



INSTALLATION AND OPERATIONS MANUAL

INTRODUCTION

Thank you for your purchase of the most advanced and user-friendly electromechanical trim tabs on the market.

The Pro Tabs were developed out of a necessity for a trim tab which could be deployed at higher speeds without bending or breaking. The unique angles and bends of our electropolished tabs provide additional bracing and strength, while directing waterflow to reduce drag.

Contained in this manual, you will find detailed, step-by-step installation instructions, as well as, an overview of tab operation. Please read through this manual in its entirety before beginning installation. It is also highly recommended to keep this manual accessible at all times.

If you have any questions, please call our Technical Service line at 1-800-466-7697

A DIVISION OF



24253 COUNTY ROAD 7 • ST. CLOUD, MN 56301
1-800-466-7697 • WWW.POWRTRAN.COM



USE OF THIS MANUAL

This Installation and Operations Manual is an important part of the product and should be thoroughly read and understood by anyone in charge of the installation or use of the Pro Tabs.

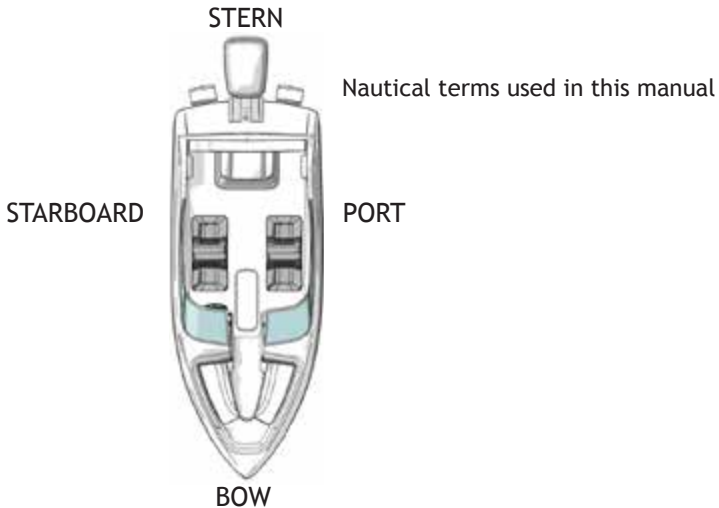
This manual will use the following symbols to ensure user safety and guarantee correct installation and operation.

⚠ DANGER Immediate hazards which cause severe injury or death.

⚠ WARNING A hazard exists which can result in injury or death if proper precautions are not taken.

⚠ CAUTION A reminder of safety practices or a direction of attention to unsafe practices which could result in injury.

⚠ NOTICE Important information for the correct installation and maintenance, that does not cause any damage.



PRODUCT DESCRIPTION

When properly used, the Pro Tabs allow the boat to maintain the proper level of trim according to the different navigation conditions, optimizing the performance.

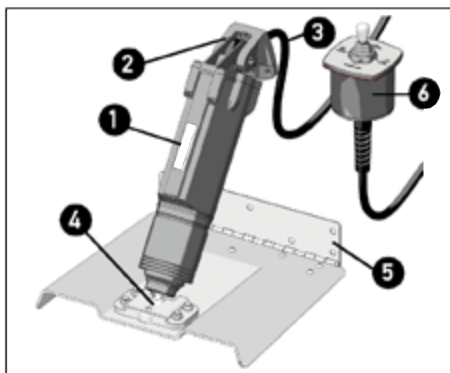


Picture 1 denotes a boat's porpoising attitude, while Picture 2 shows the boat's proper position achieved with help from the Pro Tabs.



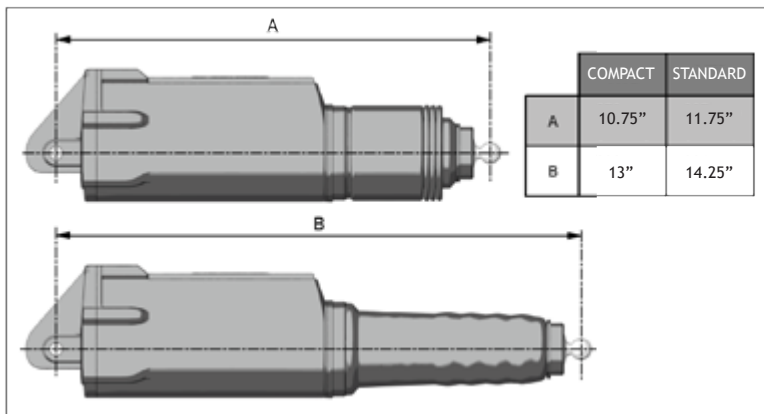
The working principle behind trim tabs is that the tabs create a lever with the fulcrum being the on-plane pad of the boat. As the tabs push down behind the fulcrum, the stern of the boat is raised, thus lowering the bow.

Peak performance is achieved when the bow and the stern are as level as possible.

