



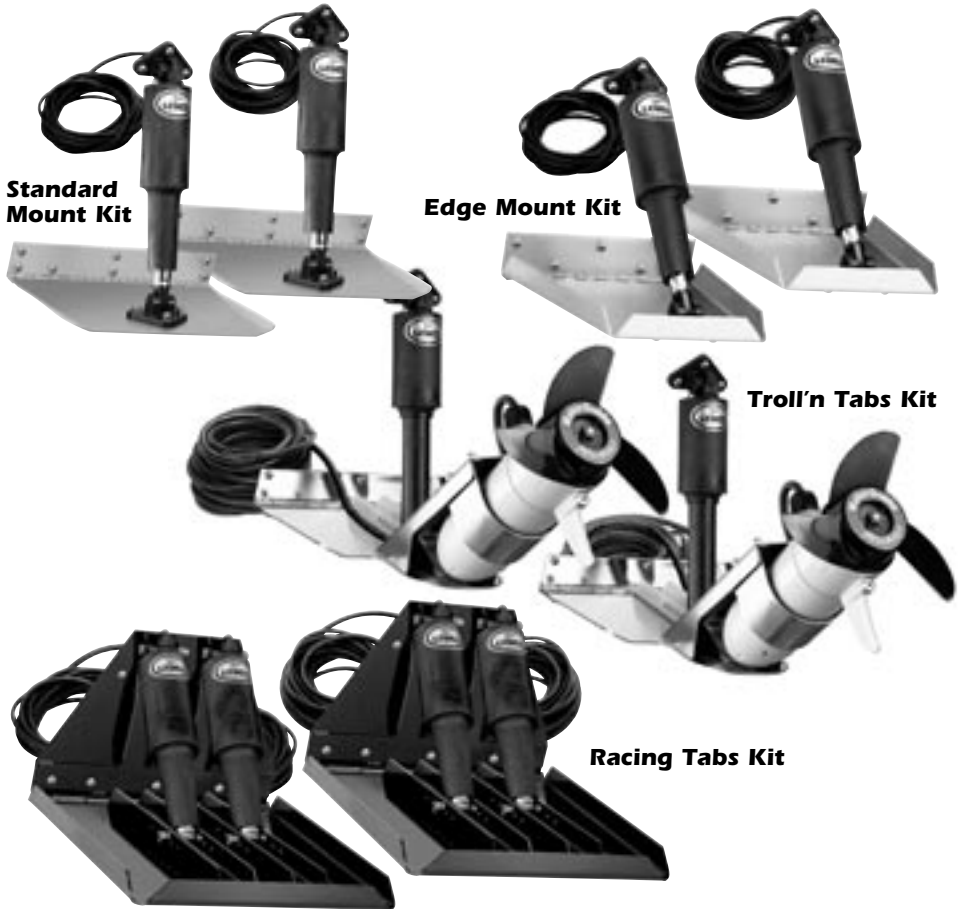
**We make
the best boats better!™**

**LENCO MARINE
Owner's Manual**

CONGRATULATIONS!

You have just purchased the finest, high performance trim tab system in the world! Welcome to the future.

Lenco trim tabs make the single most important difference in the way your boat will ride and perform. Lenco trim tabs will make your boat ride smoother, drier, faster, increase fuel efficiency and will increase safety whether on a small skiff or a mega-yacht. Lenco's ballscrew design is more reliable, twice as powerful and features an instant response, which makes them very user friendly compared to typical hydraulic trim tabs. Lenco trim tabs are oil free and are environmentally friendly. Our goal is to make products that simply make boating more enjoyable.



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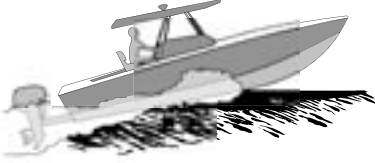
The Lenco tactile switch is based on the position of the bow.

Lowers Port Bow

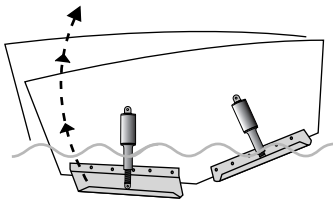
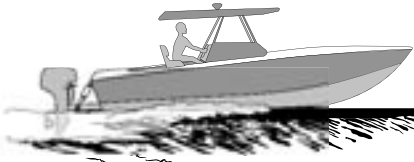
Lowers Starboard Bow



Without Trim Tabs



With Trim Tabs



When the tabs are lowered, the water flow is redirected creating an upward force at the stern of the boat.

Lenco trim tab kits include two stainless steel planes, two electromechanical actuators, and all mounting hardware for installation. (See available switch options on page 11.) The trim tabs operate independently of one another to provide optimal performance by redirecting water flow at the transom of the boat. Lenco trim tabs have been designed to improve the overall attitude of a boat. If used properly, Lenco trim tabs will improve the ride, reduce drag, increase speed and improve the fuel efficiency of your boat.

The operation of Lenco trim tabs is basic. The two stainless steel planes are mounted with the actuators on the transom of the boat. When the tabs are lowered, the water flow is redirected creating an upward force at the stern of the boat. When the stern rises, the bow will lower.

Since Lenco actuators are electromechanical, they provide an immediate response at the touch of the switch. The Lenco switch is based on the position of the bow. The left side of the switch controls the starboard tab. The right side of the switch controls the port tab. The system is set up this way to minimize the guesswork while underway. To lower the starboard bow press the right (starboard) switch where it reads DOWN. To lower the port bow press the left (port) switch where it reads DOWN.

Since all boats are different in weight, length, speed, etc. and perform differently it will take some practice to understand how your boat reacts with trim tabs installed. Lenco trim tabs will allow your boat to get on plane faster and continue planing at lower speeds. This will improve visibility and the overall safety of your boat. Lenco electromechanical actuators are designed around a ballscrew design and offer an instant response. When making adjustments with the trim tabs use short momentary taps of the switch.

To become knowledgeable on how your boat performs with Lenco trim tabs, remember, practice makes perfect.

Lenco electromechanical actuators provide an instant response. When making adjustments use short momentary taps of the switch.

SPECIAL CONDITIONS

HEAD SEA

Head Sea — Lower both tabs slightly by pressing BOW DOWN on both sides this will bring bow down while maintaining speed. This allows the hull of the boat to absorb the impact of the waves. This adjustment will result in a more efficient and smoother ride.

FOLLOWING SEA

Following Sea — Make sure the tabs are fully retracted by pressing BOW UP on both sides. This will bring both tabs to a fully retracted position decreasing lift in the stern and will allow the bow to rise. If tabs are deployed the bow may dig.

