Lenco Pro Control™
Operator's Manual

LENCO™

CONGRATULATIONS!

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

Lenco trim tabs make the single most important difference in the way your boat rides and performs. They are optional on some boats but should be as standard as power trim and tilt. Lenco trim tabs make your boat ride smoother, drier, faster and with increased safety whether on a small skiff or a mega-yacht. Our ball screw design makes our tabs more reliable and twice as powerful as typical hydraulic trim tabs. Coupled with any of our trim tab switches, they also perform with instant response which makes them more precise and user-friendly.

Our goal is to manufacture products that simply make boating more enjoyable.

CE All Lenco Marine LLC Trim Tab products are CE certified

Basic Safe Operation:

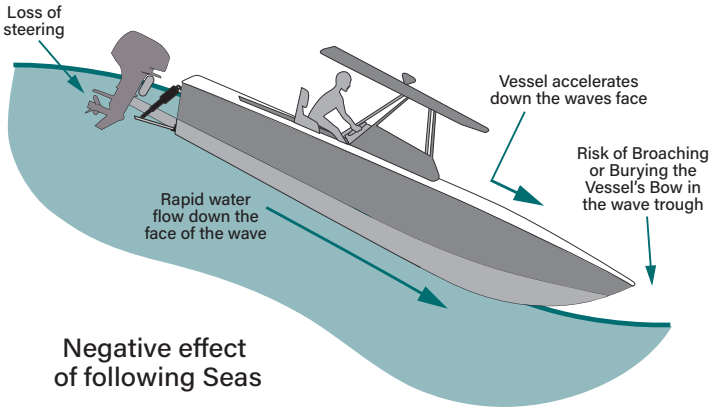
While the boat is underway, do not move one tab up or down significantly as this may cause listing.

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

When running in a following sea the tabs should be fully retracted. This allows for optimal performance.

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

Riding down the face of a steep wave



Safety

⚠ WARNING: Operating the actuators at a high duty cycle without cooling from ambient water may damage the actuator and cause failure.

⚠ WARNING: Auto mode function warning:

Quickly reducing from high to low speed causes the trim tabs to fully deploy.

Full deployment of the tabs at high speed will cause a very rapid reduction in the boat's speed, resulting in any heavy object not securely tied down being thrown forward, including passengers.

Trim Tab Overview:

Whether Lenco trim tabs operate independently of one another, or in unison, they 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. When used properly, Lenco trim tabs improve the ride, reduce drag, increase speed, and improve the fuel efficiency of your boat.

⚠ WARNING: The trim tab system described in this document must be applied according to these instructions:

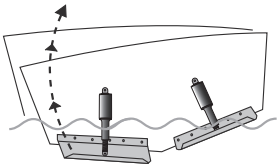
- **Unforseen responses to sea states may cause adverse operating conditions**
- **Unforseen responses to keypad inputs may cause adverse operating conditions**
- **Unforseen actuator performance may cause adverse operating conditions**

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 keypad. This applies to all of our trim tab keypads and switch kits. Since each boat is different in weight, length, speed and performance, it takes practice to understand how your boat reacts with trim tabs installed. Lenco trim tabs allow your boat to get on plane faster and continue to stay on-plane at lower speeds. This improves the captain's visibility and the overall safe operation of your boat. When adjusting the trim tabs, use short momentary taps of the keypad and rotary dial. To become knowledgeable on how your boat performs with Lenco trim tabs, remember, practice makes perfect.

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.

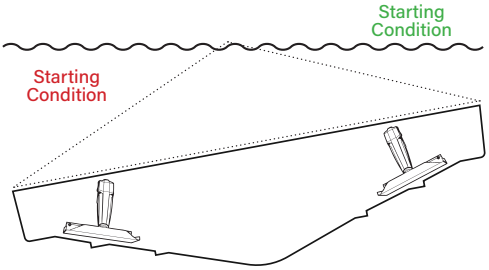
Glossary of Terms

Bow	Front part of a boat
Chine	Portion of the hull where the bottom and sides intersect
Following Sea	Waves of current running with the course of a boat
Head Sea	Waves or current running directly against the course of a boat
Helm	Area of a boat where operational controls are located
Hull	The main body of a boat
Porpoising	When the bow of a boat hops repeatedly while navigating in a straight line
Port	The left side of a boat looking forward
Starboard	The right side of a boat when looking forward
Stern	Rear part of a boat
Strake Edge	Points on the bottom of a hull
Trailing Edge	The furthest edge from the hinge on a trim tab
Transom	The rear section of the hull connecting the two sides
Short Press	Pressing button for 1 sec
Long Press	Pressing button for 5 sec