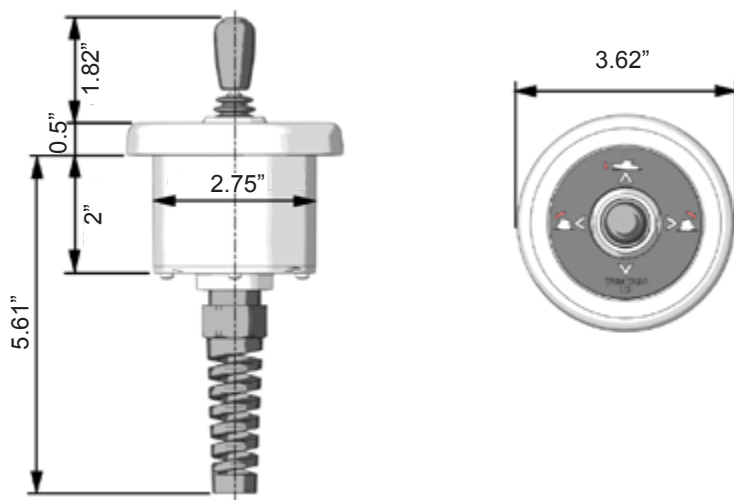


- 1 Actuator
- 2 Connection bracket to the transom
- 3 Electric cable (6.5')
- 4 Connection bracket to the tab
- 5 Tab and hinge
- 6 Joystick

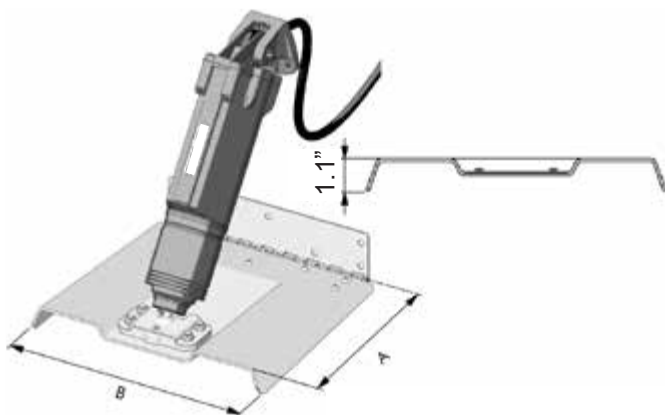
ACTUATOR DIMENSIONS



JOYSTICK DIMENSIONS



TAB DIMENSIONS



INCHES	STANDARD DIMENSIONS			
A	9"	12"	12"	12"
B	9"	9"	12"	18"

SIZING GUIDELINES

STANDARD ACTUATOR

BOAT LENGTH	TAB SIZE (L X W)	TRANSOM MIN. HEIGHT
14'-18'	9" x 9"	12.22"
16'-25'	12" x 9"	12.22"
18'-30'	12" x 12"	12.22"
26'-36'	12" x 18"	12.22"

COMPACT ACTUATOR

BOAT LENGTH	TAB SIZE (L X W)	TRANSOM MIN. HEIGHT	
		TILED INSTALLATION	VERT. INSTALLATION
14'-18'	9" x 9"	10.65"	12"
16'-25'	12" x 9"	10.65"	12"
18'-30'	12" x 12"	10.65"	12"
26'-36'	12" x 18"	10.65"	12"

INSTALLATION OVERVIEW

Please read all instructions carefully BEFORE beginning installation. Improper installation can lead to failures which can cause injury.

Tools Required



Drill



Pliers



Tape measure



Drill bits
7/32"
25/64"



Open end
wrench
10mm



Hammer



Hole Saw
2.75"



Cutter



Ruler



Phillips
screwdriver



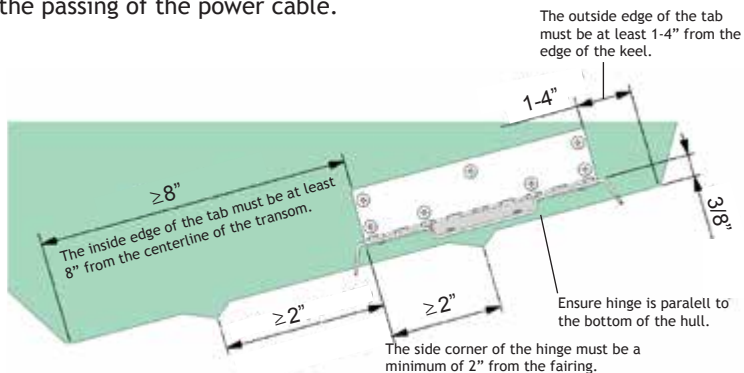
Sealant 3M 5200

INSTALLATION STEPS

1 Find the tab installation point as shown in the picture.

⚠ WARNING

Make sure the Upper Fixing Bracket of the actuator is not near other devices on the inner part of the transom which may obstruct the passing of the power cable.

