

NT600 ELECTRIC OUTBOARD MOTOR OWNER'S MANUAL

NEWPORT®

NT600

ELECTRIC OUTBOARD MOTOR
OWNER'S MANUAL



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See [Our Product Quick Start Videos](#) for more information ►



Please read and retain this manual before using this electric motor. This manual contains information that describes the procedure for safe operation and daily maintenance of your electric motor. Safe operation will prevent personal injury and damage to the product.

1 GENERAL INFORMATION

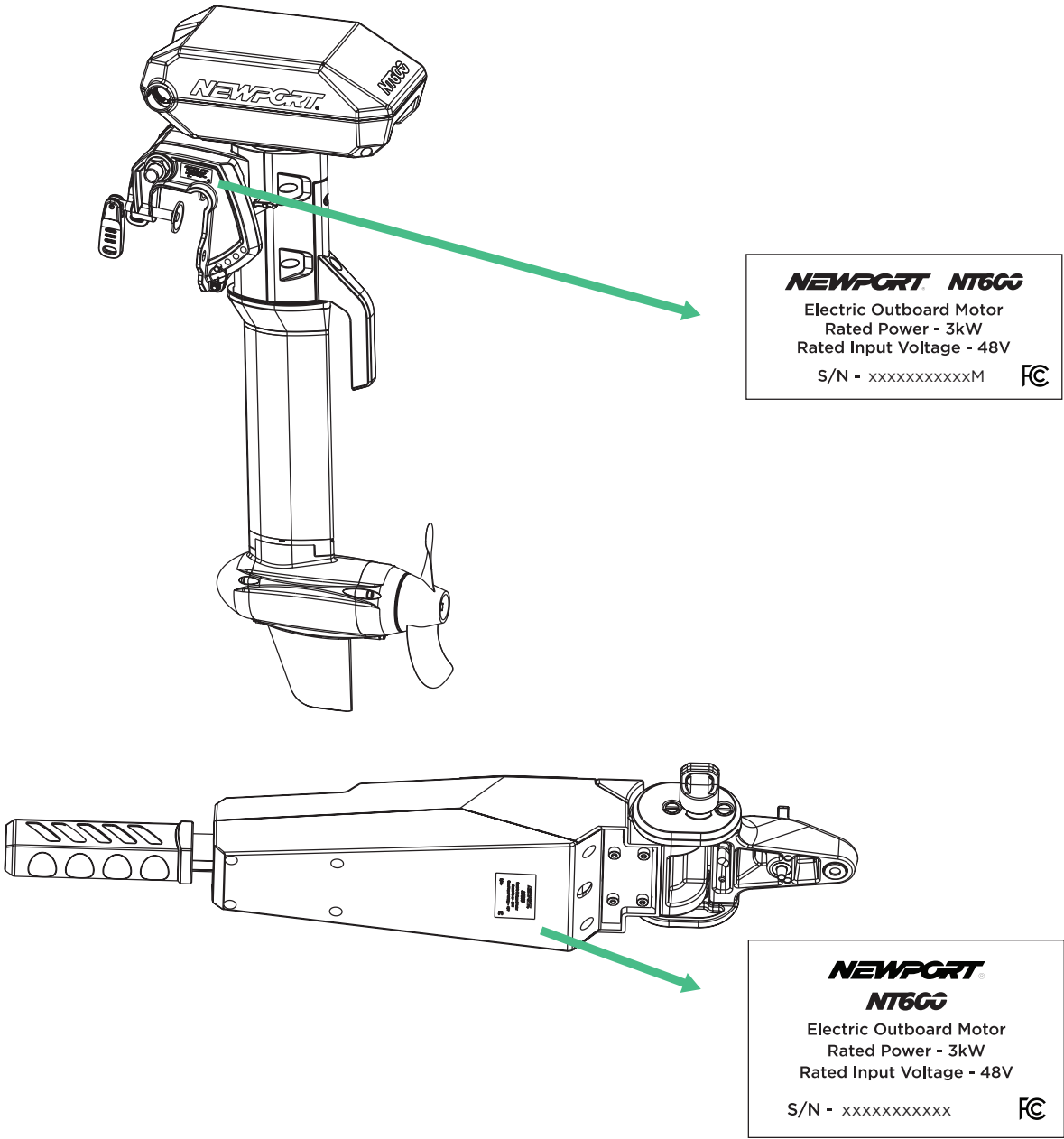
Thank you for purchasing the **NT600 Electric Outboard**. We hope that you enjoy it!

The Newport NT600 Electric Outboard is designed with direct drive and field-oriented-control technology to deliver the ultimate efficiency in a compact package. The propulsive power of the NT600 is equivalent to a 6hp petrol outboard motor but with silent and emission-free power delivery.

The Newport NT600 Electric Outboard is compatible with conventional 48V deep cycle batteries, 48V LFP lithium battery, and 48V MCA/MCN lithium battery.

2 PRODUCT IDENTIFICATION

Check the figure below to find the serial number of your product. You will need this as a reference to access after-sale services. The serial number is on the back of the product:



3 TECHNICAL DATA

Rated Input Power (static)	3000W
Comparable Petrol Outboard	6hp
Battery Type	Deep Cycle Marine Battery LFP Lithium Battery Lithium Cobalt Oxide Battery
Battery Input Voltage	48V
Max. Overall Efficiency	52%
Rated Rotation Speed	2200
Total Weight	52 LBS
Shaft Length	26.8"
Control System	Digital Control/Integrated Tiller
Tilt Angle	Manual, 40, 65
Trim Angle	0, 5, 11, 17
Propeller Diameter	10.6" (270mm)

4 SAFETY INFORMATION

4.1 CRITICAL SAFETY INFORMATION

Please read all safety information before installing or operating your electric motor. Severe injury, damage, or even death can occur because of improper usage.

WARNING: There is a risk of death or severe injury from electric shock- use caution and do not touch any uninsulated wires or damaged parts.

- Do not use damaged batteries.
- If wiring is frayed or broken, do not touch it.
- If repair work is needed to the electrical components of your product, do not attempt to do it yourself.
- If there is any problem with the system, turn off the power immediately and avoid touching the metal components.

WARNING: There is a risk of explosion which could result in death, serious injury, or property damage due to the production of oxyhydrogen gas from the battery.

- If the battery becomes submerged in water deeper than one meter for a short period of time, do not attempt to recover the battery, and refer to the safety instructions provided by the battery manufacturer.
- If the battery has been submerged in shallow water,

less than a meter, for more than 30 minutes, do not attempt to recover the battery, and refer to the safety instructions provided by the battery manufacturer.

WARNING: Electromagnetic radiation may cause death or severe injuries to people with cardiac pacemakers. Those with pacemakers should not get too close to the motor and should consult their physician about the proper distance for safety.