Instructions for Special Conditions

Following Sea	Make sure the tabs are fully retracted by pressing Bow Up on both sides or All Up on the controller. This brings both tabs to a fully retracted position, decreasing lift in the stem, allowing the bow to rise. If tabs are deployed, the bow may dig.
Head Sea	Lower both tabs slightly by pressing Bow Down on both sides or All Down on the controller. This brings the bow down, while maintaining speed. This adjustment allows the hull of the boat to absorb the impact of the waves, resulting in a more efficient and smoother ride.
Porpoising	To stop porpoising, press Bow Down on both sides of the switch or All Down on the controller. The tabs need only to be deployed slightly to correct this adverse situation.
Shallow Water/ Holeshot	Lower both tabs completely down by pressing Bow Down on both sides or All Down on the controller. This provides lift in the stern of the boat and keeps the bow down. As you throttle up and the speed increases, raise tabs by pressing Bow Up on both sides. The system will also assist for Holeshot automatically when Auto, Hold, FAV 1 or FAV 2 is engaged.
Uneven Load	If one side of the boat is higher than the other while running, press Bow Down on the switch on that side or rotate dial in desired direction. This lowers the tab on the listing side (low side) to bring the boat level.
Windy Chop	To raise the windward side of the boat, press Bow Up on that side or rotate dial in desired direction. If this is not sufficient, press Bow Down on the leeward side of the boat. Do not over trim when attempting this. This allows the windward side of the boat to rise and minimizes spray.

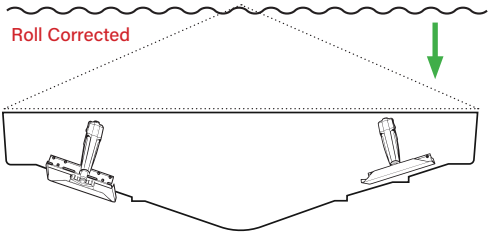
Boat Centric Keypad Control—Manual Operation



Starboard is too high.

Roll correction is needed.

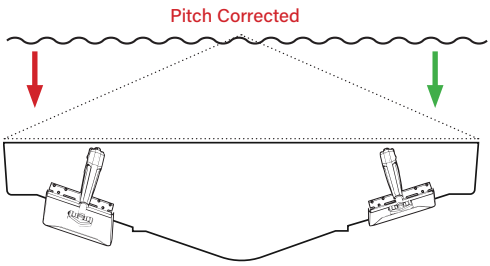
*Keypad is in Manual Mode.



Roll control dial is rotated to starboard.

Starboard lowers to operator's desired roll position.

LED's illustrate actuator extension of port and starboard actuators.



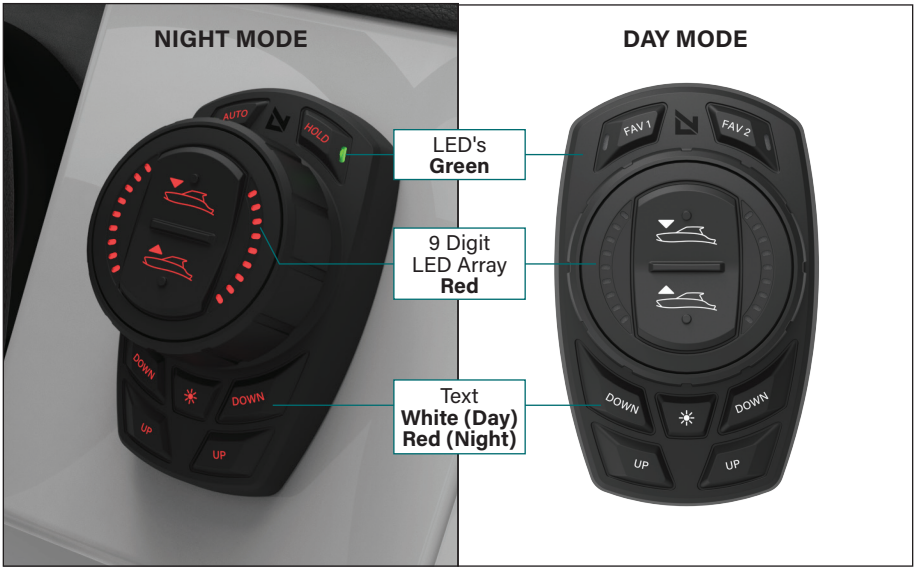
Level roll is achieved but pitch of bow is too high.

All down button is pressed.

Bow lowers evenly into water.

LED's illustrate actuator extension of port and starboard actuators.