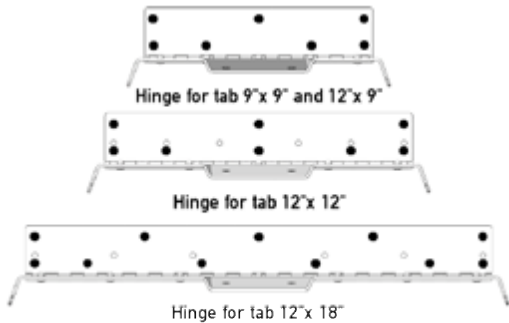


2 Locate the hole pattern you will be using.

⚠ NOTICE

In order to ensure proper fitment and installation of the tabs, use the bigger holes indicated by the ● in the picture.

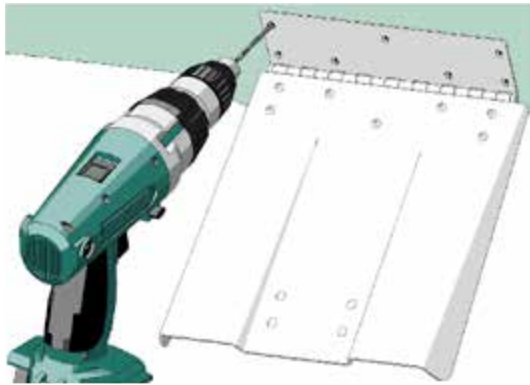
The smaller holes indicated by the ○ are used for installations which are replacing other systems.



3 Mark the hole positions on your transom. Then make preholes using your 7/32" drill bit.

⚠ NOTICE

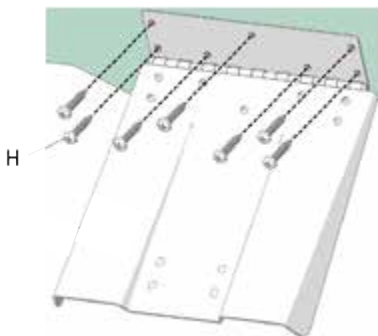
The holes should be drilled to a maximum depth of 1.25".



- 4** Put 3M 5200 (or equivalent) sealant into the preholes and fix the hinge to the transom by using the supplied self-tapping screws (H). Once the hinge has been fixed, apply sealant to the perimeter.

NOTICE

All of the supplied screws are stainless steel. Never use any other type of fastener.



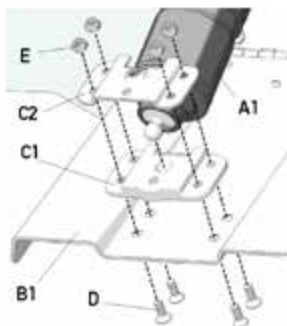
- 5** Position the spherical head of the actuator rod (A1) between the plastic bracket (C1) and the flange (C2). Fasten the three components to the tab (B1) by means of the 4 screws (D) and 4 nuts (E).

NOTICE

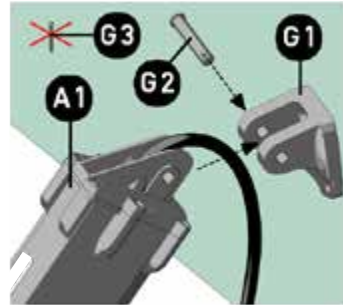
The actuator (A1) is provided from the factory in the fully-retracted position. For the installation, it is strictly necessary not to power it to avoid any possible position change.

WARNING

The bracket **MUST** be installed exactly as shown in the picture.

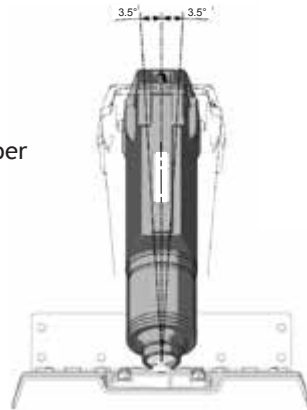


6 Insert the upper bracket (G1) on actuator (A1) using only the pin (G2) but NOT the split pin (G3). DO NOT insert the cable through the bracket at this time.



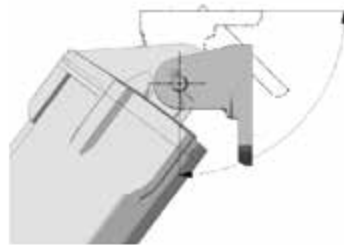
CAUTION

The bracket on the tab side allows an articulation of up to 7 degrees of the actuator (see image). If this angle is exceeded for the installation, the upper bracket may break.



NOTICE

The upper bracket also allows the assembly of the actuator in a vertical position. The possible positions are shown in the picture.

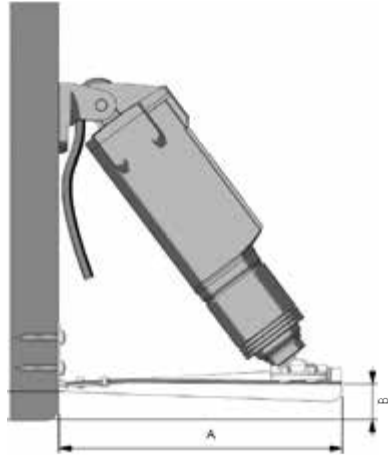


7 Place the upper bracket (G1) on the transom.

⚠ NOTICE

For a correct installation, lift the outer edge of the tab according to the measurements which are shown in the following table.