WARNING: There is inherent danger in using a boat - always prepare for the unexpected. A boat which is out of control can easily result in severe injuries or death by drowning.

Always check weather predictions and water conditions before a trip on the water, and also familiarize yourself with a map of the area you'll be traversing.

Depending on the size of your boat, make sure you bring any proper safety equipment. Paddle(s) and a communication device are a must for any size of boat, and if appropriate, also bring an anchor and extra drive.

Always check your motor and system for any damage and ensure they are running properly before leaving the dock.

WARNING: Use caution around rotating components to avoid possible injury or even death.

- Do not wear loose clothing or jewelry near the motor shaft or propeller and tie up long hair.
- Never attempt maintenance or cleaning of the motor shaft or propeller without first shutting off the system.
- Power down the motor when there are people too near the propeller or motor shaft.
- Do not use the propeller out of the water.

CAUTION: Batteries can cause severe physical harm or even death in many different ways. Always read and follow all safety even death in many different ways. Always read and follow all safety guidelines and instructions provided by your battery manufacturer.

- Never use third-party chargers for batteries, it could start a fire.
- If the battery catches fire during use, use water to cool the battery and prevent fire from spreading; however water will not extinguish a lithium fire - if possible, use sand to smother the fire.

CAUTION: Parts may be hot enough to cause burns. Do not touch the components or battery immediately after use; allow to cool sufficiently before handling the components.

CAUTION: Danger of crushing when tilting the motor- keep fingers, hands, and all body parts away from the mechanical parts and the area of the motor when tilting the motor.

4.2 BEFORE USE

- This motor should only be operated by an adult who has thorough understanding and command of the motor, including steering functions, emergency stop switch, and throttle.
- (Continues on page 6)

- Always operate your boat and this motor in compliance with local safety regulations.
- Always carry a paddle on board at all times, especially when using an electric motor as your primary method of propulsion.
- All passengers should wear approved life jackets at all times.
- Check the status and condition of your motor and battery before each trip. We recommend starting every trip with a full battery charge.
- Do not operate the motor outside of the water.
- Do not modify the motor with non-original parts.

4.3 DURING USE

- Stop the motor immediately if someone is over board.
- Propellers are dangerous- use extra caution when operating the motor near areas where people may swim. Always be alert and aware of your surroundings when operating the motor.
- Do not exceed the recommended load and power limitations of your boat as suggested by its manufacturer.

4.4 AFTER USE

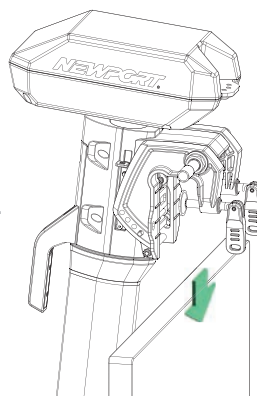
- Disconnect the motor from the battery after use.
- Rinse the motor carefully with freshwater after each usage, especially after use in saltwater.
- Do not carry the kayak/boat by lifting with the bracket. This can cause damage to the boat and potentially to the bracket.

5 INSTALLATION

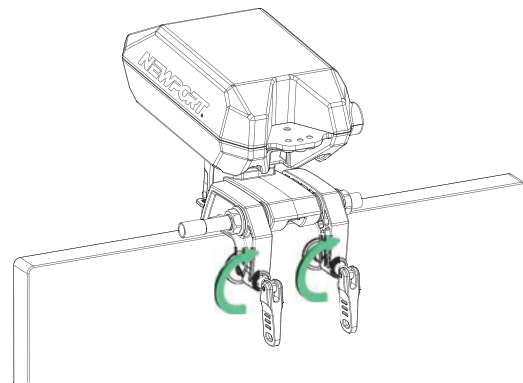
5.1 INSTALLATION OF THE BRACKET

Place the motor on the transom of the boat.

Note: It's suggested to mount the motor at the centerline of the boat for better steering experience.



Tighten the clamp handles to fix the motor on the transom of the boat.



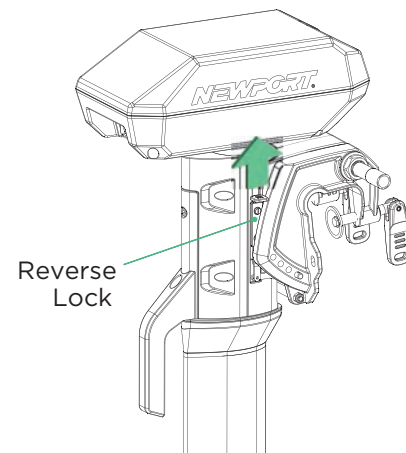
5.2 ADJUSTING THE TRIM

Adjust the motor's trim according to the boat type to get the optimal position relative to the water surface for better running speed.

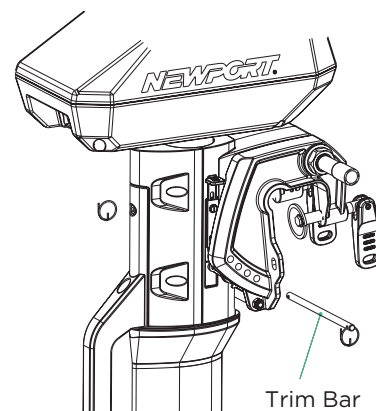
ADVICE: It's recommended to try out different trim angles to have the best performance and highest efficiency.

⚠ **CAUTION:** Make sure the motor is fully stopped before adjusting the trim angle.

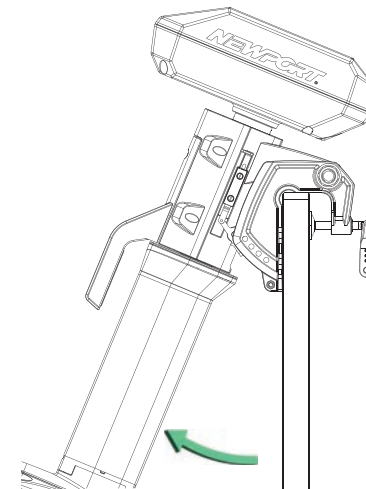
Make sure the reverse lock is pulled up.



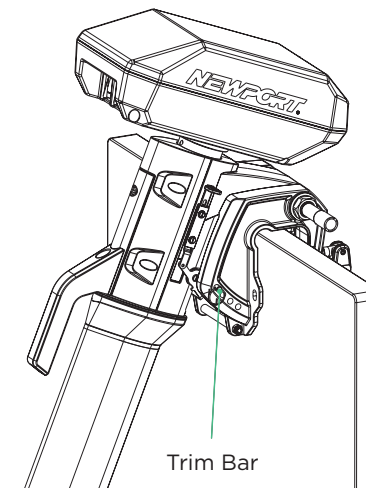
Remove the stop ring and pull out the trim pin.