Keypad Lighting: Pro Control Assist and Auto



Pro Control Assist: Keypad Layout

Pro Control Assist: Commissioning Menu

Locating actuators: port; and starboard

The Pro Control system will automatically enter its commissioning menu upon the initial powerup. Should you need to access this manually, refer to the instructions below.

- To enter or exit: press all four lower buttons, up and down buttons, at the same time.
- The two FAV LEDs will both display constantly lit when all four buttons are pressed correctly.
- The two FAV LEDs will begin to flash in an alternating pattern when all four buttons are depressed for four seconds.

See the Pro Control Installation Manual for instructions to locate the actuators, port and starboard, on the boat.

Entering the Locating Menu

Pro Control Assist: Calibration

While every effort has been made to make this product work “out of the box” some users may wish to adjust certain parameters most suitable for their vessel.

Enter Calibration Mode

- To enter or exit: press FAV 1, FAV 2, and DIM (☼) at the same time.
- The two FAV LEDs will both display constantly lit when all three buttons are pressed correctly.
- The two FAV LEDs will begin to flash in sync when the three buttons are depressed for four seconds.

Note: Both FAV button LEDs slow blink in unison when the keypad is in the Calibration menu.

Entering Calibration Mode

In Calibration Mode

Pro Control Assist Calibration Defined

The following parameters may be adjusted when the keypad is in the Calibration menu:

1. Actuator rate of travel (during all operations).
2. Holeshot activation speed.
3. Holeshot intensity.
4. On-plane transition speed.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. Turn the dial counter clockwise to move through the four calibration menus. Values will auto save when rotating the dial to move to the next menu setting.

Note: Selection of left LED is accomplished by rotating the dial.

Calibration: 1. Actuator Rate of Travel

- Actuator rate of extension and retraction is set by the pitch UP/DOWN button on the dial: 1 is slowest; 5 is fastest.
- This function sets the rate at which the actuators operate.
- Selected value will auto save when exiting the menu.

Adjusting Actuator Rate of Travel

Calibration: 2. Holeshot Activation Speed

- While still in calibration mode, rotate dial counterclockwise until two left side LEDs are lit to set the speed at which the system enters holeshot mode.
- A "FAV 1" setting must be saved for the Holeshot mode to function. This is the position that the actuators will default to when the vessel completes the holeshot sequence and is on plane.
- The chart to the right shows the speed value options relative to the righthand LEDs.
- Selected value will auto save when exiting the menu.

LED's
1 = 3 mph
2 = 4 mph
3 = 5 mph
4 = 6 mph
5 = 7 mph
6 = 8 mph
7 = 9 mph
8 = 10 mph
9 = 11 mph

Adjusting Vessel Holeshot Activation Speed

Calibration: 3. Holeshot Intensity

- While still in calibration mode, rotate dial counterclockwise until three left side LEDs are lit to set the percentage that both actuators will deploy during the holeshot sequence.
- Each righthand LED corresponds to 11% deployment during holeshot sequence.
- Use the pitch Up/Down button to set the right hand LED value for % of actuator extension.

Note: A "FAV 1" setting must be saved for the Holeshot mode to function. This is the position that the actuators will default to when the vessel completes the holeshot sequence and is on plane.

- Selected value will auto save when exiting the menu.

LED's
1 = 0 to 12.5%
2 = 13% to 24.5%
3 = 25% to 37.5%
4 = 38% to 49.5%
5 = 50% to 62.5%
6 = 63% to 75.5%
7 = 76% to 88.5%
8 = 89% to 98%
9 = 99% to 100%

Adjusting Actuator Holeshot Intensity

Calibration: 4. On Plane Transition Speed

- While still in calibration mode, rotate dial counterclockwise until four left side LEDs are lit to set the speed at which the holeshot sequence ends and the vessel is considered "on plane".
- This function automatically retracts the actuators to the previously saved FAV 1 or FAV 2 position.
- Use the pitch Up/Down button to set the right hand LED value for On Plane Transition Speed.

Note: A "FAV 1" or "FAV 2" setting must be saved for the Holeshot mode to function. This is the position that the actuators will default to when the vessel completes the holeshot sequence and is on plane.

Example shown: the actuators will return to the extension position that was saved in FAV 1 when the vessel reaches a SOG of 18 mph.

- Selected value will auto save when exiting the menu.

Setting On Plane Transition Speed

Exiting Callibration Mode

- To exit the Calibration mode, press the DIM (☀), Fav 1, and Fav 2 buttons at the same time together.
- At this point the Pro Control Assist system set-up is complete and your boat is ready for normal operation.

⚠WARNING: To save programmed settings, the system must be shut down with the vessel's ignition switch prior to powering batteries off.

