EZoutboard

NEO-CONCEPT ELECTRIC OUTBOARDS

USER MANUAL



FOR MODELS X05, X10, X20

VERSION: SHP0400061-A/11 EN

A simple analogy on how electric motors work would be that of a rabbit chasing a moving carrot on a circular path.

A Hall sensor senses the rabbit's position and alerts the Controller that the rabbit is getting close to the carrot. The controller then moves the carrot further so that the rabbit will never get to the carrot.

Figuratively, in a 3-phase MOX9 motor there are 3 sets of carrots and rabbits 120 degrees apart from each other in this circular path. These rabbits are tied to a rotating shaft which is mounted onto a propeller. The rabbits chase after the carrots endlessly, driving the propeller.

As heartbreaking as it seems, these rabbits are stuck on an endless loop trying to reach the carrot. On the bright side, there are no rabbits in the EZoutboard, just magnets and copper coils…

FOREWORD

Dear Captain:

Thank you for choosing EZoutboard. Please read through this instruction manual thoroughly to familiarize yourself with setting up and the full scope of functions your EZoutboard has to offer. As the name implies, using EZoutboard is easy and intuitive. In a nutshell, simply press the power switch and twist the throttle counterclockwise to advance, clockwise to reverse. Then there's the mode switch to toggle between ECO, NORMAL, SPORTS modes. The controls take less a minute to get accustomed to and a couple more minutes later you'll be driving it subconsciously. We crafted the motor as silent as possible so you can focus more on the sights and sounds of your trip. Happy boating!

Sincerely,
EZoutboard Design Team



SYMBOLS

The symbols below will appear frequently in this manual. Please read through carefully and refer to this page if required.

CAUTION SYMBOLS

These are warnings of high importance, and it is imperative that you observe and follow these instructions.



HOT SURFACE

This symbol appears if the component or actions required in context gets considerably hot after prolonged use.



STRONG MAGNETISM

This symbol appears if the component or actions required in context contains high powered magnets that might damage electronics or cards with magnetic strips. Users with heart pacers must keep their chest away from components.



ELECTRIC SHOCK

This symbol appears if the component or actions required in context involves electrical parts. Although EZoutboard are all 48V systems and are relatively safe, sometimes short circuits can occur due damaged insulation.



PINCH POINT

This symbol appears if the component or actions required in context involves a pinch point that can cause bodily harm.

INFORMATIVE SYMBOLS

These are additional information which gives you a better insight to the product.



ATTENTION

This symbol appears when you are required to follow safety practices for the actions required in context.



IMFORMATION

This symbol appears if there is additional relevant information about the component or actions required in context. The information disclosed are non-essential but will help you further your knowledge of the subject in context.



VARIANTS

This symbol appears if the component in context is only applicable to certain models of the EZoutboard. Check the scope of delivery for your model and skip that step if the component is not applicable for you.



TIPS

This symbol refers to tips from experienced product testers and our engineers.

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1. SAFETY REMARKS

1.1. DISCLAIMER NOTICE

■ Please adhere to the following safety measures listed in this disclaimer document. Golden Motor Technology Co. Ltd or any of its distributors are not liable for any injuries or damages caused by inappropriate usage of its products.

1.1.1. RISK OF PROPELLER DAMAGE

■ Always be on the lookout for incoming collisions, shallow shores, floating logs or rocks that can come into contact with the propeller. Maneuver the watercraft to steer clear of obstacles that can potentially damage the propeller. If uncertain, tilt outboard up and clear of water level.

■ Do not place anything near a spinning propeller, do not touch the propeller when it is rotating. If the situation requires manipulation of the propeller, please disconnect power and wait until the propeller is completely idle before attempting manipulation.

■ Shutdown the motor or disconnect the safety key promptly when there are animals or human beings near the outboard. Check that there are no animals or human beings near the propeller before powering up again.

1.1.2. RISK OF ROTATING PART DAMAGE

■ Check for and remove strands of hair, seaweed and any form of string-like particles from gaps between rotating parts before operating. Rotating parts include the motor, the mounting shaft, transom mount, throttle etc.