Lift the motor to the stow position.

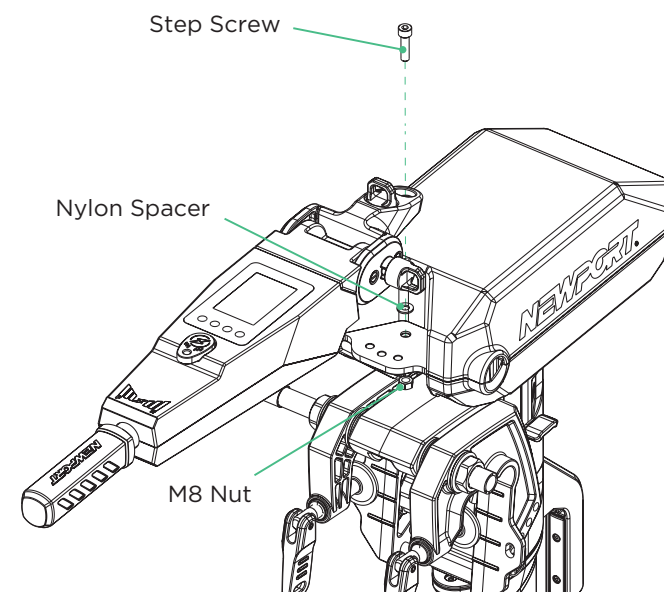


Insert the trim pin to select the desired trim angle, install the stop ring and deploy the motor again.



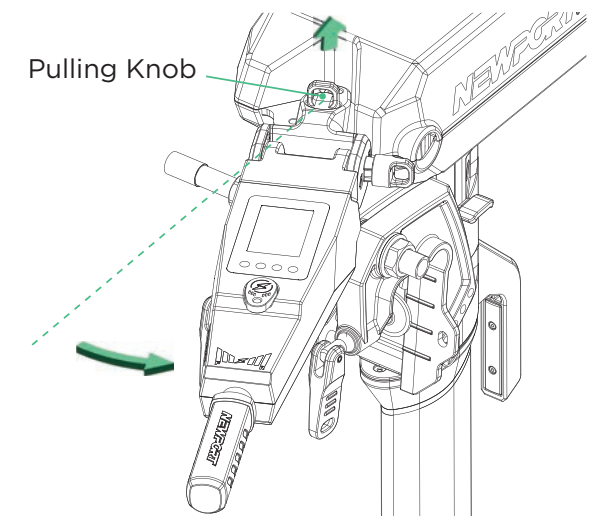
5.3 INSTALLATION OF THE TILLER

To install the tiller, insert the screw with the washer and the M8 nut in the sequence shown in the diagram.



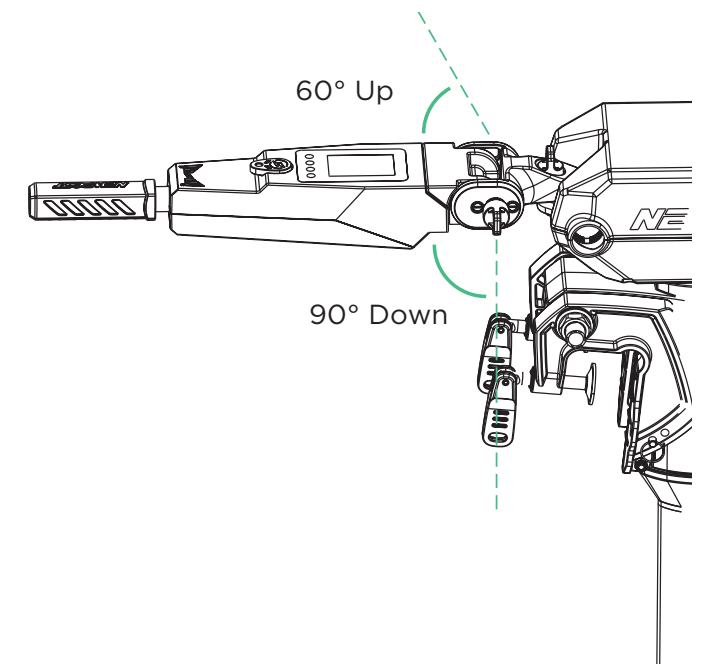
5.4 ADJUST TILLER OFFSET ANGLE

1. The motor offers three different tiller offset positions, allowing users to adjust the steering for greater comfort while seated at the center of the boat.
 - To do this, pull the lock knob as shown in the diagram, rotate the tiller to the desired position, and then release the lock knob to secure it.



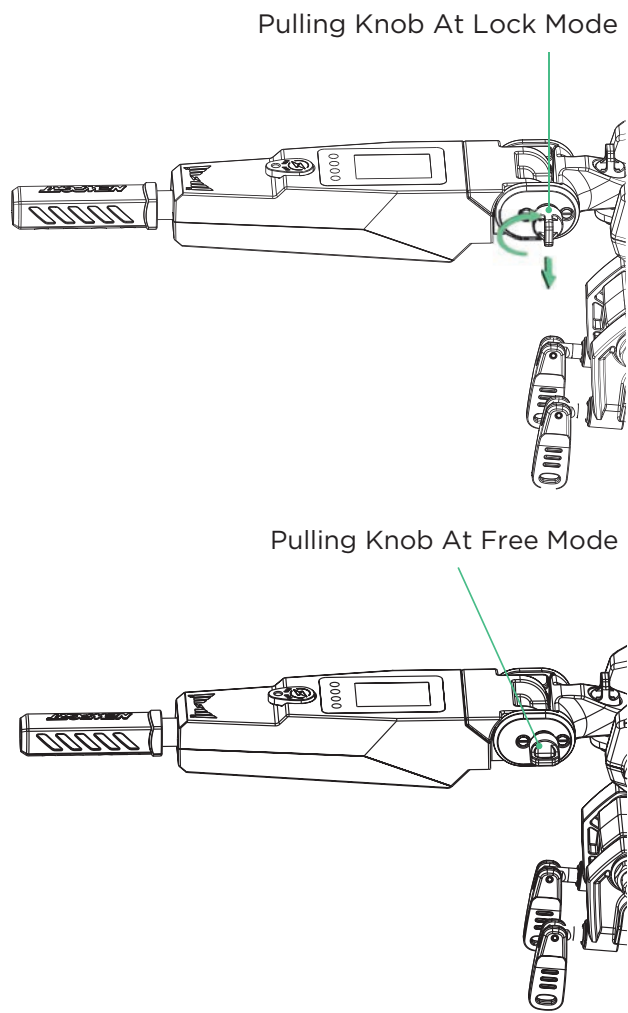
5.5 ADJUST TILLER TILTING ANGLE

The tiller can be adjusted from 60 degrees upward to 90 degrees downward. It features a knob with a locking function. When the knob is in the locked position, the tiller can be secured at the 60-degree upper angle, the horizontal position, or the 90-degree downward angle.