WINDY CHOP

Windy Chop — To raise the windward side of the boat press BOW UP on that side. If this is not sufficient press BOW DOWN on the leeward side of the boat. Do not over trim when attempting this. This will allow the windward side of the boat to rise and will minimize spray.

SHALLOW WATER HOLE SHOT

Shallow Water/Hole Shot — Lower both tabs completely down by pressing BOW DOWN on both sides. This provides lift in the stern of the boat and will keep the bow down. As you throttle up and speed increases raise tabs by pressing BOW UP on both sides.

UNEVEN LOAD

Uneven Load- If one side of the boat is higher than the other while running press BOW DOWN on the switch on that side. This will lower the tab on the listing side (low side) to bring the boat level.

PORPOISING

Porpoising — To stop porpoising, press BOW DOWN on both sides of the switch. The tabs need only to be deployed slightly to correct this adverse situation.

SAFETY

While the boat is underway do not move one tab up or down significantly, this may cause listing.

While at higher speeds do not overtrim. This will cause the bow to lower quickly, resulting in a reduction of speed and may cause the boat to veer.

When in following seas or when running an inlet, the tabs should be fully retracted. This will allow for optimal performance.

While operating trim tabs use caution. Improper use of trim tabs may cause accidents and/or injury.

1	Stainless steel blade with hinge	B-9x12 (dimensions of tab)
2	Electromechanical actuator with 25ft lead	101, 101XD, 101XDS
3	Upper mounting bracket	# 119
4	Space saver upper mounting bracket (optional)	# 117
5	Lower mounting bracket	# 118
6	Retro Kit Bracket	# 116
7	Delrin pin	# 121
8	Standard tactile switch	# 124
9	Indicator switch (optional)	# 123
10	Shim kit (optional)	# 118s
11	1 1/4 inch S.S. Pan head screw	
12	7/8 x 1/4 - 20 S.S. screws	
13	1/4-20 machine loc nut	

TROUBLESHOOTING GUIDE FOR TRIM TABS

Trim tabs do not work together, independently, or intermittently.

Solution Sequence:

- Inspect fuse (optional) at fuse panel. Replace if necessary.
- Verify that all connections at tactile switch control box or double rocker switch assembly are tight and in place.
- Make sure that switch assembly has a solid ground.
- If the actuator cables were spliced inside the transom, inspect joint for positive connection.
- After following steps stated above and the actuators still do not operate properly — STOP and call the factory for further assistance at:
(772)288-2662.

ADDITIONAL INFORMATION

- Check electrical connections behind switch and make sure ground wire is in place.
- The addition of a zinc anode will deter electrolysis. It is important that the zinc is in contact with the trim tab blade.
- To discourage any marine growth on tab or actuator, antifouling paint can be applied. When applying paint to the actuator make sure it is fully retracted. Do not paint the stainless ram above the area that is exposed when retracted.
- If tabs malfunction or tabs become stuck in the down position while underway remove pin or bolt at the lower mounting bracket
- To reposition the actuator turn stainless steel ram counter clock wise and reattach. You can also resecure the tab manually by fastening the lower mounting bracket.

Warning: The following instructions contain important safety information and should be followed carefully. Failure to do so may result in injury and will void warranty.

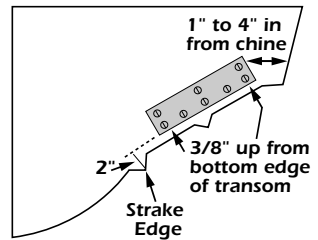
Please read complete instructions before starting application!

TOOLS AND MATERIALS LIST

electric drill	wire crimper/cutter	tape measure
5/32", 3/32", 3/16", & 3/8" drill bits	7/16" wrench	small hammer
4 ft level/straight edge	3m 5200 adhesive caulking	2" hole saw
#2 & #3 phillips screw driver	3m silicon marine sealer	

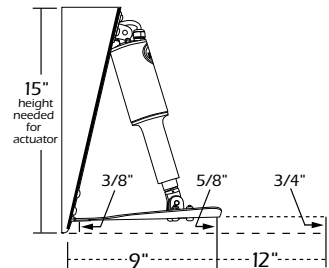
1. Begin by first deciding where the trim tab kit will mount. NOTE: When laying out desired tab location, hold tab against transom 3/8" up from bottom of transom in line with hull. Make sure not to mount inside corner of hinge within 2" of a strake edge. If this is not possible, move tab so as to cover strake edge (see Fig.1).
2. Using the 3/16" drill bit, drill hinge holes to a depth of 1-1/4". When drilling tab and bracket holes, you may drill through the transom; the screws **will** seal the holes when inserted. All screws and fasteners are stainless steel. Do not use any other type of metal. It is recommended to use 3M 5200 adhesive caulking to bed the hinge and screws. Next, mount the hinge to the boat using the 1-1/4" S.S. metal screws.

Fig. 1

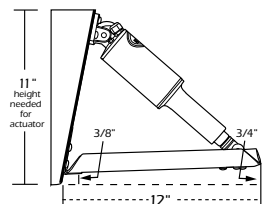


3. With bolts, washer, and nylon locking nuts provided, fasten lower mounting bracket to tab. Attach the actuator to the brackets top and bottom using the delrin pins provided. (When mounting racing tabs, substitute delrin pin with 5/16 x 1" stainless steel bolt provided). In order to position upper bracket against transom, you must lift trim tab so that the trailing edge is approximately 5/8" above a straight edge held to hull. This 5/8" measurement is for all tabs that have a trailing edge 9" off of the transom. If the trailing edge is 12" off of the transom, lift the tab so there is 3/4" between the tab and the straight edge (see Fig. 2). When the tab is at the appropriate level, use the two outside holes of the upper bracket as a guide to mark mounting location. Mount upper bracket where it lays naturally against the transom to prevent binding during travel. (Do not adjust the upper bracket to the right or left, this will cause binding.) Remove upper bracket from actuator to mark upper screw hole. Drill three 3/16" holes 1-1/4" deep.

**Fig. 2
Standard Mount**



Edge Mount

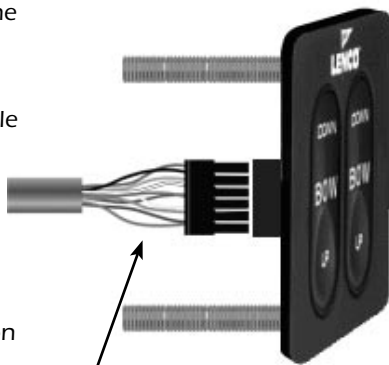


4. **Warning: With some installations, fuel, water tanks or other systems may prevent the actuator wire from entering the hull through the upper mounting bracket. Be sure to check inside hull before drilling 3/8" wire hole. Using the centered hole in the upper mounting bracket as a guide, mark the wire hole.** If all is clear, use the 3/8" drill bit and drill the hole through the transom. Drill completely through the transom. Pass the actuator cable through. Remove slack on wire into hole and seal with clear caulking or 3M 5200. **DO NOT OVERTIGHTEN.** If, however, you are prevented from drilling hole through bracket, simply drill a 3/8" hole 4" to 5" above water line and insert wire. Cover hole and wire with a clamshell vent sealed with clear caulking for a waterproof and finished effect. Mount upper bracket using the three 1-1/4" S.S sheet metal screws. It is recommended to use 3M 5200 adhesive to bed the screws and bracket. To attach actuator to the upper bracket use black delrin pin provided.