INSTALLATION DISTANCE	
A	B
9"	25/32"
12"	27/32"

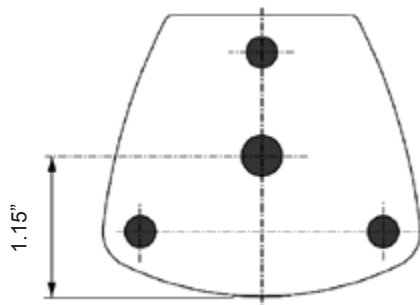


Once the tab is properly positioned, use a permanent marker to trace the location of the upper bracket.

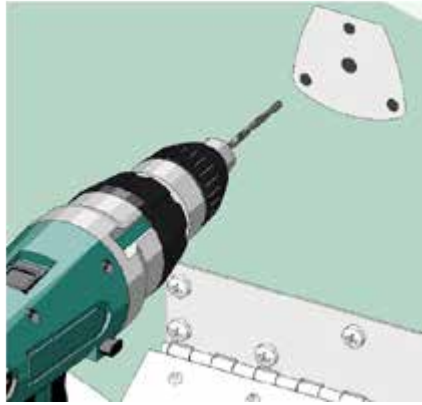
8 Remove the upper bracket (G1) from the actuator (A1) and place it on the transom, aligning it with the marks you made in Step 7. Then mark the hole positions with a permanent marker.

⚠ NOTICE

Make sure the cable hole is properly positioned.

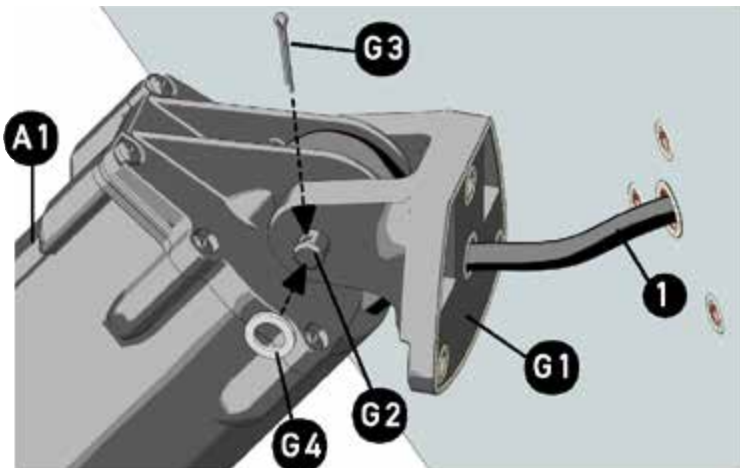


- 9** Make three $7/32$ " holes at least 1" deep to fix the bracket (G1) and one $25/64$ " hole in the center to allow the passage of the power cable.



- 10** Insert the upper bracket (G1) on the actuator (A1) by using the pin (G2), the washer (G4), and the split pin (G3) supplied. Make sure you have passed the power cable (1) through the center hole in the bracket.

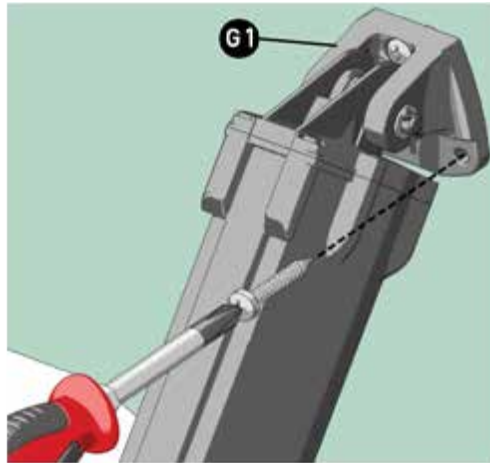
Insert the power cable into the transom hole. Place sealant in each of the three screw holes, around the power cable hole, and on the back side of the bracket.



- 11** Fix the upper bracket (G1) by means of the supplied screws.

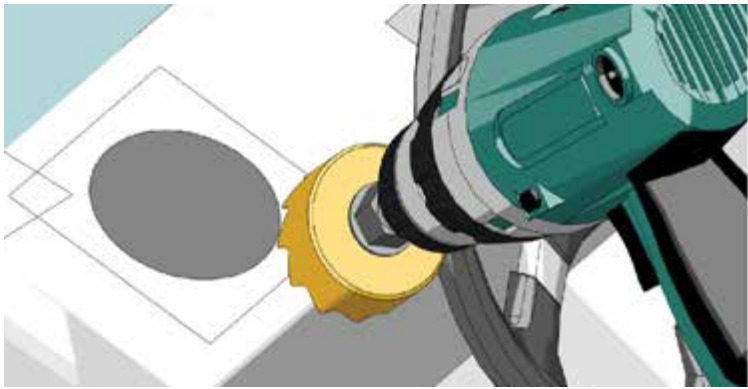
⚠ NOTICE

Wait for the sealant to dry. Proper dry-time will be dependant on brand of sealant used and should be found on the packaging.



