Swim Platforms



## Installation Examples



### More Traditional Transom Boats



### 10" Gas Actuator

#### Important Information Bulletin

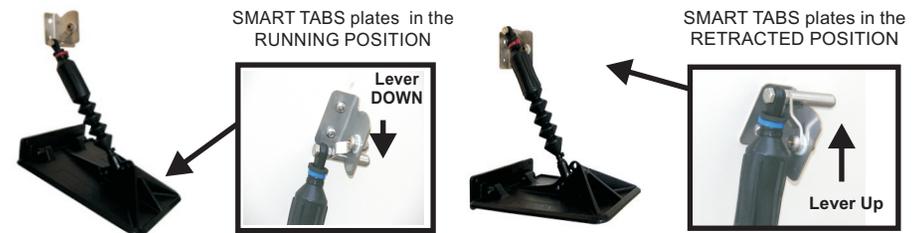
##### They are NOT Stuck or Frozen

Smart Tabs Actuators are coordinated with the appropriate kit to provide the necessary lift to the stern of the intended boat.

If the correct Smart Tabs kit is used the actuator will hold the trim plate down until the boat reaches the minimum planing speed. The actuators will then come UP.

Trying to compress the actuators with your hands may not be possible. These actuators will require a lot of force as the rating of pressure is in PSI (pounds per square inch). For example trying to compress a 60,70,80 or 90lb actuator by hand is not possible without leverage!!

### Optional # PR500 Bracket for use as Plate Retractors



The PR500 Bracket Kit assembly allows you to set the Smart Tabs in two different positions without the use of any additional tools. When the bracket handle is in the **"Down"** position the Smart Tabs will function as trim tabs. When the bracket handle is in the **"Up"** position Smart Tabs will be fully retracted.

**Note:** For this application the "Lever Handle" must be in the **"DOWN"** position during installation. Supplemental instructions are provided with the PR500 kit. Follow the instructions on Page 7 of the installation manual and substitute the PR500 Bracket for the standard Transom Bracket.

# Assembly and Installation Instructions

**Note: Remove Protective Film From All Stainless Parts Use In Salt Water Might Require Zinc Anode**

## Standard "V" Hull Installation



**Mark Mounting Holes:** Use the hinge template. Make sure that you can mount the hinge in the same location on both sides of the boat. Use a 7/32" drill bit for Fiberglass transoms and a 3/16" drill bit for aluminum and wood transoms.

3



**Remove Protective Film**

**Add Tape:** Use the pre Cut sure seal tape in Kit bag "D". Peel off the back of the tape to gain access to the adhesive back. Cut the tape to the length of the hinge and transom bracket.

4



**Install the hinge:** Use the hardware from Bag "A" to install the hinge to the plate. The hinge will install on the underside of the trim plate.

5

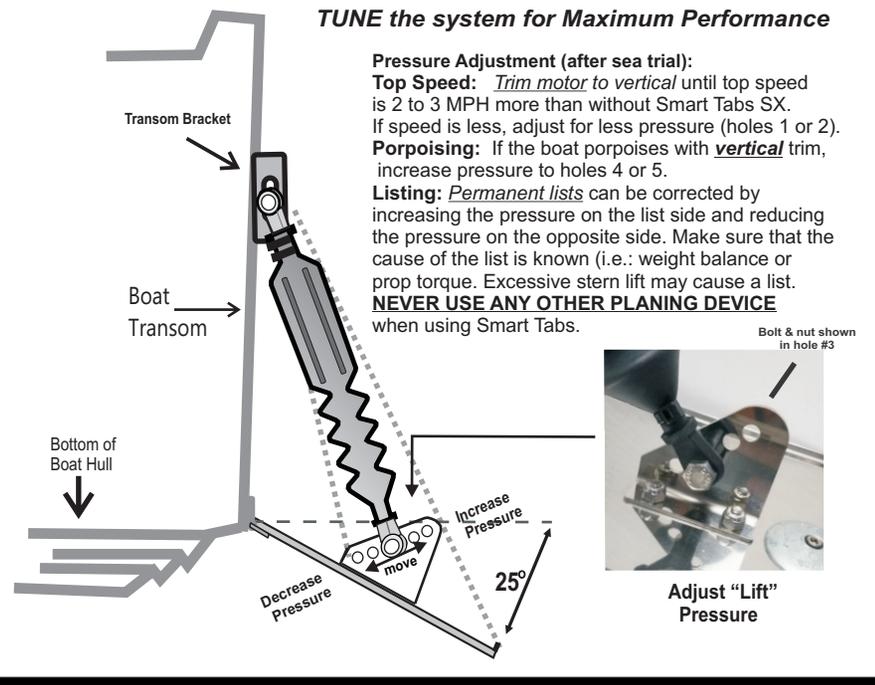


**Attach the Plate Bracket:** Align the bracket from Bag "B" onto the trim plate using the 2 holes closest to the hinge. The third hole is for a zinc anode or if you have height clearance issues you can move the bracket to these holes and this will give you 2.5" less height clearance.