5. At the helm, find a good location for the tactile switch and cut a circular opening using a 2" hole saw. Before cutting make sure the area inside the helm is clear of wires and other equipment that could be damaged. Using the template on page 10, mark each stud and drill four 5/32" holes through the helm. If the thickness of the helm is less than 1-1/4" secure the switch with the nylon nuts provided. If the thickness of the helm exceeds 1-1/4" apply a marine grade silicon sealer to each of the four drilled holes, to each stud and around the back of the tactile switch. Secure the switch and allow sealer to dry. When mounting the black control box, keep in mind that there is a three-foot lead that attaches to the back of the tactile switch.

6. Following the trim tab switch wiring diagram, pull the 25' cylinder wires to the switch location. Be very careful of sharp edges that may damage the cable. Make all connections according to diagram. Remember the left switch controls the right starboard tab and the **right** switch controls the **left** port tab.

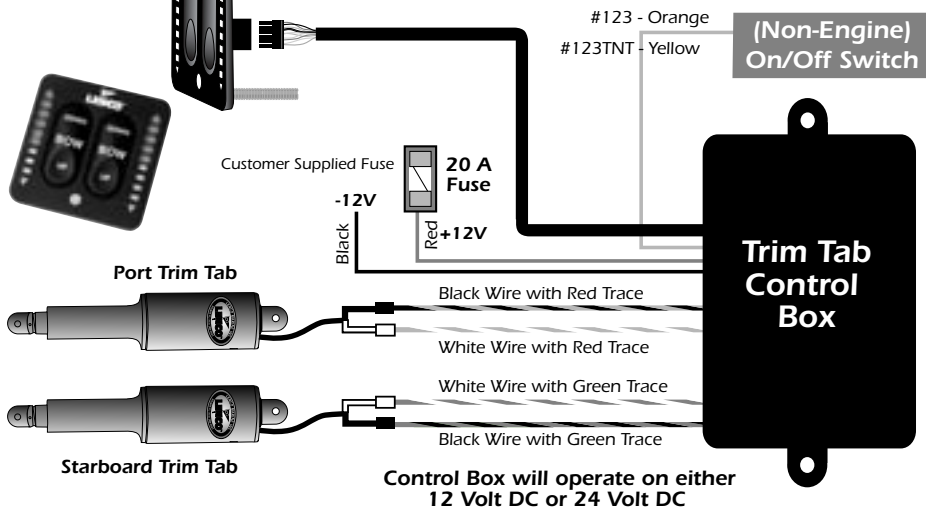
Tactile Switch Connection



Wiring harness to control box mounted within 3 feet

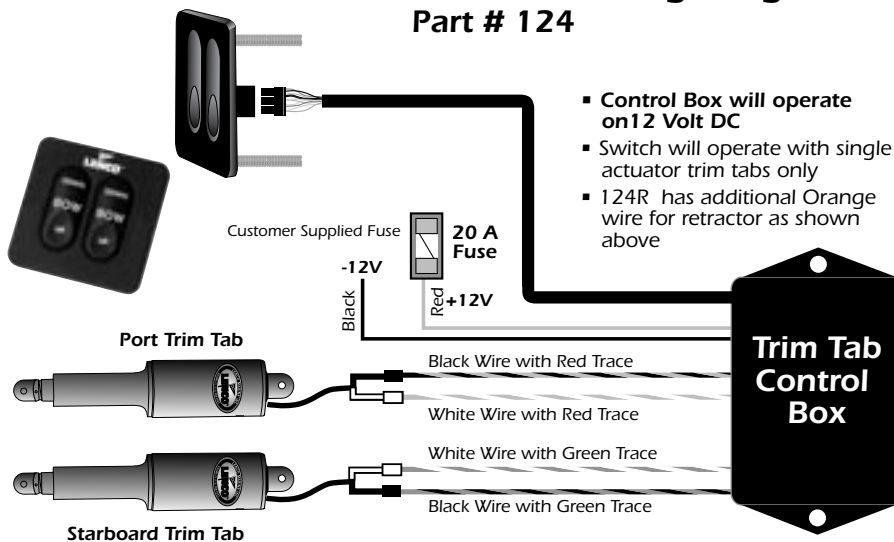
PLEASE FOLLOW THE INSTRUCTIONS AND DRAWINGS CAREFULLY. CALL THE LENCO SERVICE DEPARTMENT AT (772) 288-2662 FOR TECHNICAL ASSISTANCE.

L.E.D. Trim Tab Indicator Switch w/Retractor Part # 123 & #123TNT



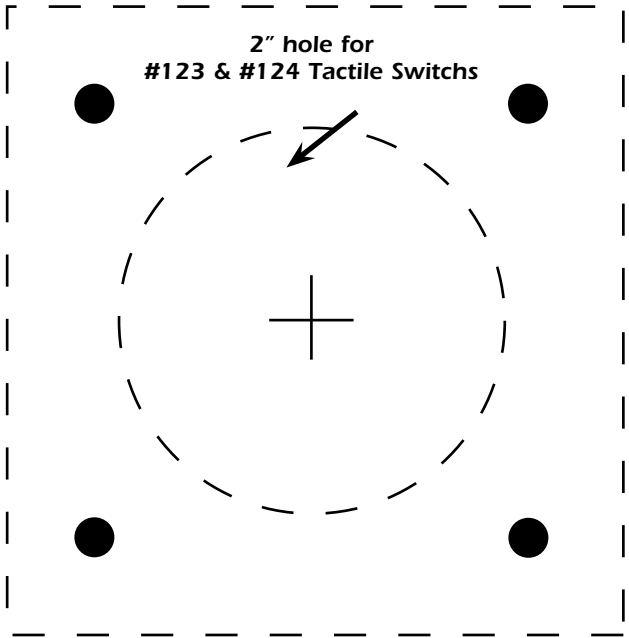
This product must be installed and wired exactly as shown above. Failure to wire the trim tab indicator and retractor as shown will cause the cancellation of all warranties by the manufacturer.