- 12** Refer to the joystick dimensions on pg. 6 or cut out and use the diagram on pg. 23 to determine where you will mount your joystick.

- 13** Mark your hole location and cut it out with a 2.75" hole saw.



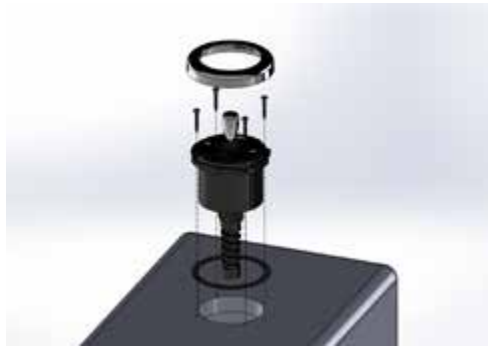
- 14** Assemble the joystick as shown below. There is a small hole in the face of the joystick and a small knob on the back of the faceplate. Lining these up will allow you to install the joystick properly.



- 15** Position the joystick where you want it and use the 4 supplied screws to secure it in place.

⚠ NOTICE

You must install the plastic bezel to prevent the faceplate from coming loose and falling off.



WIRING OVERVIEW

WARNING

All wiring should be performed by skilled technicians. POWRTRAN INC is not to be held responsible for possible damages or malfunctions deriving from improper wiring.

NOTICE

The extension cables provided have color-coded zip ties indicating their particular use:

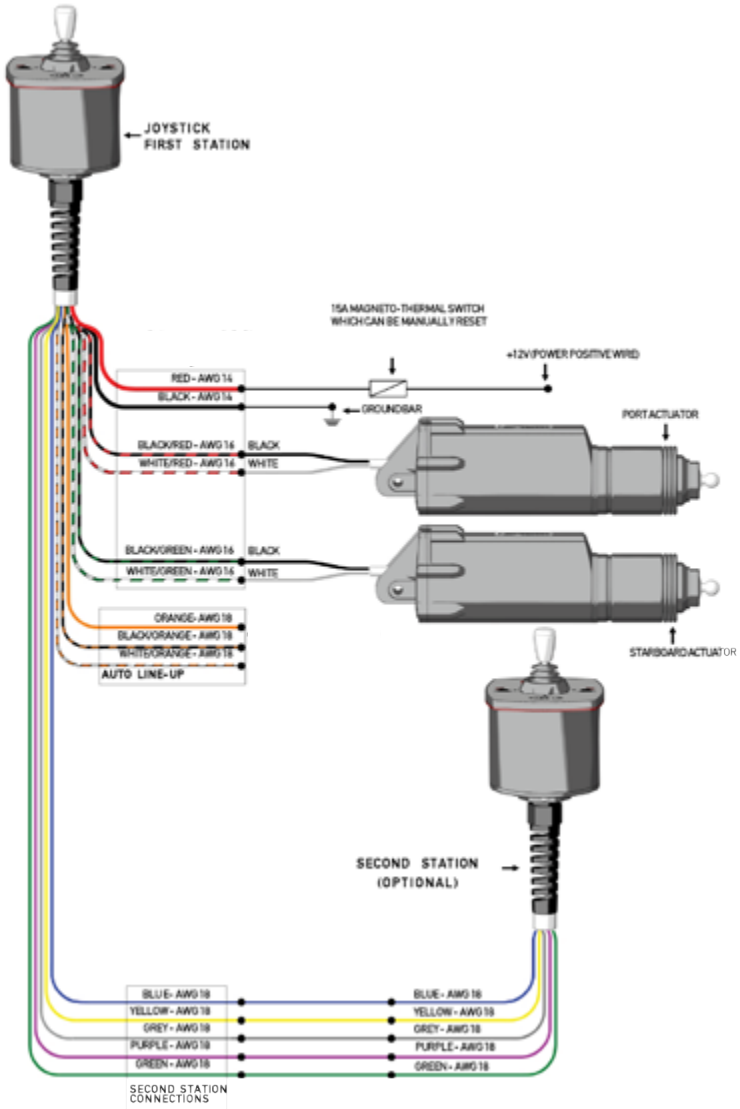
- **GREEN**=Starboard Actuator Extension
- **RED**=Port Actuator Extension
- **BLACK**=Power Cable Extension

Cable Identification

The following table provides a quick guide to the wires that come off of the joystick control.