1.1.3. RISK OF INJURY

■ Always wear gloves when disassembling any component of the outboard to prevent injury.

1.1.4. RISK OF ELECTRICAL SHOCK

■ Do not touch live cables or any uninsulated electrical contact of the outboard until power source is disconnected. Wait at least 5 minutes for residual electricity to die down before attempting to touch cables or electrical contacts. Always wear rubber gloves.

1.1.5. RISK OF THIRD-DEGREE BURNS

■ Do not touch the controller housing, especially the heat fins after prolonged operation. Wait at least 30 minutes for the components to cool off before manipulating.

1.1.6. MODIFICATION

■ Do not attempt unauthorized modification the electric outboard. This may introduce unforeseen dangers and risks.

1.1.7. RISK OF DAMAGE DURING TRANSPORTATION

■ Always remove the outboard from the craft during towing. The transom mount is not designed to withstand forces from a moving vehicle on the road. Even with a damping or the suspension system from a vehicle, bumps and shocks at high speeds will still compromise the strength and longevity of the transom mount.

■ Do not attempt to transport the outboard by hand, always mount it to an outboard trolley and wheel it with caution. If you do not have an outboard trolley, you can order one from Golden Motor or your local dealer.

1.2. BOATING SAFETY

■ Please follow all the preventive safety measures listed in this manual.

1.2.1. RISK OF OPERATING UNDER THE INFLUENCE OF ALCOHOL OR DRUGS

■ Please do not operate the motor while intoxicated.

1.2.2. PERSONAL FLOATING DEVICE

■ We recommend wearing an approved personal floating device (PFD) on board for every passenger.

1.2.3. RISK OF INJURY TO RECREATIONAL SWIMMERS

■ Be aware of swimmers, water-skiers or divers when the motor is running to prevent collision. Blow safety whistle and use a flashlight to indicate presence to such persons when visibility is low. Shutdown the motor promptly if such a situation arises.

1.2.4. PASSENGERS

■ Please consult your watercraft manufacturer's instructions for details on appropriate passenger locations in your watercraft and make sure all passengers are in their intended position before operating the outboard.

■ Standing or sitting in non-designated locations may result in being thrown overboard or loss of balance due to unpredictable waves or sudden changes in speed or direction.

1.2.5. OVERLOAD

- Do not overload the watercraft. Please consult the watercraft manufacturer for maximum weight capacity and maximum number of passengers. Be sure that the weight is properly distributed according to the watercraft manufacturer's instructions. Overloading or incorrect weight distribution may compromise handling and lead to accidents, capsizing or swamping.

1.2.6. AVOID COLLISION

- Be on the lookout constantly for people, objects and other watercrafts nearby. Be alert for conditions that may block your visibility.
- Please operate the motor at a safe speed and keep a safe distance from people, objects, and other watercrafts.
- Do not follow other watercrafts or swimmers.
- Avoid rapid turns or other dangerous actions.
- Avoid shallow water areas and take action ahead of time to avoid collision.
- The braking force of the watercraft is generated by reverse rotation of the propeller; however, it takes a certain amount of time to kick in. It is up to your judgement whether to continue trying to stop the watercraft or rather attempt to turn the direction of the watercraft.
- Completely tilt outboard up and above water level before docking.

1.2.7. WEATHER

- Check the weather forecast to see if the weather condition is favorable before boating.
- Avoid boating in harsh weather.

1.2.8. AGE RESTRICTIONS

- Golden Motor recommends the operator to be at a minimum age of 18, or whatever age the local law recommends. At least one experienced operator should be on board.

1.2.9. LAWS AND REGULATIONS

- Learn and follow local marine laws and regulations.
- Speed limits can be set by programming settings via your smartphones so that they meet your requirements and local government regulations. The default setting may not be suitable for use locally and it is up to the user to enforce the correct settings accordingly. Golden Motor is not liable for operators not abiding the law.
- Golden Motor products are meant for legal recreational purposes as well as legal industrial purposes. This product must not be used for any types of criminal activity.