**Attach the Plate:** Using a philip head screw driver attached the plate using the #14x3/4 sheet metal screws that came in bag "A". Do not overtightened these and don't use a screw gun.

## TUNE the system for Maximum Performance



**Pressure Adjustment (after sea trial):**  
**Top Speed:** *Trim motor to vertical* until top speed is 2 to 3 MPH more than without Smart Tabs SX. If speed is less, adjust for less pressure (holes 1 or 2).  
**Porpoising:** If the boat porpoises with *vertical* trim, increase pressure to holes 4 or 5.  
**Listing:** *Permanent lists* can be corrected by increasing the pressure on the list side and reducing the pressure on the opposite side. Make sure that the cause of the list is known (i.e.: weight balance or prop torque. Excessive stern lift may cause a list. **NEVER USE ANY OTHER PLANING DEVICE** when using Smart Tabs.

Bolt & nut shown in hole #3

**Adjust "Lift" Pressure**

## Maintenance

### Stainless Steel Parts

All of the Smart Tabs parts are made of Stainless Steel 316. Due to the nature of the material there will need to be a zinc installed for use in salt water. You may bottom paint the rubber boot if you like.

### Gas Spring Actuator

The Gas Actuator with the protective rubber boot is the heart of the Smart Tabs system, and requires some attention. The specially designed boot is sealed to keep dirt, water, and corrosive chemicals from damaging the actuator shaft.

Follow these simple steps to extend performance and life:

1. When not in use it is good to occasionally compress the actuator by raising the trim plate to a horizontal position or higher several times. This keeps the shaft lubricated. The Actuator may be stored in the compressed position.

**Note:** If the boat is stored on a trailer, load the boat onto the trailer first. As an option you may wish to install our plate retractor kit. Refer to page 5.

2. Inspect the protective rubber boot for any holes, rips, or tears. If any are found, remove the actuator as soon as possible and replace the boot. If the shaft of the actuator is damaged or corroded, replace the actuator.

**TIP:** To check the boot for holes, simply raise the trim plate (compressing the actuator) and observe the bellows. If properly sealed the bellows will hold in the compressed air.

# Adjusting Smart Tabs for Your Boat

**(Conduct a trial run before making any adjustments!)**

## 1 - Smart Tabs “Lift” Pressure - Start At the Mid Point! (see Fig. 4 “A” on page 9)

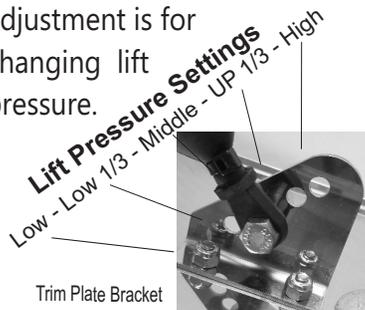
### Purpose:

The plate bracket holes (#1 through #5) allows you to increase or decrease the amount of “LIFT” pressure that the Smart Tabs will provide to optimize the performance of your boat. Hole #1 is least pressure and hole # 5 is most. The balance of your boat is important to its overall performance.

### A Heavy Rear End Needs More “Lift”:

If your boat has more stern weight, increasing the “LIFT” pressure will bring the boat on plane more quickly. Move the actuator attachment **UP** from hole #3 to hole #4 for example.

**Notice:** Adjusting the nylon bolt position on this bracket does not change the up or down angle of the plate. This adjustment is for changing lift pressure.



**IMPORTANT NOTE:** Too much stern lift can cause too much bow pressure at cruising speeds which will reduce top speed and cause bow steering problems. If this occurs reduce the lift pressure.

### A Lighter Rear End Needs Less “Lift”:

If your boat is more balanced you may wish to decrease the “LIFT” pressure. Move the actuator attachment down from hole #3 to hole #2 for example.

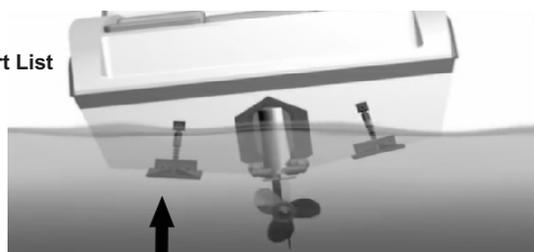
### Adjustments for List:

Smart Tabs should only be adjusted if the list is consistent and noticeable at normal cruising speeds. Smart Tabs automatically compensate for list caused by temporary conditions such as load imbalance or prop torque.