COLOR	DESC.	USE	SIZE
RED	+BAT	POSITIVE POWER WIRE	AWG 14
BLACK	GND	NEGATIVE POWER WIRE	AWG 14
WHITE/GREEN	STB+	STARBOARD ACTUATOR POSITIVE	AWG 16
WHITE/RED	PORT+	PORT ACTUATOR POSITIVE	AWG 16
BLACK/GREEN	STB-	STARBOARD ACTUATOR NEGATIVE	AWG 16
BLACK/RED	PORT-	PORT ACTUATOR NEGATIVE	AWG 16
ORANGE	KEY	ENGINE KEY	AWG 18
ORANGE/WHITE	NSAF-	NEUTRAL SAFETY NEGATIVE	AWG 18
ORANGE/BLACK	NSAF+	NEUTRAL SAFETY POSITIVE	AWG 18
BLUE	COM	SECOND STATION COMMON	AWG 18
YELLOW	UP	SECOND STATION CONTROL	AWG 18
GRAY	DOWN	SECOND STATION CONTROL	AWG 18
PURPLE	LEFT	SECOND STATION CONTROL	AWG 18
GREEN	RIGHT	SECOND STATION CONTROL	AWG 18

WIRING DIAGRAM

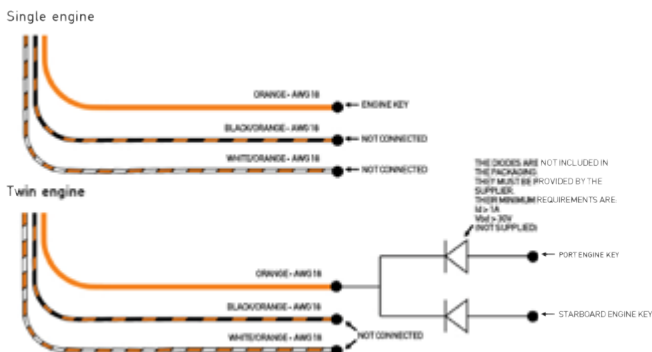


AUTO LINE-UP

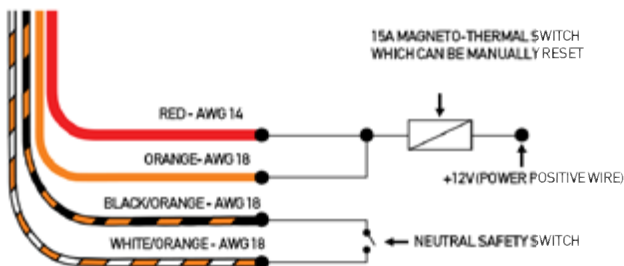
When running at idle, or when the engine turns off, the auto line-up puts the tabs in rest position (all the way up) automatically.

The auto line-up function can be enabled by means of the panel key or the neutral safety switch of the control unit.

Engine Key



Neutral Safety Switch



Twin Engine

In case of twin engine boats with two different neutral safety switches, the auto line-up can be enabled in two ways:

A. The auto line-up is enabled when at least one of the two engines has not been put into gear.

B. The auto line-up is enabled when both engines have not been put into gear.



MAINTENANCE

Proper maintenance is an important factor for the safety and life of your Pro Tabs. Only skilled and properly trained staff should carry out maintenance operations.

The design and materials used to manufacture the Pro Tabs reduce maintenance operations to a minimum.

WARNING

The main safety warnings to be observed during maintenance are:

- DO NOT wear rings, watches, etc. during maintenance operations.
- ALWAYS wear gloves and proper eye protection.
- DO NOT use free flames, sharp edges, or pins for cleaning.
- DO NOT smoke.

WARNING

Before the beginning of each season, check that:

- Fixing screws are firmly fashioned.
- There is no marine growth on the actuator or any moving parts.

NOTICE

To discourage any marine growth on tab, antifouling paint can be applied. When applying the paint to the actuator, make sure it is fully retracted.

Technical Support

For Technical Support, please contact Powrtran Inc. at
1-800-466-7697 or email info@powrtran.com

TRIM TAB USE

The Pro Tabs were designed for a simple, intuitive operation and can even be used by individuals who are not familiar with other trim tab systems.

The Pro Tabs are controlled via a joystick which allows for single-handed operation. Both tabs are controlled by jogging a single joystick, making it easier than ever before to control the boat.

The joystick can be manipulated into four positions. The four possible positions are illustrated on the next page. They are:

- By jogging the joystick forward, the bow of the boat is pushed down, forcing the boat into a planing position.
- By jogging the joystick backward, the bow of the boat is raised, reversing the planing position.
- If the boat is listing starboard, jogging the joystick to the left will level the boat.
- If the boat is listing port, jogging the joystick to the right will level the boat.



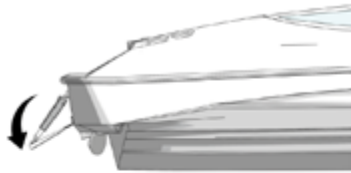


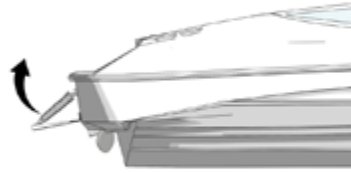





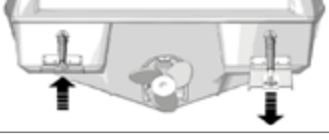
If, for any reason, you wish for the joystick control to behave opposite of this setup, that can be achieved by reversing the position of the black and white actuator wires.