Standard Tactile Switch Wiring Diagram Part # 124



Switch Template

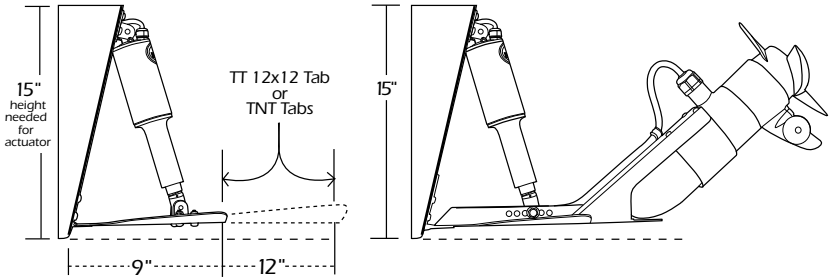
Cut out at the dashed line and place over the 2" hole you drilled. Drill straight through the black circles using 5/32" drill bit for the mounting bolts (The bolts are part of the switch). The inner circle should be cut out to allow for the connection.



UPGRADING AND RETRO-FITTING

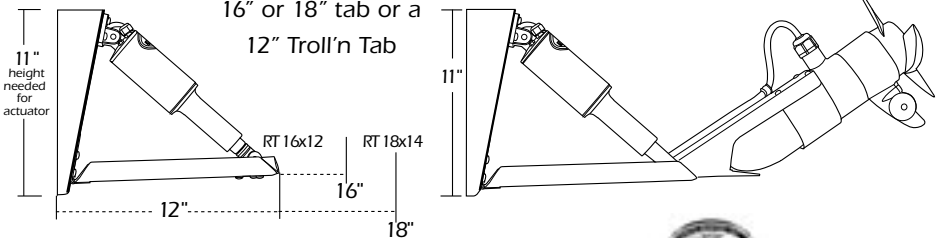
Standard Mount Kit (Part #TT9x12)

Can be upgraded to a 12" tab or a 9x12 or 12/12 Troll'n Tab



Edgemount Kit (Part #TT12x12E)

Can be upgraded to a 16" or 18" tab or a 12" Troll'n Tab



OPTIONAL SWITCHES

Complete your trim tab system with the latest switch technology — totally waterproof, maintenance-free switches that retract your trim tabs when power is removed.

All Lenco switches feature:

- Completely waterproof, maintenance-free
- Self-contained sealed key pad
- Self-contained sealed control box module
- Fade/smudge proof laser engraved graphics
- Quick, easy 15 minute installation
- Plug & play switch wiring harness connector
- Low profile design
- No moving parts
- Solid state electronic components

Switches 124G, 123, 123DR & 123TNT include:

- Built-in retract feature returns tabs to a fully retracted position when power is removed.

Indicator Switches 123, 123DR (Dual Actuator) & 123TNT (Troll'n Tab) include:

- 2 High intensity L.E.D. indicator displays show exactly the position of your trim tabs at all times.
- Photo Eye reads ambient light and adjusts the L.E.D. indicator display intensity for optimum viewing in direct sun light.
- Backlit key pad graphics for optimum night viewing.

OPERATION

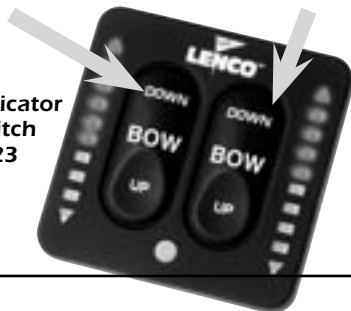
The operation of the indicator switch is based on the position of the bow. To lower the starboard bow, press the right (starboard) side of the switch where it reads Down. This will lower the port tab. To lower the port bow, press the left (port) side of the switch where it reads Down. This will lower the starboard tab. The LED displays on the sides of the display will show how far that tab has moved.

When the on/off switch is turned on at the helm the LED displays on the indicator switch will show one up arrow on each side of the switch. This shows that both tabs are fully retracted. While functioning the tabs the LED displays will indicate the position of the tabs by lighting up the further they are pressed Down. As the switch is pressed Up the lights will go out. When power is removed from the switch the tabs will retract from any position before powering down.

To lower the port bow

To lower the starboard bow

Indicator Switch #123



Upgrading and Retro-fitting

Standard Tab to Troll'n Tab

A 9x12 trim tab can be upgraded to Troll'n Tab Kit sizes 9x12 (part #TNT 9x12/24V) or 12x12 (part #TNT 12x12/24V).

Standard Tab blade upgrade

For a larger trim tab blade a 9x12 blade (part# B9x12) can be retro-fitted with a 12x12 blade (part # B12x12).

Edgemount Kit Upgrade

Edgemount Kits require approximately 11" from the top of the upper bracket to the bottom of the hinge.

Since the placement of the upper bracket is lower than a Standard mount, an Edgemount can be fitted only with another Edgemount trim tab. (part #'s: B12x9 E, B12x12 E, B12x18E, Racing Tabs BRT 12x12, BRT 16x12, BRT 18x14)

Edgemount Tab to Troll'n Tab

The only Troll'n Tab kit that will retrofit with any Edgemount trim tab kit is the TNT 12x12/24V (part #TNT 12x12/24V).



Lenco TRIM TABS AND HATCHLIFTS CARRY A THREE YEAR LIMITED WARRANTY **FROM THE DATE OF PURCHASE**

When possible, please refer to our trouble-shooting guide on our website, <http://www.lencomarine.com> prior to processing your claim with the Lenco factory.

1. Call Lenco Marine at 772-288-2662, and ask for customer service. Give the technician a brief description of the product and the problem. Once the tech determines that the product is eligible for repair or replacement, they will issue you an RMA number (Return Merchandise Authorization). **Claims will not be processed without an RMA number.**
2. Return product and paperwork to Lenco Marine with the following information: (name, telephone number, description of problem, proof of purchase to verify warranty). Proof of purchase and warranty info can consist of the following:
 - A. Original Lenco Marine invoice, or copy.
 - B. Lenco Dealer invoice.
 - C. Factory installed bill of sale
3. Mark the outside of the package with the RMA number and return it to Lenco Marine customer service department at 4700 SE Municipal Court, Stuart, FL 34997 for processing. Once received, our customer service department will make every effort to process your return quickly. Should time restraints prohibit you from sending in the merchandise first, or you need an immediate replacement, you will be required to secure the replacement part with a credit card prior to shipment (Visa, MasterCard,

American Express, Discover). Lenco marine ships all warranty items UPS ground. Costs for upgrades in shipping will be the responsibility of the customer. Lenco Marine warranties all trim tabs and hatch lifts for a period of three years from the date of purchase. If any part of a Lenco trim tab or hatch lift fails due to manufacturing defects or workmanship within a period of three years from the date of purchase, Lenco Marine will repair or replace the part(s) without charge at our discretion. No haul out, labor, or miscellaneous charges are covered under this warranty.