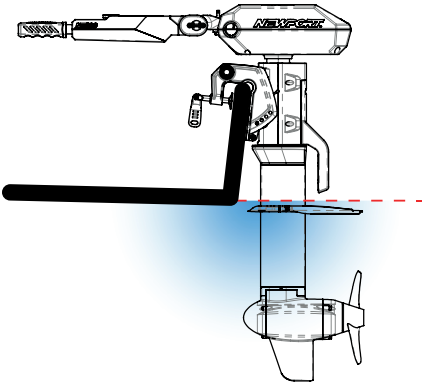
To unlock the tiller's tilting angle, pull the lock knob, rotate it 90 degrees, and release it. The lock knob will remain in place and will no longer secure the tilting angle.

To lock the tiller again, pull the lock knob, rotate it 90 degrees, and release it. The lock knob will then secure the tiller's tilting angle at the upper 60 degrees, the horizontal position, or the 90-degree downward angle.

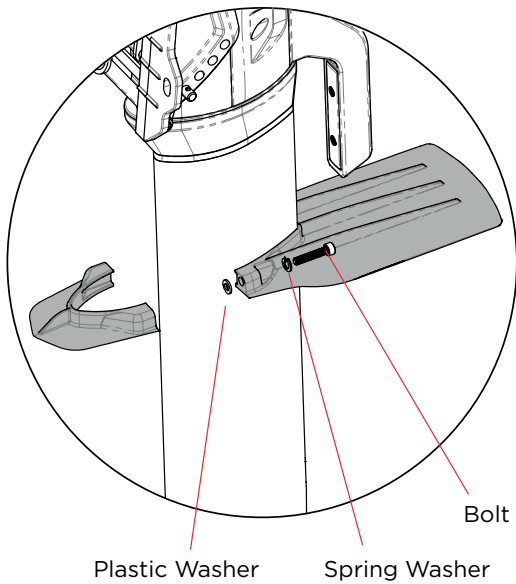


5.6 CAVITATION PLATE INSTALLATION

The NT600 comes with an optional cavitation plate. The cavitation plate can reduce propeller ventilation and is especially helpful on low transom crafts where the waterline is close to the carry handle.



To install:
Install the cavitation plate as shown here to the NT600 foil using the provided hardware. Adjust the vertical position of the cavitation plate so that its 1-2" below the bottom corner of your hull's transom when the motor is in the down position.



5.7 CONNECT TO THE BATTERY

The motor is adaptable with 48V (four 12V batteries connected in series) deep cycle marine battery package, 48V LFP battery (including four 12V LFP batteries connected in series) and 48V lithium MCN/MCA battery package. Please follow the steps below to complete the battery connection.

1. Find the battery cables from the motor; there should be a red and a black cable.
2. Connect the red cable to the positive battery terminal and the black cable to the negative battery terminal.
3. Make sure the battery cables are connected to the correct terminal. The motor will not operate if battery cables are installed incorrectly.
4. Tighten the connection of the battery cables to the battery terminals. Make sure the connection is solid and secure.

⚠ WARNING: Be sure all switches are in the OFF position before connecting to battery or batteries. Electrical arcing near the battery could cause an explosion. The battery produces Pulling Knob At Lock Mode Pulling Knob At Free Modehydrogen and oxygen gases while charging. This potentially explosive mixture escapes through the fill vent cell caps and may form an explosive atmosphere around the battery for several hours after it has been charged. Electrical arcing or flames can ignite the gas and cause an explosion, which may shatter the battery and could cause blindness or other serious injury.

⚠ WARNING: Deep cycle Batteries contain sulfuric acid, which can cause severe burns. Avoid contact with skin, eyes and clothing.

6 CONTROLLER DISPLAY

The speed controller screen displays motor, battery, and GPS-based speed information for the operator to monitor. It includes four buttons to control the motor and a menu that allows the user to set up the system, including general system information and battery information.

6.1 GENERAL SETUP GUIDE

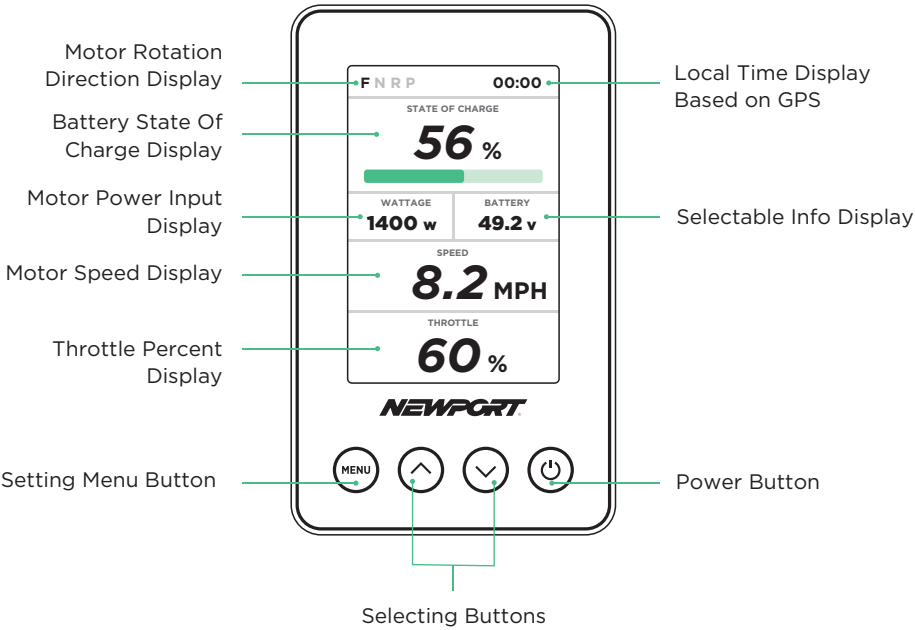
In the driver or battery page, use the up or down arrow key to select the cell you want to modify or input. Press the Power button to enter the selected cell. There are two types of cells: one displays a number, and the other shows an existing list from which you can make a selection. To enter into the menus, DOUBLE CLICK THE MENU BUTTON.

If the cell displays a number, to change the modify the number, follow the steps below:

- Click the **Power** button to enter.
- Click the **Power** button to move the cursor.
- Click the **Down Arrow** button to increment the number.
- Click the **Up Arrow** button to decrement the number.
- Long Press the **Power** button to save and exit.