The electronic system can automatically enable an important function named “Auto line-up” which allows aligning of the tabs at rest without using the joystick.

As explained in the Wiring section, two different kinds of installation are available; Engine Key Control or Neutral Safety Switch Control.

This function is provided with an inhibition device that prevents it from being enabled again for five minutes. After this time has passed, the “Auto line-up” function is available again.

TRIM TAB USE

CHANGE WITH THE JOYSTICK	CHANGE	TAB MOVEMENT
 ↑ TABS UP	 PLANING	
 ↓ TABS UP		
 → TABS UP		
 ← TABS UP		

DANGER

- DO NOT PUT YOUR HANDS BETWEEN THE MOVING PARTS!
- DO NOT disable the safety devices.
- DO NOT modify or add devices to the system without POWRTRAN INC's written authorization.

WARNING

- When operating the tabs, the joystick should ALWAYS be jogged to allow for small movements at a time. Pushing the joystick continuously could result in over-correction and sudden, unexpected boat response.

ABOUT POWRTRAN INC.

Powrtran has been providing the marine industry with high-quality performance accessories for over 30 years. Our growing portfolio of brands remain dedicated to providing electromechanical alternatives to existing market products as well as an eco-friendly approach to new ideas.

We are steadfast in our commitment to continuous innovation achieved through an active social ear and constantly inquisitive minds. As fishermen and boaters ourselves, we strive to create products that enhance the user's experience on the water while fostering the love of fishing and conservationism in the next generation.

Check out our website, www.powrtran.com, to see how we can

Elevate Your Boating Experience!

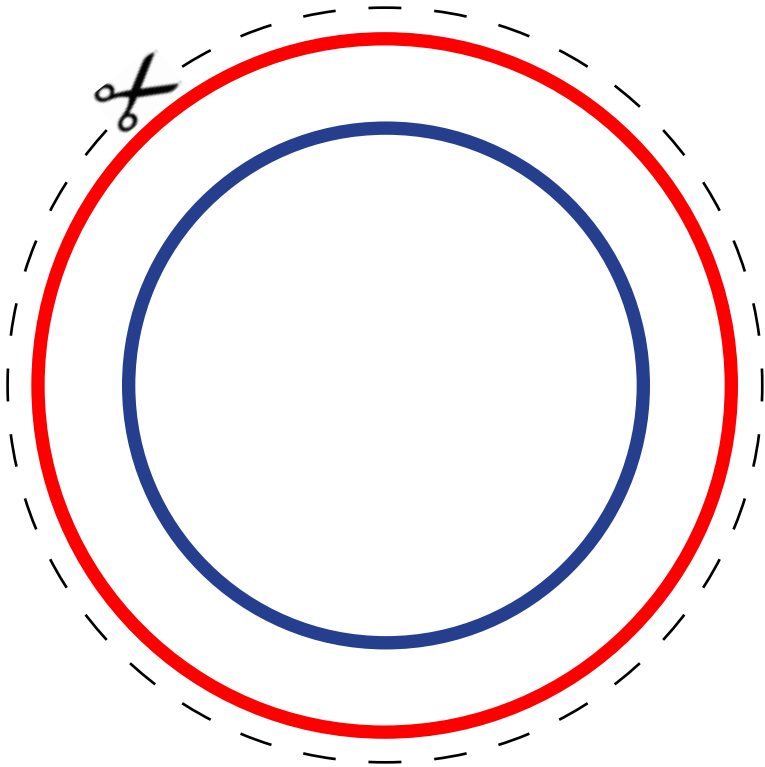


JOYSTICK MOUNTING TEMPLATE

Before drilling, please cut out the template below and use it to ensure proper clearance exists for the Joystick to mount.

The **RED** circle indicates the total amount of space needed for the Joystick's faceplate to mount flush.

The **BLUE** circle indicates the hole-size that will need to be cut for the joystick to fit.