Exit Calibration Mode

FAV 1 and FAV 2: Setting one, or both, favorite tab positions

Setting at least one favorite tab position is necessary for the Holeshot feature to operate.

Two favorite positions may be saved, one per "FAV" button.

1. Using the dial, All Up or Down button on the dial, or the independent lower buttons, or a combination of these, adjust the trim tabs for the desired running boat orientation while the boat is on-plane.
2. Press the FAV (Left) button until the LED on the FAV button flashes three times (3 seconds). The FAV green LED will become solid when the tab position is saved.

When accelerating rapidly from a full stop, or very slow speed, the Pro Control Assist system will automatically perform a Holeshot operation. At least one FAV must be saved for Holeshot to operate.

A FAV can be saved without a Speed Over Ground (SOG) data input, or GPS.

3. Press FAV (Right) button and hold until green LED flashes three times. (3 second hold). The FAV green LED will become solid if saved.

Setting Favorite Tab Position

Pro Control Auto: Keypad Layout

Pro Control Auto: Menus

Locating actuators: port; and starboard

The Pro Control system will automatically enter its commissioning menu upon the initial powerup. Should you need to access this manually, refer to the instructions below.

- To enter and exit Press all four lower up and down buttons.
- The AUTO and HOLD LEDs will both display constantly lit when all four buttons are pressed correctly.
- The AUTO and HOLD LEDs will begin to flash alternating when the four buttons are depressed for four seconds.

See the Pro Control Installation manual for instructions to locate the actuators, port and starboard, on the boat.

Entering the Locating Menu

Pro Control Auto Calibration

Entering Calibration Menu

1. To enter or exit the Pro Control Auto Calbration Menu press Auto, Hold and DIM (☀).
2. The AUTO and HOLD LEDs will both display constantly lit when all three buttons are pressed correctly.
3. The AUTO and HOLD LEDs will begin to flash in sync when the three buttons are depressed simultaneously for four seconds.

Entering Calibration Mode

In Calibration Mode

Pro Control Auto Calibration Menu Defined

While every effort has been made to make this product work "out of the box" some users may wish to adjust certain parameters most suitable for their vessel.

The following parameters may be adjusted when the keypad is in the Calibration menu: both AUTO and HOLD button **LEDs slow blink in unison** when the keypad is in the Calibration mode.

LED's
1 = Actuator Extension Speed
2 = Holeshot Activation Speed
3 = Holeshot Intensity
4 = On-Plane Transition Speed
5 = On-Plane Delta Pitch
6 = Controller Aggression Level
7 = Throttle On-Demand Pitch

Calibration Settings

Calibration: 1. Actuator Rate of Travel

This function sets the rate at which the actuators extend.

Actuator rate of extension and retraction speed is set by the pitch UP/DOWN button on the dial: 1 is slowest; 5 is fastest.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. A guide to which speed the LEDs correspond to can be found in the figure on the right. The selected value will auto save when exiting the menu.

LED's
1 = lowest speed to 5 = fastest speed (max)

Rate of Travel

Calibration: 2. Holeshot Activation Speed

This function sets the speed of the vessel at which the actuators will automatically move to the Holeshot position.

The system is already in the Calibration mode from the last calibration step: both AUTO and HOLD button LEDs slow blink in unison.

IMPORTANT: in order to progress to the next step in the calibration process rotate the dial counterclockwise until two left side LEDs are lit. This indicates that you are setting the Holeshot Activation Speed.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. A guide to which speed the LEDs correspond to can be found in the figure on the right. The selected value will auto save when exiting the menu.

Holeshot Activation Speed

Calibration: 3. Holeshot Intensity

This function sets the position of the actuators when the system automatically enters Holeshot mode.

The system is already in the Calibration mode from the last calibration step: both AUTO and HOLD button LEDs slow blink in unison.

IMPORTANT: in order to progress to the next step in the calibration process rotate the dial counterclockwise until three left side LEDs are lit. This indicates that you are setting the Holeshot Intensity.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. The selected value will auto save when exiting the menu.

Adjusting Holeshot Intensity

Calibration: 4. On-Plane Transition Speed

This function sets the vessel speed over ground at which the Holeshot mode transitions into automatic pitch and roll control, or "Auto" mode.

The system is already in the Calibration mode from the last calibration step: both AUTO and HOLD button LEDs slow blink in unison.

Rotate dial counterclockwise until four left side LEDs are lit.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. The selected value will auto save when exiting the menu.

Adjusting Vessel Speed for On-Plane Trim Tab Position

Calibration: 5. On-Plane Delta Pitch

This function sets the actuator extension position for the trim tab to control orientation of the boat.

The system is already in the Calibration mode from the last calibration step: both AUTO and HOLD button LEDs slow blink in unison.