If the cell displays an existing list, to modify the selection, follow the steps below:

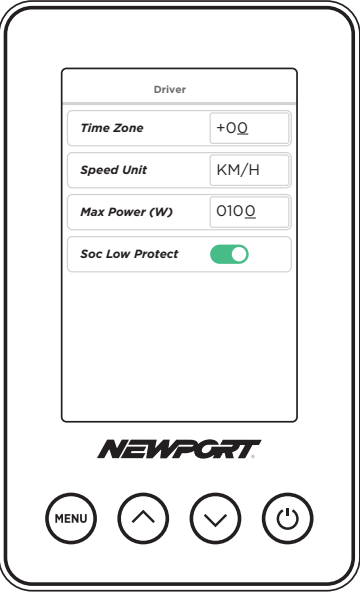
- Click the **Power** button to enter.
- Click the **Down Arrow** button to select the next option.
- Click the **Up Arrow** button to select the previous option.
- Long press the **Power** button to save and exit.



Single click the MENU to navigate through pages, there are four pages in total:

Main page, Driver page, Battery page, and Throttle calibration page

Pages will scroll in sequence when the MENU button is double-clicked.



6.2 DRIVER PAGE SETUP

Time Zone: This setup lets you configure the time zone for the time displayed on the Main page from the satellite. Set the local time zone to ensure the time display is accurate.

US Time Zone	Standard Time	Daylight Savings Time (DST)
Eastern Time (ET)	-5	-4
Central Time (CT)	-6	-5
Mountain Time (MT)	-7	-6
Pacific Time (PT)	-8	-7
Alaska Time (AKT)	-9	-8
Hawaii Time (HST)	-10	No DST

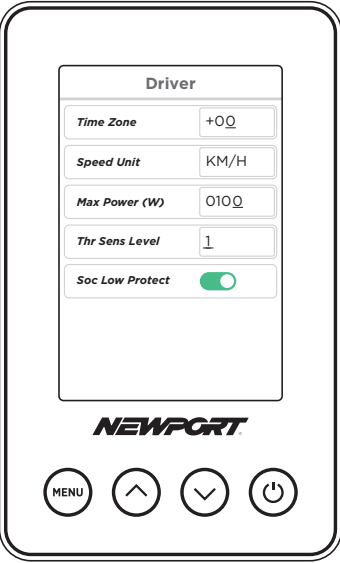
Speed Unit: This is the unit display setup for the speed slot on the Main page, with two available options: KM/H and MPH.

Max Power(W): This is the motor’s maximum power setup, allowing the user to manually limit the maximum motor input power. The highest value that can be set for the NT600 is 3000W.

Throttle Sensitivity

Level: This setup lets you configure how sensitive the motor increases in speed with turning the throttle. Setting 1 is a more gentle speed increase (better for small/ lighter crafts) and setting 9 is a more aggressive increase (better for heavier crafts).

Soc Low Protect: When the Soc Low Protection is enabled, if the battery’s estimated state of charge falls below 20%, the motor’s maximum power will be reduced by half.



6.3 BATTERY PAGE SETUP

Battery Type: This setup allows you to configure the type of battery used to power the motor. There are three available options: Lead-Acid battery, LFP battery, and Li-ion MCA/MCN battery. Selecting the correct battery type is crucial for accurately estimating the remaining state of charge.

Battery Rate Voltage:

This setup allows you to input the rated voltage of the battery, as provided by the manufacturer. Entering the correct rated voltage is essential for accurately estimating the remaining state of charge.

Battery Capacity(Ah) / Battery Capacity (kWh):

This setup allows you to input the battery capacity as provided by the manufacturer. Changing one value will automatically adjust the other. Entering the correct battery capacity is essential for accurately estimating the remaining state of charge.

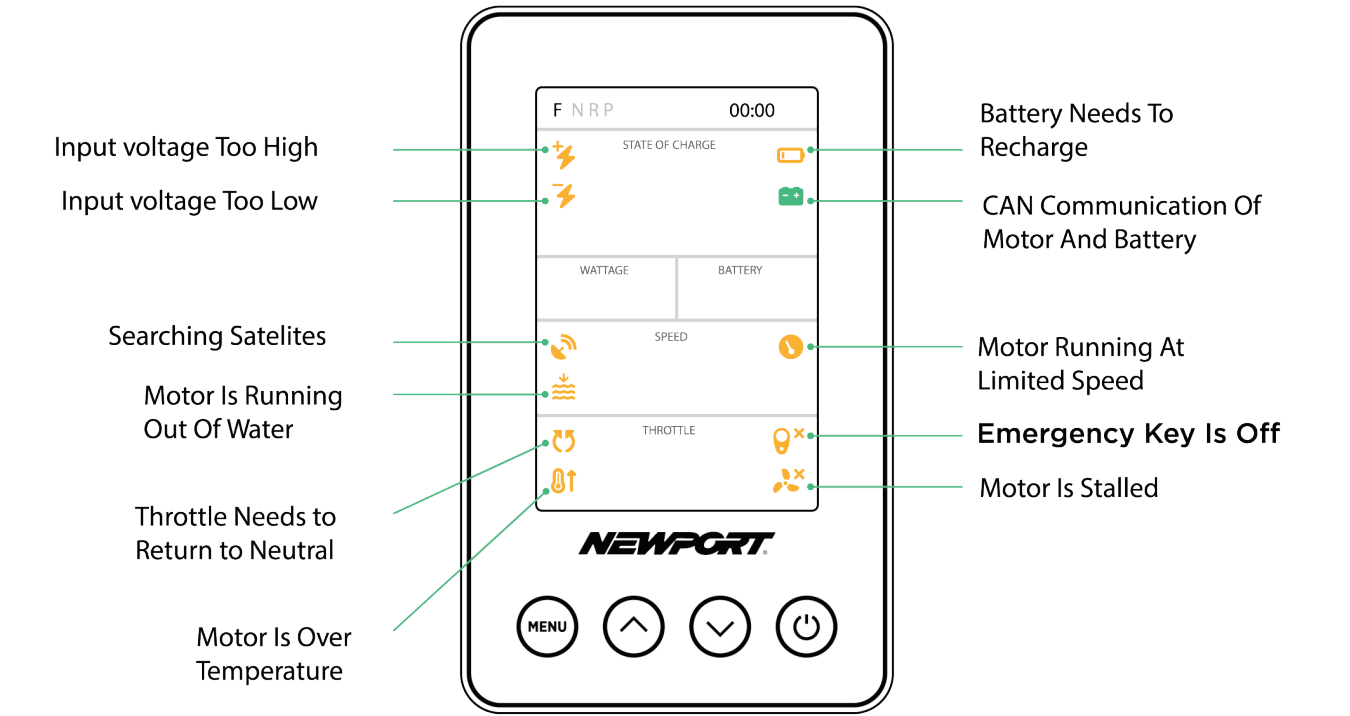
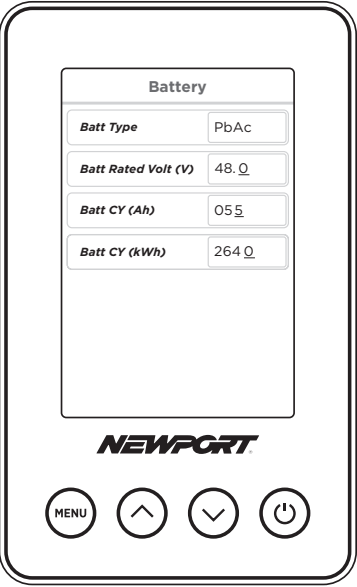
6.4 MOTOR STATUS DISPLAY