— 2.75" hole for mounting Joystick

— 3.625" total footprint

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WARRANTY

1. It is Customer's responsibility to make a careful inspection of the Product for evidence of loss or damage, both apparent and concealed. For loss or damage by motor freight, freight forwarders, railway express, rail or air shipments, secure a notation of any loss or damage on Customer's copy and on the carrier's copy of the delivery receipt, retain products and shipping containers, and call carrier immediately for an inspection and file a claim with the carrier.
2. To the extent that this order is covered by a prior written contract between the parties, it is accepted on the terms and conditions in that contract and the terms and conditions expressed herein are not intended to modify, change, or supersede such prior contract. To the extent that this order is not covered by such a contract, this instrument contains all of the terms and conditions with respect to the sale and purchase of the Products named herein. Manufacturer can change its applicable terms and conditions at any time unless otherwise explicitly stated on the face hereof or in an effective prior written contract. No modifications of these terms and conditions shall be of any force unless such modification shall be in writing and signed by the party claimed to be bound thereby. If any of the provisions of Customer's purchase order or other writings are in conflict with the terms and conditions of this document, the terms and conditions of this document shall govern. This sales agreement is not assignable or transferable by Customer, in whole or in part, except with the written consent of Manufacturer.
3. Manufacturer's liability as to delivery ceases upon making delivery of the Products purchased hereunder to carrier at shipping point in good condition. Title and risk of loss for the Products supplied hereunder will pass at the F.O.B. point specified in Manufacturer's applicable published price schedule for all Products shipped by Manufacturer. Title and risk of loss for all Products picked up by Customer at Manufacturer's designated shipping locations will pass to Customer at the point the Products are deposited by Manufacturer onto Customer's owned or leased equipment.
4. MANUFACTURER MAKES NO WARRANTIES, EXPRESS OR IMPLIED, WITH RESPECT TO ITS PRODUCT, WHETHER AS MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER MATTER EXCEPT THAT ITS PRODUCTS WILL BE FREE FROM DEFECTS IN MATERIAL AND IN WORKMANSHIP AND WILL CONFORM TO THE SPECIFICATIONS THAT HAVE BEEN PUBLISHED IN WRITING BY MANUFACTURER AND MADE AVAILABLE TO CUSTOMER. THE CUSTOMER ASSUMES ALL RISKS OF LIABILITY WHATSOEVER RESULTING FROM THE USE OF MANUFACTURER'S PRODUCTS WHETHER USED SINGULARLY OR IN COMBINATION WITH OTHER ITEMS. MANUFACTURER'S LIABILITY FOR NONCONFORMING PRODUCTS IS EXCLUSIVELY LIMITED TO THE REPLACEMENT OF THE DEFECTIVE PRODUCTS FOR PERIOD A OF TWO YEARS AFTER THE DATE OF SALE, PROVIDED THE CUSTOMER COMPLIES WITH MANUFACTURER'S CURRENT PUBLISHED RETURN POLICY. UNDER NO CIRCUMSTANCES SHALL MANUFACTURER BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. NOTWITHSTANDING ANY OF THE ABOVE TO THE CONTRARY, MANUFACTURER'S MAXIMUM LIABILITY SHALL NOT EXCEED THE COST OF THE PRODUCT.

This warranty shall not apply to Products that have been repaired or altered by anyone other than Manufacturer. This Warranty shall not apply to any Products subject to misuse due to common negligence or accident.

WARRANTY

Any oral statement concerning the Products inconsistent with this warranty shall be of no force or effect. The only warranties concerning the Products are made in writing by Manufacturer. The Customer may not rely upon any statement or representation concerning the Product made by any other person.

This Warranty is available to the Customer and is not transferable.

5. Customer shall examine any such Products for any damage, defect, or shortage. All claims for any cause whatsoever (whether such cause be based on contract, breach of warranty, negligence, strict liability, other tort, or otherwise) shall be deemed waived unless made in writing and received by Manufacturer within thirty days after Customer's receipt of such Products or before such Products are used, whichever shall occur first, or if such claim is for non-delivery of such Products, within thirty days after the date upon which such Products were to be delivered; provided that as to such claim not reasonably discoverable within such thirty-day period (including such claims discoverable only in processing, further manufacture, other use, or resale), such claim shall be made in writing and received by Manufacturer within 180 days after Customer's receipt of the Products. Failure of Manufacturer to receive written notice of any such claim within the applicable time period shall be deemed an absolute and unconditional waiver by Customer of such claim irrespective of whether the facts giving rise to such claim shall have been discovered or whether processing, further manufacture, other use, or other resale of the Products shall have taken place. Products sold under this Agreement shall not be returned without Manufacturer's permission and transportation charges for return shall not be paid by Manufacturer unless authorized in advance.

6. Payment terms are net thirty (30) days from invoice date unless otherwise agreed in writing. In the event Customer fails to fulfill the terms of payment, or in case Manufacturer shall have any doubt at any time as to Customer's financial responsibility, Manufacturer may decline to make further deliveries except upon receipt of cash or satisfactory security. Past due balances are subject to a late payment charge of 1½% per month, or the maximum amount permitted by applicable law, whichever is less. Customer shall reimburse Manufacturer for all taxes, excise, or other charges which Manufacturer may be required to pay to any government (national, state, or local) upon the sale, production, or transportation of the Products sold hereunder. Customer shall pay all reasonable costs, fees (including attorneys' fees), and expenses incurred by Manufacturer in collecting monies due or to become due hereunder.

7. It is expressly understood that any technical advice furnished by Manufacturer with reference to the use of its Products is given gratis and Manufacturer assumes no obligation or liability for the advice given or results obtained. All such advice is given and accepted at Customer's risk.

8. The agreements between the Manufacturer and Customer were made and entered into by the parties in the State of Minnesota. In the event a dispute arises, said dispute shall be settled in the District Court, Stearns County, Minnesota. The agreement between Manufacturer and Customer shall be construed and interpreted according to the laws of the State of Minnesota.

WWW.PROTRIMTABS.COM

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