Troll'nTab customers please see separate warranty policy. The foregoing is in lieu of any and all other warranties, expressed or implied, including any warranty of merchantability or fitness for a particular purpose. There are no other warranties which extend beyond that set forth above. Lenco Marine reserves the right to void any warranty claim if the part is opened or repair was attempted, without prior authorization from Lenco Marine.

Lenco Marine Inc.
Phone: 772-288-2662
Fax: 772-288-2566
www.lencomarine.com
4700 SE Municipal Court
Stuart, FL 34997





Lenco Troll'n Tabs
 Carry a Two Year
 Limited Warranty
**FROM THE DATE OF
 PURCHASE**

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American Express, Discover). Lenco Marine ships all warranty items UPS ground. Costs for upgrades in shipping will be the responsibility of the customer. Lenco Marine warranties all Troll'n Tabs for a period of two years from the date of purchase. If any part of a Lenco Troll'n Tab fails due to manufacturing defects or workmanship within a period of two years from the date of purchase, Lenco Marine will repair or replace the part(s) without charge at our discretion. No haul out, labor, or miscellaneous charges are covered under this warranty.

*Trim Tab and Hatch lift customers please see separate warranty policy. The foregoing is in lieu of any and all other warranties, expressed or implied, including any warranty of merchantability or fitness for a particular purpose. There are no other warranties which extend beyond that set forth above. Lenco Marine reserves the right to void any warranty claim if the part is opened or repair was attempted, without prior authorization from Lenco Marine.

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 Stuart, FL 34997

Guidelines for trim tab operation located on page two.

OPERATION OF TROLLING MOTORS

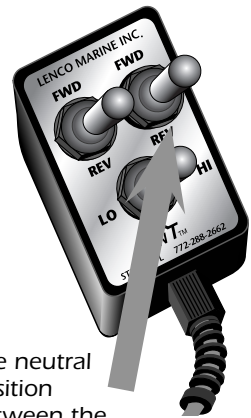
To position motors correctly for trolling press Bow Down for more than five seconds on the trim tab switch. This will fully extend both cylinders so the motors are parallel with the plane of the hull.

To begin use with the trolling motors turn control box ON by flipping the single toggle switch. When the system is activated, you may control the motors with the hand control that plugs into the control box. The hand control has three toggle switches.

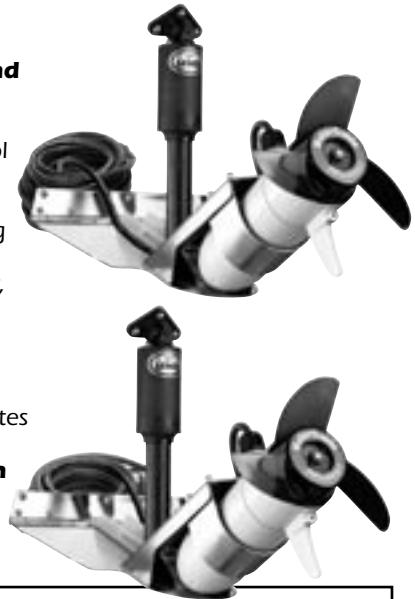
One switch marked HIGH or LOW, has positions for trolling speeds and neutral. For higher speed press switch to the right side of the hand control that reads HIGH. For lower speed press switch to the left side of the hand control that reads LOW.

The neutral position between the HIGH and LOW will disengage the trolling motors.

There are two other switches on the hand control that control the forward or reverse direction of thrust. These switches are located side by side on the hand control. For forward on the port trolling motor press the left switch up where it indicates FORWARD. For reverse on the port trolling motor, press the left switch down where it indicates REVERSE. For forward on the starboard trolling motor press the left switch up where it indicates FORWARD. For reverse on the starboard trolling motor, press the left switch down where it indicates REVERSE. **Note these switches will not engage trolling motors when thrust switch is between HIGH and LOW.**



The neutral position between the HIGH and LOW will disengage the trolling motors.



SPECIAL RECOMMENDATIONS FOR TROLL'N TABS

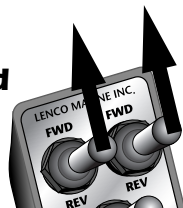
- After use make sure thrust switch on the hand control is set in the OFF position between the HIGH and LOW settings
- Make sure that the control box is switched to OFF after use
- To prolong the life of the control box do not change direction when motors are engaged in either direction
- To change direction of motors make sure to bring the thrust switch to a neutral position and then change direction

MANEUVERING

Since the trolling motors are stationary and do not pivot, it is important to use both trolling motors to maneuver.

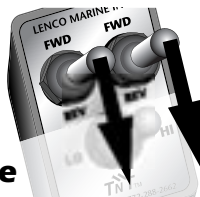
To move the boat forward press both directional switches up towards the FORWARD setting. This will set only the direction for both of the trolling motors. To engage the trolling motors press the other switch to either the right or left. For HIGH press it to the right. For LOW press it to the left.

Move Boat Forward



To move the boat in reverse press both directional switches down towards the REVERSE setting. This will set only the direction for both of the trolling motors. To engage the trolling motors press the other switch to either the right or left. For HIGH press it to the right. For LOW press it to the left.

Move Boat Reverse



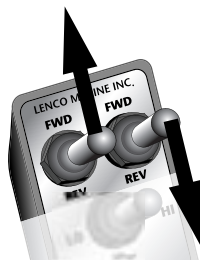
To turn the boat there are two options. These options depend on how hard of a turn is desired. Remember, when the speed setting is switched to HIGH the boat will react faster to your commands.

Turn Boat

To turn the boat to the right press the directional switch on the left side of the hand control up to where it reads FORWARD. To engage the port trolling motor press the switch to the left for LOW or to the right for HIGH. This will result in a wide turn to the right. To make a hard turn to the right engage the starboard trolling motor in reverse. This may be accomplished by pressing the right switch down to where it reads REVERSE.

Turn Boat Hard Right

(For wide turn do not press reverse)



To turn the boat to the left press the directional switch on the right side of the hand control up to where it reads FORWARD. To engage the starboard trolling motor press the switch to the left for LOW or to the right for HIGH. This will result in a wide turn to the left. To make a hard turn to the left engage the port trolling motor in reverse. This may be accomplished by pressing the left switch down to where it reads REVERSE.

Turn Boat Hard Left



Note these switches will not engage trolling motors when thrust switch is in neutral—between HIGH and LOW.