(FIG. on Page 11) The yellow icons displayed on the Main page indicate potential warning statuses of the motor when a fault occurs. The green battery icon on the Main page indicates that the battery communication cable is connected and the CAN communication between the motor and the battery has been initiated.

Input Voltage too high: When this icon flashes, it means the system detects the battery’s input voltage is too high.

Input voltage too low: When this icon flashes, it means the system detects the battery’s input voltage is too low.

Searching satellites: When this icon flashes, it means the system GPS is searching satellites.



Motor is running out of water: When this icon flashes, it means the system detects the motor is running out of water, this may damage the water seal if the motor runs out of water for long time.

Throttle Needs to be returned to Neutral: When this icon flashes, it means the throttle needs to be returned to neutral position to start. This helps to prevent unexpected operation.

Motor is over temperature: When this icon flashes, it means the motor driver is over-heated. Stop the motor and cool it down for a while.

Battery needs to recharge: When this icon flashes, it means the estimated battery state of charge is very low, battery needs to be recharged again.

CAN communication of motor and battery: when this icon is on, it means the battery communication cable is connected and the CAN communication between the motor and the battery has been initiated.

Motor running at limited speed: when this icon flashes, it means motor is running at the limited speed.

Emergency key is off: When this icon flashes, it means the emergency key on the motor is off.

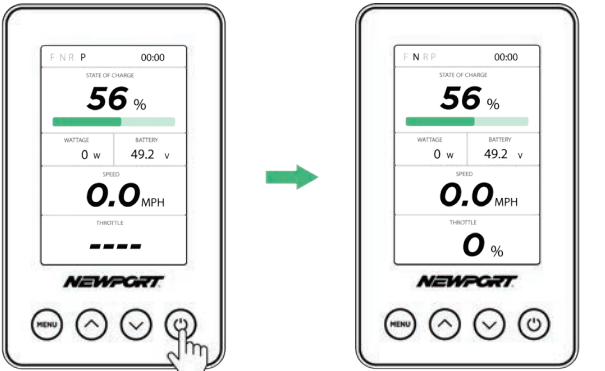
Motor is stalled: When this icon flashes, it means the motor is stalled, you need to check the propeller and make sure there’s nothing blocking the motor from rotating.

7 OPERATION

7.1 START THE MOTOR

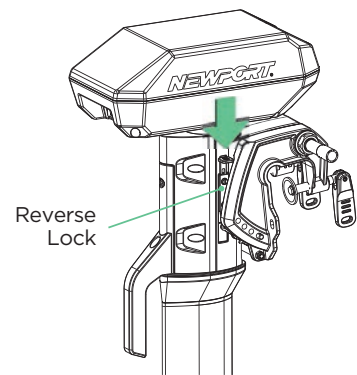
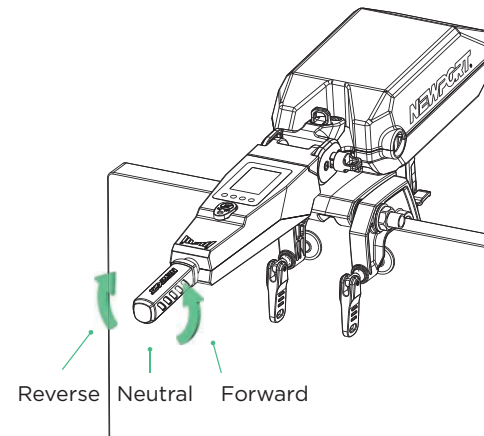
To start the motor please follow the steps below:

1. Place the magnet kill switch on the tiller.
2. Setup the battery parameters on the **Battery** page according to the battery type used. Please follow 6.3 Battery Page Setup to operate correctly.
3. Press the **Power** button on the panel.
4. You can now begin to power your motor.



7.2 TRAVEL FORWARD/REVERSE

1. The motor's forward/reverse motion is controlled by the handle of the tiller. Please refer to the diagram below which demonstrates how to operate.
2. When switching to reverse, make sure to push the reverse lock to lock the bracket.



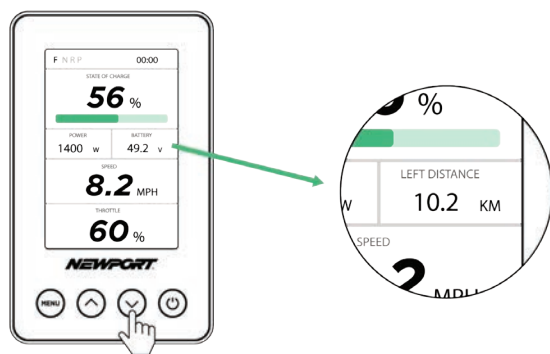
7.3 CHECK LEFT DISTANCE AND TIME

NT600 can calculate the time and distance left based on the current boat speed via built-in GPS, power consumption and remaining battery capacity.

To check the left time and distance please follow the steps below:

Press the **Down Arrow** button on the panel.

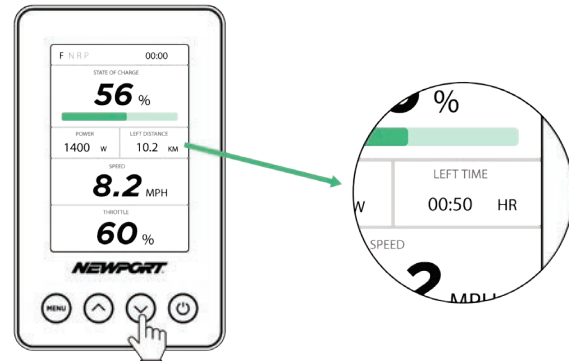
The info slot displaying the voltage will now display the left distance.



Press the **Down Arrow** button on the panel again.

The info slot displaying the left distance will now display left time.