Rotate dial counterclockwise until five left side LEDs are lit.

Adjust the value, displayed by the right-hand LEDs, using the pitch UP/DOWN button on the dial. The selected value will auto save when exiting the menu.

Note: A higher number of LEDs correlates to more trim tab in the water at lower speed. This helps control pitch of the boat until it reaches on-plane.

Adjusting Vessel Pitch Offset On Plane

Calibration: 6. Controller Aggression Level

This function sets the actuator movement speed for the trim tab response needed to control orientation changes of the boat.

The system is already in the Calibration mode from the last calibration step: both AUTO and HOLD button LEDs slow blink in unison.

Rotate dial counterclockwise until four left side LEDs are lit.

Actuator rate of extension and retraction speed is set on the right-hand dial LEDs: 1 is slowest; 5 is fastest

Adjust the value, displayed by the right-hand dial LEDs, using the pitch UP/DOWN button on the dial. The selected value will auto save when exiting the menu.

Adjusting Controller Aggression Level

Calibration: 7. Throttle On-Demand Pitch

Only works for Mercury Digital Throttle System enabled boats.

Throttle On-Demand pitch: ON = right LED illuminated. OFF = right LED off.

The throttle on-demand pitch will retract tabs sooner when both boat pitch and throttle demand conditions are met.

When this feature is activated the pitch of the boat's bow will be minimized regardless of throttle position as the boat increases speed from rest to on-plane.

Activate/Deactivate Throttle On-Demand Pitch

Calibration: Exit Calibration Mode

To exit the Calibration mode, press the DIM (☀), AUTO, and HOLD buttons at the same time.

This function exits the Calibration mode.

⚠WARNING: To save programmed settings, the system must be shut down with the vessel's ignition switch prior to powering batteries off.

Exiting Calibration Mode

Pro Control Auto— Sea Trial Commissioning

To enter the Pro Control Auto Commissioning menu Press "Auto" and "Hold" simultaneously until their status LEDs flash in sync.

AUTO and HOLD LEDs will flash together in sync, fast.

Only one LED on left hand side of dial will be lit.

First time power-up after actuator locating and calibration; this is an automatic commissioning for the Pro Control Auto keypad, even if the system is powered OFF and then back ON. This process must be completed prior to normal operation.

Entering Commissioning Mode

In Commissioning Mode

1. Set idle Roll and Pitch target. (on-water, at dock on calm seas)

a. Let the vessel sit idle for 3 minutes while the IMU settles in.

b. Position vessel level to your desired target roll degree by weight distribution on the boat.

c. Make sure to maintain this boat orientation and wait 10 seconds before holding DIM (☀) button to store value. Do not cause, or allow, the boat to change roll during this 10 second time.

d. Press and hold DIM (☀) button at least 1 second to store target, both Left and Right-side LEDs will flash. This indicates that the roll position has been stored.

e. If the boat rolls during this 10 second window wait another 10 seconds while the boat is stationary and press the DIM (☀) button again.

f. Rotate dial counterclockwise to next menu: The second LED on the left side is lit.

Setting Idle Roll & Pitch

2. Set Pitch Control to ON or OFF.

a. When the Pitch Control is set to OFF the Commissioning process is exited, and all the LEDs will be off in the next two menus (3 and 4).

b. Pressing the ALL UP button on the dial face will turn OFF pitch control. No right LED will be lit.

c. Pressing the ALL DOWN button on the dial face will turn ON pitch control and a single right hand LED will illuminate.

d. Rotate dial counterclockwise to next menu for third LED on the left side of the dial.

The following two settings setup your boat's on-plane pitch control.

Set Pitch Control On or Off

⚠WARNING: On power up actuator will attemp to home and retract fully, ensure trim tabs are clear from any obstructions or personnel to prevent injury:

To prepare for first launch with new system, plan an on-water location to commission the system with enough area to complete circles and high speed runs, with relatively smooth water (1 foot or less of water chop is preferred). Note: On first time power up Pro Control Auto will be in a commisioning mode with lights flashing fast in sync!

The following two steps must be completed on open water with less than 1' of wave chop. Running the boat in a straight line over a reasonable distance, 3/4 mile or more. The sea state should be consistent throughout this commissioning, e.g. the boat must not porpoise.

Boat should be loaded and weighted in the same manner as expected normal use for best outcome: fuel; number of people; gear; etc....