1. Trim Tab cylinders work but trolling motors do not.

Solution Sequence:

- 1.1 Check system On/Off switch located on top of the main control box. Insure that it is in the ON position.
- 1.2. Check the hand control connector, located on the side of the main control box. Verify that it is fully inserted and corrosion free.
- 1.3 Inspect the fuses connected to the main control box. If a fuse is blown, the motors will not work. Replace fuse if necessary.
- 1.4 Verify that all connections at the main control box terminal strip are accurate and tight, as per Troll'n Tab wiring diagram.
- 1.5 Assess the system batteries state of charge. Set both motors on FWD and on HIGH with the Hand Control, check the voltage of each battery independently. Voltage should read 11.5 volts minimum. Charge batteries if necessary.

2. Motors will run on Low speed, but not on High.

Solution Sequence:

- 2.1 Inspect connections at batteries, verify that the 24-volt jumper has been installed according to Troll'n Tab wiring diagram.
- 2.2 Inspect the fuses connected at the terminal strip of the main control box.
- 2.3 Inspect the hand control unit for a damaged HIGH/LOW selector switch. The switch should positively engage and maintain the various switched positions.

- 2.4 Check main control box terminal strip for accurate and tight connections according to the Troll 'n Tab wiring diagram.

3. One motor works and the other does not.

Solution Sequence:

- 3.1 Verify that the Hand Control connector on the side of the Main Control box is fully inserted and corrosion free.
- 3.2 Assess the system batteries state of charge. Often times the battery voltage is just low enough that one motor will operate while the other just slightly kicks over at start up. The one motor that does run, only does so because it is the efficient of the two, therefore all excess voltage that remains gets diverted to that motor. To verify that this is the case turn the running motor off and the other motor on. If it runs this time the problem lies in the state of charge in the batteries. Charge batteries if necessary.
- 3.3 Verify that all connections at the Main Control Box terminal strip are tight and accurate as per Troll'n Tab wiring diagram. If steps 3.1, 3.2, and 3.3 have been completed and one motor still does not operate, proceed to steps below to determine if problem lies with the Motor, Main Control Box, or the Hand Control.
- 3.4 Motor Test: Connect motor leads to a 12 Volt power supply to verify if the motor operates normally, isolated from the system. If not, contact our warranty and service department for repair at 772-288-2662.

3.4 Main control box test: At the main control box disconnect the two Red motor leads and two Green motor leads from the terminal strip. Next reconnect the Red motor leads in the location the Green motor leads were removed from. Reconnect the Green motor leads to the location the Red motor leads were removed from. If you have already completed troubleshooting steps 3.1 to 3.4 and one motor still does not work then STOP..., and contact our warranty and service department for further instructions at 772-288-2662.

3.5 Hand Control Test: Visually examine the switches on the Hand Control unit for damage. Operate all switches through their normal switching positions, the switches should positively engage and maintain the various switched positions. If the Hand Control is damaged or defective contact the factory for repair or replacement at 772-288-2662

4. Batteries have been completely discharged, however, when onboard charger was activated it indicated a green light, representing a fully charged battery.

Solution Sequence:

4.1 The battery or batteries have been discharged below 5 volts. When the batteries have been discharged to such extent, the onboard charger can no longer bring the batteries up. Simply because the onboard charger has been designed to be completely waterproof, therefore the unit is totally sealed and will generate too much heat attempting

to restore the batteries from such a level of depletion. The solution to this dilemma is to first unplug the onboard charger, and attach a 10 amp household charger for 20-30 minutes. This will bring the state of charge up to a level that the onboard unit can effectively take over. After 20-30 minutes, disconnect the household charger and allow the onboard unit to complete the charging process.

5. Charger is connected but no lights appear on unit.

Solution Sequence:

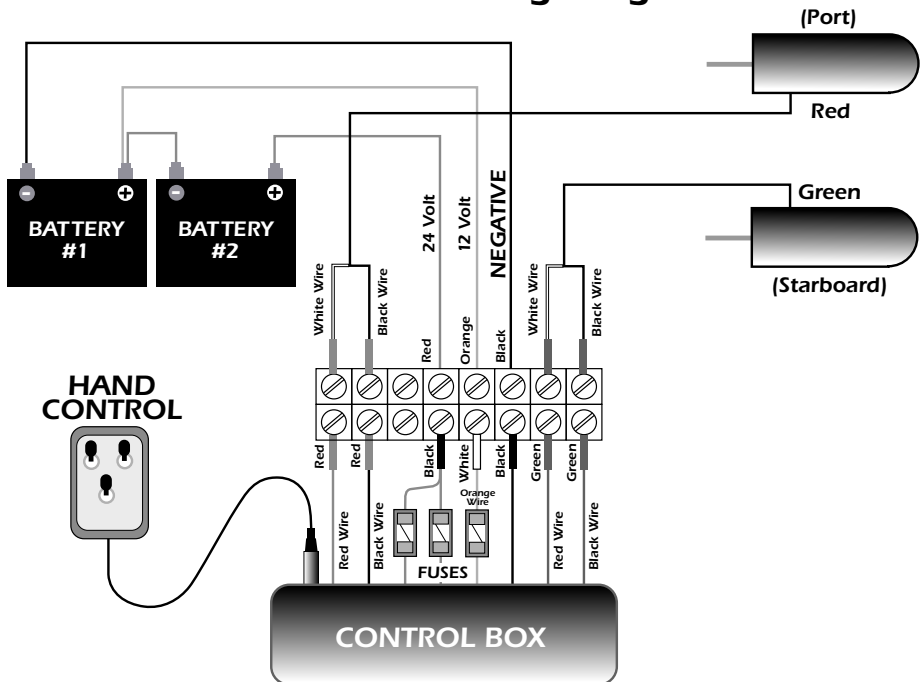
5.1 Check the 110 volt AC power supply from its source through all connecting points up to the charger by using a meter or lamp to confirm that current is being delivered to the charger. *If 110 volt AC power supply is connected to a safety GFCI outlet, be sure that the outlet is in the reset position and that current is present.

*Note always verify that the charger lights are on when attempting to charge batteries.

If you are still experiencing other problems or difficulties not described in this guide please contact our service department at 772-288-2662.

1	Stainless steel blade with hinge	# BTNT-9X12 (dimensions of tab)
2	Trolling motor bracket	Bracket
3	Motorguide 24v-82lbs	# MG24V-82
4	Motorguide Machette II (3 blade prop)	# Prop
5	Electromechanical actuator with 25ft lead	# 102xd
6	Upper mounting bracket	# 119
7	Lower mounting bracket	# 118
8	Delrin pin	# 121
9	118S (optional)	# Shim kit
10	Standard Tactile Switch	#124
11	TNT Indicator Switch (optional)	#123TNT
12	TNT control box with terminal	# TNTCB
13	TNT hand control with 30ft lead	# TNTHC
14	Nylon washers	
15	Nylon hanger	
16	1-1/4 inch s.S. Pan head screw	
17	7/8x1/4-20 machine screw	
18	1/4-20 machine loc nut	
19	5/16 machine loc nut	
20	5/16x2-1/4 machine bolt	

Troll'n Tabs Wiring Diagram



WARNING: The following instructions contain important safety information and should be followed carefully.