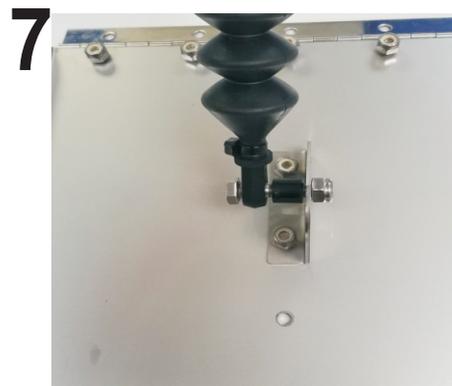
Compensate for the list by increasing the lift pressure on the same side to which the boat is listing. **Do not change the Trim Plate angle, as this will cause steering problems!**

**Note:** If the list is due to load balance, make sure that this is a permanent condition, and not due to temporary equipment or passenger seating arrangements.

Example: Port List



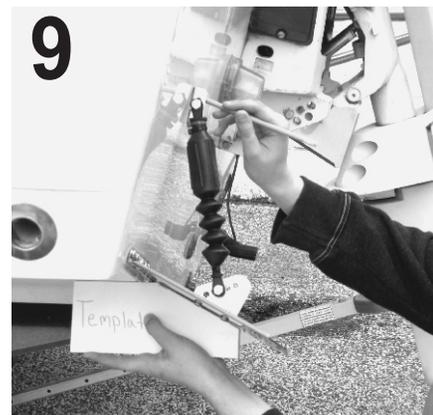
Increase Lift Pressure on port side tab to correct list



**Attach the actuator:** Use the hardware from Bag “B” to attach the actuator to the middle hole #3 (medium pressure). Tighten the bolt down just enough so that the actuator can still move freely. Use the black push pin in Bag B to fill the extra hole in the plate if not used.



**Install Transom Bracket:** Use the hardware from Bag “C” to attach the transom bracket to the actuator. See the bolt orientation above. Tighten the bolt down tight so it won't move.



### Drill for Transom Bracket

**A)** Rotate the actuator to the transom until the upper bracket (Transom Bracket) is seated flush.

**B)** Using the template from the center of this manual, obtain a 25 degree angle on the tab in relation to the bottom of the boat.

**C)** Mark the holes, and drill with a 3/16” bit for wood or 7/32” bit for fiberglass

**D)** Use the sealant tape to cover the holes

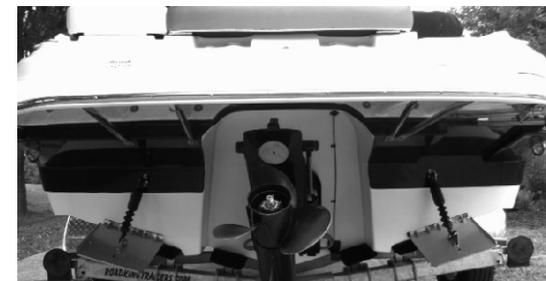
**E)** Using a philips head screw driver attached the bracket using the #14x3/4 sheet metal screws that came in bag “C”. Do not overtightened these and don't use a screw gun.

**NOTE:** If needed, pressure adjustments can be made to suit your boat after a sea trial. Refer to page 8 for more information.

\* Refer to pages 10-12 for installation photos\*



Scan here to view SX installation video



Typical Installation

# \* REMOVE FROM MANUAL \*

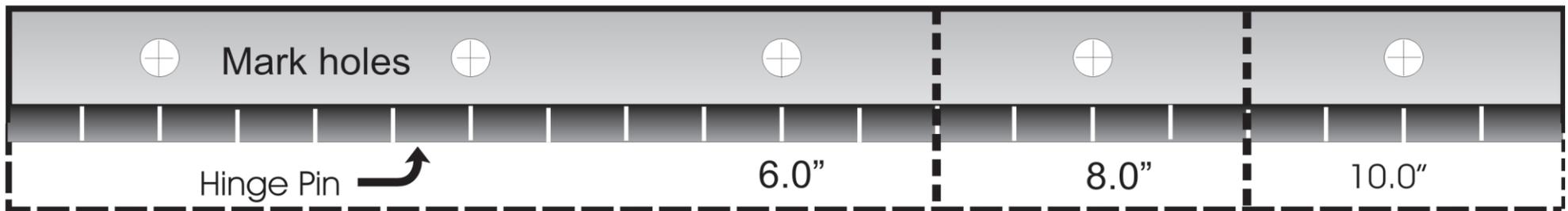
## Smart Tab Installation angle template and hinge template



**Cut 25 degree  
Template and trace  
onto piece of cardboard**

Cut out Templates

Hinge Template for 6", 8", 10" Lengths



Align dotted line with bottom edge of hull (hinge pin /plate will be 1/2" up from bottom)