3. Low speed pitch control.

This step in the commissioning process captures the lowest speed at which the vessel is expected to plane. The objective of this step is to gradually ramp up speed by applying throttle until the bow rises to its peak and begins to fall. This will be indicated by blinking LED's on the keypad and captured by pressing the DIM (☀) button.

a. Prior to getting underway use the ALL UP/DOWN buttons on the dial face to set the actuator extension to 50%, represented by five LEDs on the right side of the dial lit.
   - Only the LEDs on the right hand side of the dial will light up and represent actuator extension of both actuators.
   - The two lower DOWN and two lower UP buttons below the dial are locked out.
   - Keep in mind, if you return the throttle speed control back to neutral, the TABs will auto retract.

b. Slowly increase vessel speed until all LEDs blink.

c. If the LEDs stop blinking you can slow back down gradually to reengage the pitch control. The LEDs will begin to blink again.

d. Maintain your boat's speed so that the dial LEDs consistently blink.

e. Wait 5-10 seconds with consistent blinking, if possible, before pressing the DIM (☀) button, storing the target (best practice).

f. Press and hold DIM (☀) button 1 second to store the slow pitch control target, both Left and Right-side LEDs will flash three times. The left side LEDs will return to steady state lit. This indicates that the slow pitch control has been stored.

Low Speed Pitch Control Setup

g. Manually retract the actuators to 0% using the ALL UP button on the dial. No right hand LEDs lit.

h. Rotate dial counterclockwise to next menu with four LEDs lit on the left hand side of the dial.

4. High speed pitch control set up.

This step in the commissioning process captures the high speed pitch angle of the vessel. The objective of this step is capture the pitch angle at Wide Open Throttle (WOT) using the DIM (☀) button.

a. Bring the vessel back to idle speed to automatically fully retract the tabs or use the All Up button on the dial face to bring both tabs to 0%.

b. Increase vessel speed up to maximum WOT.

c. At WOT the vessel must run smoothly, without porpoising. If the vessel is bobbing across the water use the engine trim to smooth the ride.

d. If engine trim will not smooth the ride then deploy tabs a minimal amount by pressing the ALL DOWN button on the dial face until the porpoising is gone.

High Speed Pitch Control Setup

e. Maintain WOT speed for 3 to 5 seconds in a straight line if possible (best practice).

f. Press and hold the DIM (☀) button for 1 second to store target. All LEDs, left and right, will flash three times. This indicates that the high speed pitch control target has been stored.

g. Slow vessel down to idle.

5. Exit Commissioning process

a. Simultaneously hold the AUTO and HOLD button for 3 seconds. The keypad controls are now in the manual mode. In order to enter Auto Mode press the AUTO button.

⚠WARNING: To save programmed settings, the system must be shut down with the vessel's ignition switch prior to powering batteries off.

Options for other outcomes:

1. **Change Delta drop detection to a high degree value, (menu 5 in calibration).**

   a. Changing the LEDs in menu 5 of (Calibration Menu) will increase the amount the vessel bow has to fall in order to be declared on plane. The outcome will be more TAB used at lower speeds for better BOW control with each increase of LED.

Caution: Over application of tabs is possible which results in poor vessel handling and bow steering.

Auto Keypad Operation

Enabling AUTO mode:

After completing the Calibration and Commissioning for your boat the AUTO trim tab control mode may be safely used.

1. Press and release the AUTO button. The green LED will illuminate on the AUTO button.

   (AUTO remains active if the dial is used or the All Up or Down button on the dial face is used).

2. Rotating the dial changes the boat's roll target and enables HOLD mode. The AUTO LED and the HOLD LED will be lit.
3. Adjusting the boat's target pitch using the All Up or Down button on the dial enables HOLD mode. The AUTO LED and the HOLD LED will be lit.

   Note: Throttle changes to increase or decrease speed will not change AUTO or HOLD tab settings.

4. Pressing the AUTO button again disables the auto and hold modes.

   Note: Pressing, any of the four lower buttons also disables the auto mode: port DOWN or UP; or starboard DOWN or UP. This places the system in manual mode.

Enabling Auto Mode (First Time)

When Auto is Off:

When AUTO is OFF, pressing the HOLD button temporarily maintains the boat's position. The AUTO and HOLD LED's will be illuminated.

Throttle changes to increase or decrease speed will not change the manually set HOLD boat position.

The pitch and roll target settings in HOLD mode are temporary, and will be lost when disabling HOLD, applying independent control using any of the four lower buttons, or turning the vessel key switch off.

When AUTO is not active, any manual adjustments made using the dial, All Up or Down buttons, or four lower buttons the actuators will maintain their set position regardless of the boat's position.

Keypad LED Display for HOLD

Auto Mode Button Functions

Bow ALL Up / ALL Down:

All down—Changes controlled pitch down by an incremental fraction of a degree and switches to HOLD mode.