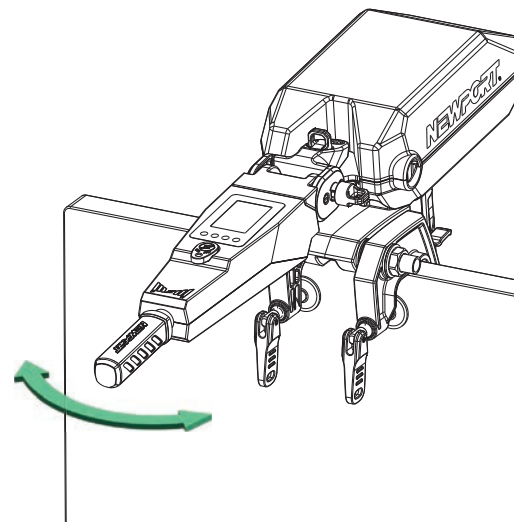
Press the **Down Arrow** button on the panel again.



The info slot displaying the left time will now display the battery voltage again.

7.4 STEERING THE MOTOR

While the motor is operating, steer the tiller to control the boat's direction.



7.5 EMERGENCY STOP

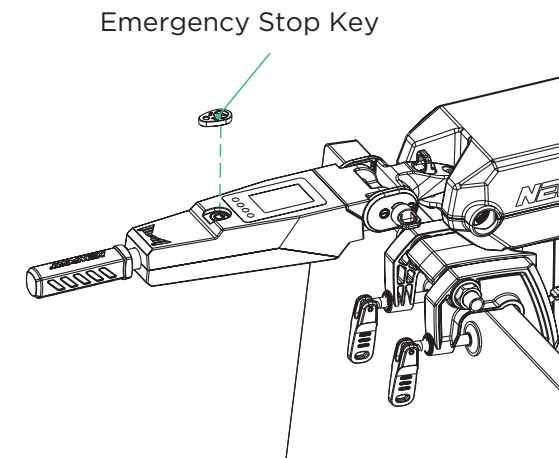
To stop **immediately** you can:

- Pull off the magnetic emergency stop switch from the tiller to stop the motor.
- Move the handle of the tiller to the neutral position to stop the motor.

If you want to restart the motor after the emergency kill switch is pulled off, move the handle of tiller to the neutral position, return the kill switch, and power on.

To stop the motor, follow the steps below:

1. Move the handle of tiller to the neutral position.
2. Press the On/Off button on the speed controller.
3. Remove the emergency kill switch.



7.6 FINISHING THE TRIP

When the trip is finished, disconnect the motor from the battery and take the motor out of water. If the motor was used in the saltwater, thoroughly rinse the motor with fresh water. This will help prevent corrosion and salt buildup. Only wash the motor; do not get the speed Emergency Stop Key controller wet.

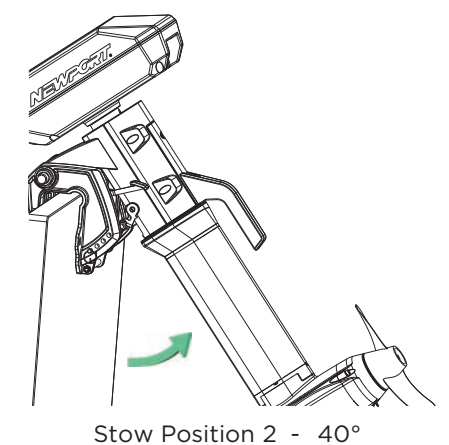
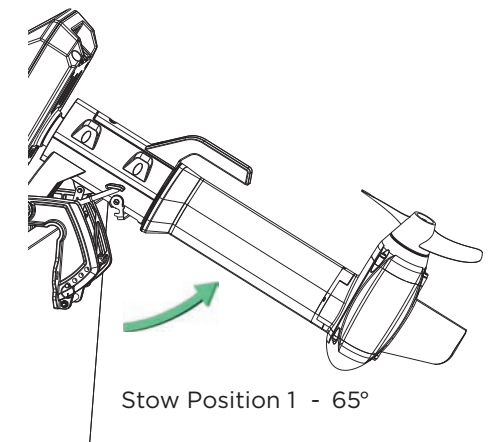
7.7 STOW THE MOTOR

When needed, the motor can be tilted up to stow away or to avoid underwater obstacles.

NOTE: It's recommended to keep the reverse lock unlocked (lifted) when the motor drives forward since motor will be kicked up automatically with this setup.

ADVICE: The tilt support device supplied on your outboard is not intended for towing. It is intended to support the engine while the boat is docked, beached, etc. It is recommended to remove the motor during transport or use a motor support bracket/transom saver.

There are two stow positions available for NT600. See figures on top right.

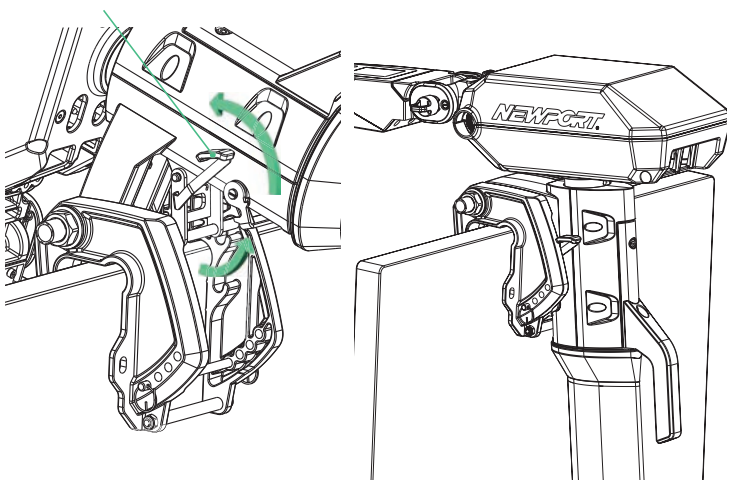


7.8 DEPLOY THE MOTOR

To deploy the motor again, follow the steps below:

- 1. Lift the motor up.
- 2. Lift the deploy lever up. Make sure the stand bar is out of the slot.
- 3. Tilt the motor down slowly until the trim pin is hit again.

Deploy Lever



8 CARE AND SERVICES

8.1 CARE OF MOTOR COMPONENTS

- Please regularly follow all maintenance tips to keep your motor in optimal working condition.
- Do not start the motor in shallow water as it may damage the propeller.
- After each use, check between the plastic propeller and metal motor housing for fishing line, weeds, or other debris. ALWAYS DISCONNECT from power before working near the propeller.
- Lubricate all the pivot points with a non-aerosol lubricant. Never use an aerosol lubricant, as many types contain harmful propellants that can cause damage to various parts of your electric motor.