Failure to do so may result in injury and will void warranty.

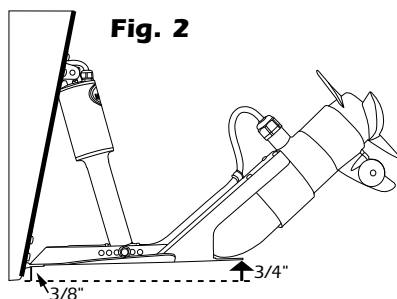
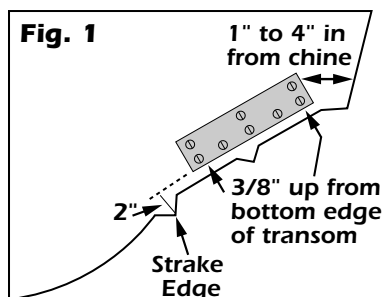
Please Read Complete Instructions Before Starting Application!

Tools And Materials List

- Electric Drill
- Wire Crimper/Cutter
- 3/32", 3/16", & 3/8" Drill Bits
- Tape Measure
- 7/16" Wrench
- Small Hammer
- 4 Ft Level/Straight Edge
- 3m 5200 Adhesive Caulking
- 2 3/8" Hole Saw
- #2 & #3 Phillips Screw Driver

1. Begin by first deciding where the trim tab kit will mount. NOTE: When laying out desired tab location, hold tab against transom 3/8" up from bottom of transom in line with hull. Make sure not to mount inside corner of hinge within 2" of a strake edge. If this is not possible, move tab so as to cover strake edge (see Fig.1).
2. Using the 3/16" drill bit, drill hinge holes to a depth of 1-1/4". When drilling tab and bracket holes, you may drill through the transom; the screws **will** seal the holes when inserted. All screws and fasteners are stainless steel. Do not use any other type of metal. It is recommended to use 3M 5200 adhesive caulking to bed the hinge and screws. Next, mount the hinge to the boat using the 1-1/4" S.S. metal screws.
3. With bolts, washer, and nylon locking nuts provided, fasten lower mounting bracket to tab. Attach the actuator to the brackets top and bottom using the delrin pins provided. (When mounting racing tabs, substitute delrin pin with 5/16 x 1" stainless steel bolt provided). In order to position upper bracket against transom, you

must lift trim tab so that the trailing edge is approximately 5/8" above a straight edge held to hull. This 5/8" measurement is for all tabs that have a trailing edge 9" off of the transom. If the trailing edge is 12" off of the transom, lift the tab so there is 3/4" between the tab and the straight edge (see Fig. 2). When the tab is at the appropriate level, use the two outside holes of the upper bracket as a guide to mark mounting location. Mount upper bracket where it lays naturally against the transom to prevent binding during travel. (Do not adjust the upper bracket to the right or left, this will cause binding.) Remove upper bracket from actuator to mark upper screw hole. Drill three 3/16" holes 1-1/4" deep.



4. **Warning: With some installations, fuel, water tanks or other systems may prevent the actuator wire from entering the hull through the upper mounting bracket. Be sure to check inside hull before drilling 3/8" wire hole. Using the centered hole in**
(cont.)

the upper mounting bracket as a guide, mark the wire hole. If all is clear, use the 3/8" drill bit and drill the hole through the transom. Drill completely through the transom. Pass the actuator cable through. Remove slack on wire into hole and seal with clear caulking or 3M 5200. **DO NOT OVERTIGHTEN.** If, however, you are prevented from drilling hole through bracket, simply drill a 3/8" hole 4" to 5" above water line and insert wire. Cover hole and wire with a clamshell vent sealed with clear caulking for a waterproof and finished effect. Mount upper bracket using the three 1-1/4" S.S. sheet metal screws. It is recommended to use 3M 5200 adhesive to bed the screws and bracket. To attach actuator to the upper bracket use black delrin pin provided.

5. At the helm, find a good location for the tactile switch and cut a circular opening using a 2" hole saw. Before cutting make sure the area inside the helm is clear of wires and other equipment that could be damaged. Using the template on page 10, mark each stud and drill four 5/32" holes through the helm. If the thickness of the helm is less than 1-1/4" secure the switch with the nylon nuts provided. If the thickness of the helm exceeds 1-1/4" apply a marine grade silicon sealer to each of the four drilled holes, to each stud and around the back of the tactile switch. Secure the switch and allow sealer to dry. When mounting the black control box, keep in mind that there is a three-foot lead that attaches to the back of the tactile switch.
6. Following the trim tab switch wiring diagram, pull the 25" cylinder wires to the switch location. Be very careful of sharp edges that may damage the cable. Hook up according to diagram. Remember the left switch controls the right starboard tab and the **right** switch controls the **left** port tab.

- 7) With the trim tabs operating as described, you are now ready to wire the trolling motors, batteries and control box. First, select a place to mount the control box, i.e., in a rear rigging hatch, still allowing access to on/off switch. As an option, control box may be mounted in the console; however, motor wires may need to be extended. If so, use a #10 wire and be sure to heat shrink all connections for a watertight seal.
- 8) Next, run trolling motor leads to the control box. You may run leads through the splash well drains on either side of the engine, then into the rigging hatch with the engine control/steering cables. Attach wires to terminal block according to wiring diagram provided. If splash-well drains are not an option, you may need to drill a 1/2" hole above water line and insert wire. Cover hole and wire with a clamshell vent sealed with caulking for a waterproof and finished effect.
- 9) When wiring from batteries to the control box, use a minimum of #6 AWG for all three conductors. Also, note that the control box is fused on both 12V and 24V power leads. Fuses are 60 AMP maxi fuses. **WARNING:** Use of fuses larger than 60 AMP could result in damage to system and will void warranty. For replacement fuses, call your local auto parts retailer or order them from Lenco Marine, Inc.
- 10) *Special Application*
In the event of a recessed pocket application, use of shims behind the upper bracket may be necessary to prevent actuator binding during extension. You can adjust the actuator in the lower channel holes to obtain the 5/8" up dimension.