All up—Changes pitch up by an incremental fraction of a degree and switches to HOLD mode.

Instant Roll Control Dial:

Rotating dial will cause vessel to roll towards rotated side and switches to HOLD mode.

Finite Bow Up/Down:

Pressing port DOWN button will cause the stbd actuator to extend.

Pressing stbd DOWN button will cause the port actuator to extend.

Pressing port UP button will cause the stbd actuator to retract.

Pressing stbd UP button will cause the port actuator to retract.

DIM:

Momentary presses of the DIM button will cycle the brightness in 10% increments.

Long press of the DIM button will cause a change in mode from day to night mode or from night mode to day mode.

Auto Mode:

AUTO button defaults on when set up is complete and every key cycle after.

Pressing the AUTO button changes the mode between auto and manual operation.

Temporary Pitch and Roll Hold:

The HOLD button will hold the vessel in that position. This is only a temporary position that will not be stored at key off.

The boat must be on-plane for the HOLD function to work.

Flybridge Keypads

Flybridge keypads do not allow configurations or performance adjustments, these must be done at the main keypad station. All other functions and controls are the same as the main keypad station.

Converting to Tab Centric

The system can be converted from 'boat centric' to 'tab centric', this reverts the buttons and dial control to the opposite trim tab. The system is automatically set to 'boat centric.'

Example: the port lower UP button controls the starboard tab in 'boat centric.'

In Tab Centric mode the port UP button will control the port tab. We do not recommend setting up the vessel in this configuration.

Troubleshooting

Troubleshooting Pro Control Assist

Symptom	Status	Cause	Resolution
Keypad does not respond to inputs	Condition: keypad NOT lit	Keypad not powered by L2K bus, as required	Secure all NMEA® and L2K cabling connections: ensure Purple wire is connected on 10 pin or SmartCraft® is connected to Mercury Junction Box on SmartCraft® equipped vessels. Contact Navico Group™ or Mercury service
		Wake wire not receiving power	
	Condition: keypad lit	Actuators not powered over L2K bus	
		Actuators not receiving commands over L2K CAN	
Holeshot mode is not operational when throttle moved from low speed to full open		The FAV tab positions have not been set	Set and store a FAV1 position
		GPS not installed	Approved GPS to the N2K CAN Enter Commissioning mode on keypad and confirm GPS connection. Set GPS to global, if applicable. Set and Save FAV tab position greater than 0.
		GPS not set to global in MFD	
keypad back light not visible	Back light setting on 'night' setting during bright sun light.	Excessively bright sunlight makes the back light difficult to see	Adjust DAY/NIGHT mode Adjust brightness
Press of FAV button causes FAV LED to double flash		FAV position not saved	Save FAV trim tab position
Port or Starboard actuator does not respond to command	Keypad and one actuator operating properly	Faulty actuator	Secure all NMEA® and L2K cabling connections: check power to non-functioning actuator Contact Navico Group™ or Mercury service

Troubleshooting Pro Control Auto

Symptom	Status	Cause	Resolution
Keypad does not respond to inputs	Condition: keypad NOT lit	Keypad not powered by L2K bus, as required	Secure all NMEA® and L2K cabling connections: ensure Purple wire is connected on 10 pin or SmartCraft® is connected to Mercury Junction Box on SmartCraft® equipped vessels. Contact Navico Group™ or Mercury service
		Wake wire not receiving power	
	Condition: keypad lit	Actuators not powered over L2K bus	
		Actuators not receiving commands over L2K CAN	
Keypad back light not visible	Back light setting on 'night' setting during bright sun light.	Excessively bright sunlight makes the back light difficult to see	Adjust DAY/NIGHT mode Adjust brightness
Port or Starboard actuator does not respond to command	Keypad and one actuator operating properly	Faulty actuator	Secure all NMEA® cabling connections: check power to non-functioning actuator Contact Navico Group™ or Mercury service
HOLD or AUTO function does not maintain boat attitude	Boat does not maintain proper attitude	IMU needs to be calibrated The vessel was not properly commissioned Pro Control Auto system not properly calibrated	Calibrate IMU Recommission the vessel Recalibrate the Pro Control Auto system Contact Navico Group™ or Mercury service
Auto function turns off while boat is in motion	Pro Control Auto function turns off	Excessive IMU vibration / poor installation	Check IMU installation guidance on secure mounting