8.2 CORROSION PROTECTION

- After the motor is used in the saltwater, rinse the motor thoroughly with fresh water.
- Before storing the motor, make sure the motor is completely dry and clean.
- Keep cable connectors and plugs in good condition.

- Use a wire brush to remove corrosion when necessary.

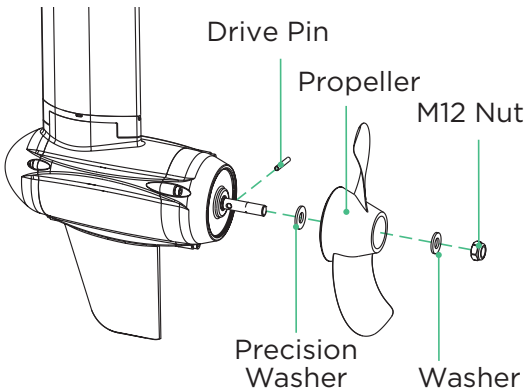
8.3 CARE OF BATTERY USAGE

- Check tightness of the battery lead connections.
- Never connect the wires to the wrong battery terminal. You must disconnect the battery during maintenance.
- Recharge batteries after each use. Follow the battery manufacturer’s recommendations for battery maintenance.

8.4 REPLACING THE FIN

You can replace the propeller if it is damaged. To do this, follow the steps below with the assembly diagram:

- 1. Attach the washer.
- 2. Insert the drive pin into the hole on the motor output shaft.
- 3. Rotate the propeller until the drive pin is seated correctly in the corresponding channel on the backside of the propeller.
- 4. Place the washer on the motor shaft after the propeller.
- 5. Tighten the hex locknut with 17mm socket wrench.



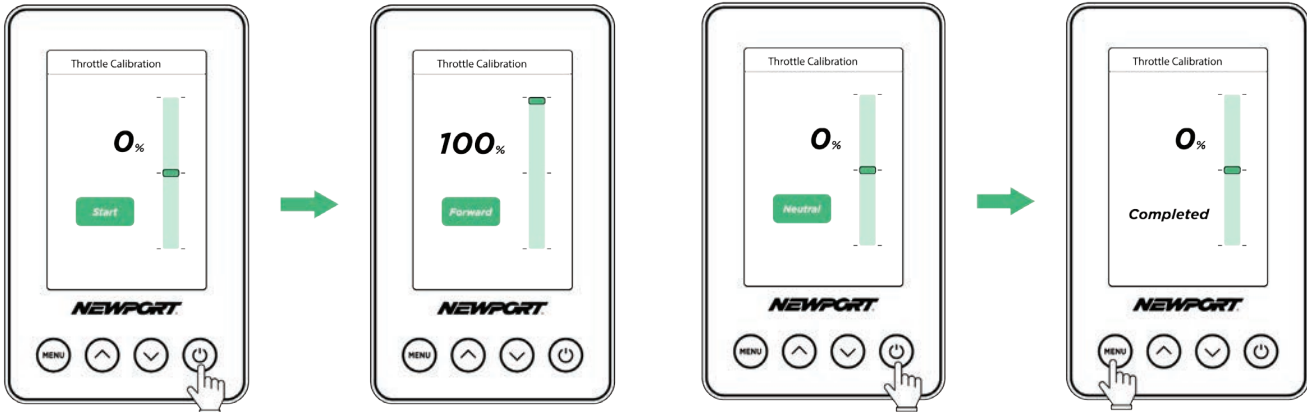
8.5 RECALIBRATE THE THROTTLE

You can recalibrate the throttle when the throttle display is inaccurate.

To do this, follow the steps below:

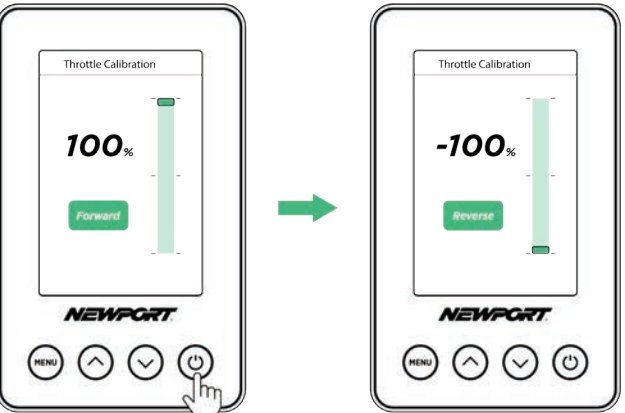
Enter the **Throttle Calibration** Page.

Press the **Power** button on the panel, the button now shows Forward.



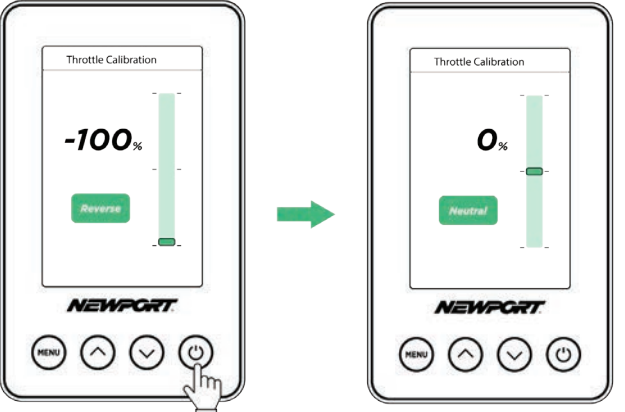
Move the handle to the full throttle forward position.

Press the **Power** button on the panel again, the button now shows Reverse.



Move the handle to the full throttle reverse position.

Press the **Power** button on the panel again, the button now shows Neutral.



Move the handle to the neutral(middle) position.

Press the **Power** button on the panel again, now the recalibration is complete

Press the **Menu** button on the panel to go back to **Main** page.

DECLARATION OF CONFORMITY FOR RECREATIONAL CRAFT

Propulsion Engine with the requirements of Directive

89/392/EEC as amended by 89/336/EEC.

Engine type approved according to:

Directives 89/392/EEC, 89/336/EE

Description of Engine(s) and Essential Requirements

Engine Type: Outboard Engine

Fuel Type: Electric

This declaration of conformity is issued under the sole responsibility of the manufacturer. I declare on behalf of the manufacturer that the motor(s) is (are) in conformity with the type(s) for which above mentioned EC, EMC and ROHC type-examination or type approval certificate(s) has (have) been issued and it will meet the requirements of Directive 89/392/EEC, 89/336/EEC as amended when installed in a recreational craft, in accordance with the manufacturer’s supplied instructions.

CUSTOMER SUPPORT

If you have questions that are not answered in this manual or troubleshooting is not successful, please contact Newport! Our California based customer service team is standing by to assist you. **8:30 AM - 7:00 PM ET**

(866) 721-0002

support@newportvessels.com

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