Please follow the instructions and drawings carefully. For technical assistance call the Lenco Service Department at: (772)288-2662

LENCO ELECTRIC HATCH LIFTS

Lenco hatch lifts are easy to install because they install with a single power cable. They draw an average of five amps of power and deliver over 500 pounds of push or pull for heavy engine covers, decks, large hatches and electric consoles.

Due to the many different variables involved with the numerous applications for Lenco hatch lifts, installation is never the same. Here are some general guidelines that can be of assistance:

- The hatch lift is most powerful when it is installed vertically at 90 degrees
- Lifting capabilities decrease the closer the upper or lower mount is located to the hinge
- The further from a vertical position the less lifting capability. When retracted, DO NOT position hatch lift at an angle less than 30 degrees
- Dual hatch lift systems are recommended for hatches over 500 pounds
- Lenco hatch lifts are designed around a ball screw that spins freely when hatch is fully open or closed
- For installation, it is important that the hatch lift is able to disengage itself at the fully retracted position. Failure to make accurate measure could cause damage to hatch lift or the hatch itself
- Lenco hatch lifts are fully submersible and will not drift.
- Lenco hatch lifts are offered in both 12 and 24 volts

OPERATION

The function of the Lenco hatch lift system is simple. Since the hatch lift is based around a ballscrew it is able to push or pull a heavy load and remain at a constant position. To raise a load extend the hatch lift by pressing on the upper part of the switch. To lower a load, retract the hatch lift by pressing the lower part of the switch.

In case of power failure Lenco hatch lifts are supplied with two clevis pins at the mounting brackets. To pull this pin out while the hatch is closed you must rig it to a point outside of the hatch.

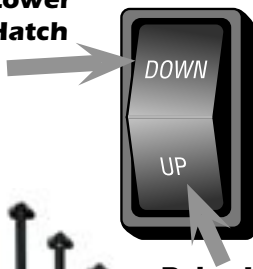


S = Short, all part numbers ending in S have the same stroke but in a 4" shorter length.

Part Number L. O. A. Retracted Approx. Stroke L. O. A. Extended

HL-400	15"	4"	19"
HL-800S	21"	8"	29"
HL-800	25"	8"	33"
HL-1200S	25"	12"	37"
HL-1200	29"	12"	41"
HL-1600S	29"	16"	45"
HL-1600	33"	16"	53"
HL-2000S	33"	20"	53"
HL-2000	37"	20"	57"
HL-2400S	37"	24"	61"
HL-2400	41"	24"	65"

Lower Hatch



Raise Hatch



SYSTEM PARTS

1	Hatchlift (electro mechanical actuator)	#'s HL-400, HL-800, HL-800s, HL-1200, HL-1200s, HL-1600, HL-1600s, HL-2000, HL-2000s, HL-2400, HL-2400s
2	Mounting Brackets	# 119
3	Clevis Pins	# 121SS
4	Single Rocker Switch	# 125 (Optional)
5	Slide Bracket	#HLSB (Optional)

Standard Trim Tab Kits

- Standard Trim Tab Kits include: (2) 101 actuators, (2) 12 gauge S.S. trim tabs, and all mounting hardware. See switch selections on page 11 for available options.
- Available in Standard Mount and Edge Mount (space saver mount)
- Sizes range from 9" x 9" to 12" x 50" (measurements taken L x W)



TT9x12



TT12x9 E



TT12x12 E

Troll'n Tab Kits

- Troll'n Tab Kits include: (2) 102 XD actuators, (2) 12 gauge S.S. electro polished tabs, (2) Motor guide—great with 82 pound thrust trolling motors, (1) trolling tab control box, (1) trolling tab hand control and all mounting hardware. See switch selections on page 11 for available options.
- Available in sizes: TNT 9x9/24V, TNT 9x12/24V, TNT 12x12/24V (Edgemount compatible)



TNT9x12



TNT12x12

Complete your trim tab system with one of Lenco's waterproof tactile switches. See optional switch selections on page 11 for complete features.



Standard Switch
124 & 124G (w/Retractor)



Indicator Switch w/Retractor
123
123DR (Dual Actuators)
123TNT (Troll'n Tabs)

Racing Tab Kits

Standard, Heavy Duty, Extreme Duty

RT Standard

- Standard Racing Tab Kit includes: (2) 101 actuators, (2) 12 gauge S.S. black powder coated trim tabs, and all mounting hardware
- Available in sizes: RT 9x12, RT 12x9, RT 12x12, RT 16x12 and RT 18x14

RT18 x 14 HD

- Heavy Duty Racing Tab Kit includes: (2) 101 XD actuators, (2) 12 gauge S.S. black powder coated trim tabs w/transom back plates
- Available in sizes: RT 12x12 HD ▪ RT 16x12 HD, RT 18x14 HD.

RT19x14 XD

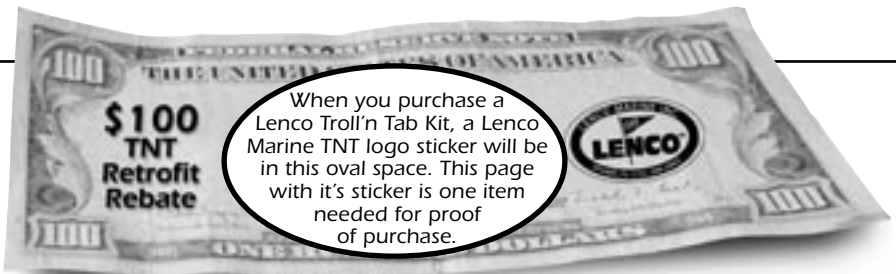
- Extreme Duty Racing Tab Kit includes: (2) 101 XD actuators (RT 17x12XD), (4) 101 XD actuators (RT 19x14 XD), (2) 10 gauge S.S. black powder coated trim tabs w/transom back plates and super duty hinge w/3/8" hinge rod
- Available in sizes: RT 17x12 XD, RT 19x14 XD

Switches: see selections on page 11 for available options.



The Lenco Troll'n Tabs \$100 Retrofit Rebate

A \$100 factory rebate will be paid on the purchase of a new Lenco Troll'n Tab Kit to retrofit existing Lenco trim tabs. Subject to the following applicable proofs of purchase: 1) a bill of sale showing hull I.D. # on the boat which came with Lenco trim tabs installed. 2) original proof of purchase of a Lenco Trim Tab Kit. 3) The proof of purchase of the new Lenco Troll'n Tab Kit along with the last page of the owners manual with the Lenco logo sticker. Send all to the Lenco Marine. Other terms and conditions may apply. Call a Lenco representative to review before redemption.



When you purchase a Lenco Troll'n Tab Kit, a Lenco Marine TNT logo sticker will be in this oval space. This page with it's sticker is one item needed for proof of purchase.



**We make
the best boats better!™**

Proudly made in the U.S.A.



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