Pro Control Faults

Fault Indicator – actuators, true of auto or assist	Status	Cause	Resolution
Right, and/or left hand, LEDs flashing fast	Port, or starboard, actuator is not responding One or both, actuators not extending per drive command	Keypad not communicating with port or starboard actuator Faulty actuator	Recommission Pro Control system Navico Group™ service
Medium flash for all left, or right hand, LEDs	Actuator still moves but will not move to a position command, only moved by jogs, while all LEDs are flashing	Faulty actuator	Navico Group™ service
Periodic flash, shows % position but every ten seconds all left side, or right side, LEDs flash	The port actuator had a temporary fault that reset	n/a	Actuator faults will self clear If a fault continues to display, then the fault condition is still present
Both FAV LEDs flash twice	n/a	No FAV 1 or FAV 2 stored	Save FAV trim tab position
FAV 1 and FAV 2 will not light up, or turns off if lit without touching any other buttons and will not turn back on **Will also show fault blink on LEDs**	A critical, or a non-critical, fault in an actuator has occurred	Faulty actuator	Navico Group™ service
AUTO, or HOLD, button led will double flash	n/a	IMU not communicating Boat not on plane	Navico Group™ service Secure all NMEA® cabling connections Recalibration Pro Control Auto system
Both Auto & Hold, or both FAVs, double flash when trying to enter locating mode	SOG higher than 6 mph	SOG higher than 6 mph	Slow boat speed to less than 6 mph

Things to Consider When Troubleshooting

1. Make sure you check all connections and wiring for corrosion, as this can cause unforeseen problems
2. Make sure you have a fully charged battery and terminals are free of corrosion

For More information on additional troubleshooting, or any of the Lenco Marine products please visit our website: lencomarine.com

Trim Tab Maintenance Tips:

Cleaning your Trim Tabs

The attractive surface appearance of stainless steel cannot be regarded as completely maintenance-free. Our 304 Series Stainless Steel may in fact stain, discolor, or accumulate a layer of surface contamination (dirt and grime) during the normal course of the life cycle. Minute particles of dust and rust may adhere to the stainless steel during shipping, installation, or storage at OEM or retail locations. Also, please remember that some types of stainless-steel fasteners tend to "bleed" over the tabs and onto the boat. To achieve maximum corrosion resistance, the surface of the stainless steel must be kept clean and free of all of these contaminants.

Note: Please follow the recommendations for stainless steel cleaning products from your preferred marine retailer.

Painting your tabs and actuators with marine antifouling paint will discourage marine algae or growth from adhering to these surfaces.

- Please follow the recommendations for stainless steel antifouling paint from your preferred marine retailer.
- When applying paint to the actuators, be sure that they are in the fully retracted position. Do not paint the stainless-steel ram above the area that is exposed when retracted.
- Do not paint under the anode or the anode itself.

Sacrificial anodes for your Lenco stainless steel trim tabs

Be aware that stray currents in your marina or in a visiting marina can cause damage to your trim tab blades if not protected by sacrificial anodes.

- The addition of anodes on each tab will deter electrolysis.
- Do not paint under the anode or the anode itself.
- Check Anode condition frequently. Clean and replace as needed.

Electrolysis is not a manufacturing defect and is not warrantable

For more information on electrolysis, please visit lencomarine.com and go to the troubleshooting section.

Visual inspection of system

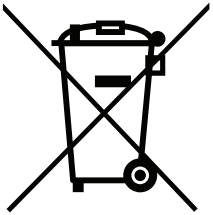
- Periodically inspect all wires, mounting brackets, and hardware for damage.
- Make sure all mounting brackets and hardware are secure and working properly.
- Periodically test system for smooth operation

Disposal

Environmental Compliance Statement

All Pro Control products that are subject to the Directive 2012/19/EU are compliant with the WEEE marking requirement. Such products are marked with the "crossed-out wheelie bin" WEEE symbol (shown below) in accordance with European Standard EN 50419.

The Symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal helps conserve natural resources and ensure it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority.



Notice

All Lenco Marine LLC Trim Tab products are CE & RCM certified.
ISO8846 MARINE
CAN ICES3(B)/NMB3(B)
USA: Lenco, 4700 SE Municipal Ct, FL34997, USA
EU: Laan Van Europa 450, 3317 DB Dordrecht, NL

Visit our website: www.lencomarine.com

The contents of this manual are subject to change without notice and do not constitute a commitment on the part of Lenco Marine LLC. Every effort has been made to ensure the accuracy of this document. However due to ongoing product improvement and revision, Lenco Marine LLC cannot guarantee the accuracy of printed material after date of publication nor can it accept the responsibility for errors or omissions. Lenco Marine LLC will update and revise this document as needed. Reproduction or duplication of the manual, or any part thereof is prohibited without the expressed written permission of Lenco Marine LLC, Inc. All rights reserved. © 2024 Lenco Marine LLC. **Visit our website: lencomarine.com**

LNC-016-TL-0624