2. PRODUCT SPECIFICATIONS

2.1. TECHNICAL SPECIFICATIONS

SPECIFICATION	X05	X10	X20
Rated Voltage (Volts)	48	48	48
Rated Current (Amps)	65	135	220
Input Power (kilowatts)	3.1	6	10.5
Equivalent Power (Horsepower)	5	10	20
Propeller Size (Pitch/Diameter in inches)	7”/10”	7”/10”	10.5"/7" , 10”/10”
Maximum Propeller Speed (Revolutions per Minute)	2000	2600	2400
Maximum Static Thrust Force (Pounds)	130	185	225
Cooling Type	Natural Cooling	Liquid Cooling	Liquid Cooling
Compatible Transom Height (millimeters/inches) **Transom height determines Propeller Depth*	381~508 15” ~20”	381mm~508 15” ~20”	381mm~508 15” ~20”
Net Weight (Kilograms)	20	26	29
Package Size L * W * H (centimeters)	120*52*28	120*52*28	120*67*28
Steering Options	Tiller/Remote	Tiller/Remote	Tiller/Remote
Tilting	Manual	Manual	Manual

**Static thrust force testing based on ISO international standards*

2.2. STANDARDS & CONFORMITY

Item: EZ outboard Electric Outboard
Model: eXtreme X05, eXtreme X10, eXtreme X20
Manufacturer: Changzhou Golden Motor Technology co. ltd
Address: 14th floor, R&D hub 5, Tian Xin Road, Changzhou, Jiangsu, China 213164

The statement conforms to following instructions:
EMC-directive 2014/30/EU

Reference Standards:
EN 55012:2007+A1:2009
EN IEC 61000-6-2:2019

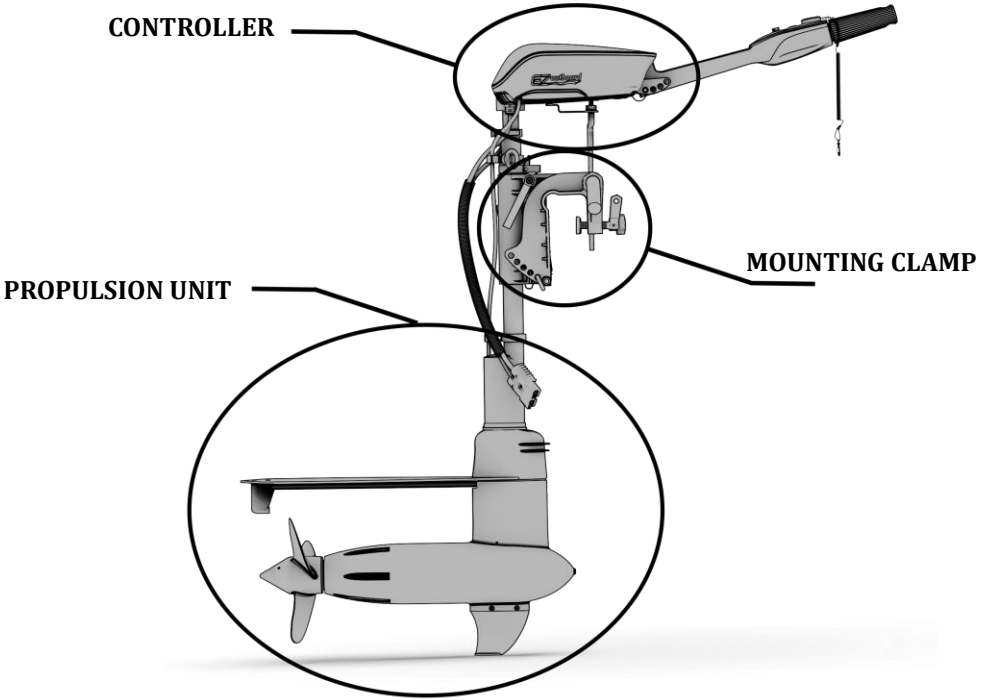
The device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
1. The device does not cause harmful interference.
2. The device must accept any interference received, including interference that may cause undesired operation.

Philip Yao
CEO
Golden Motor Technology co. ltd

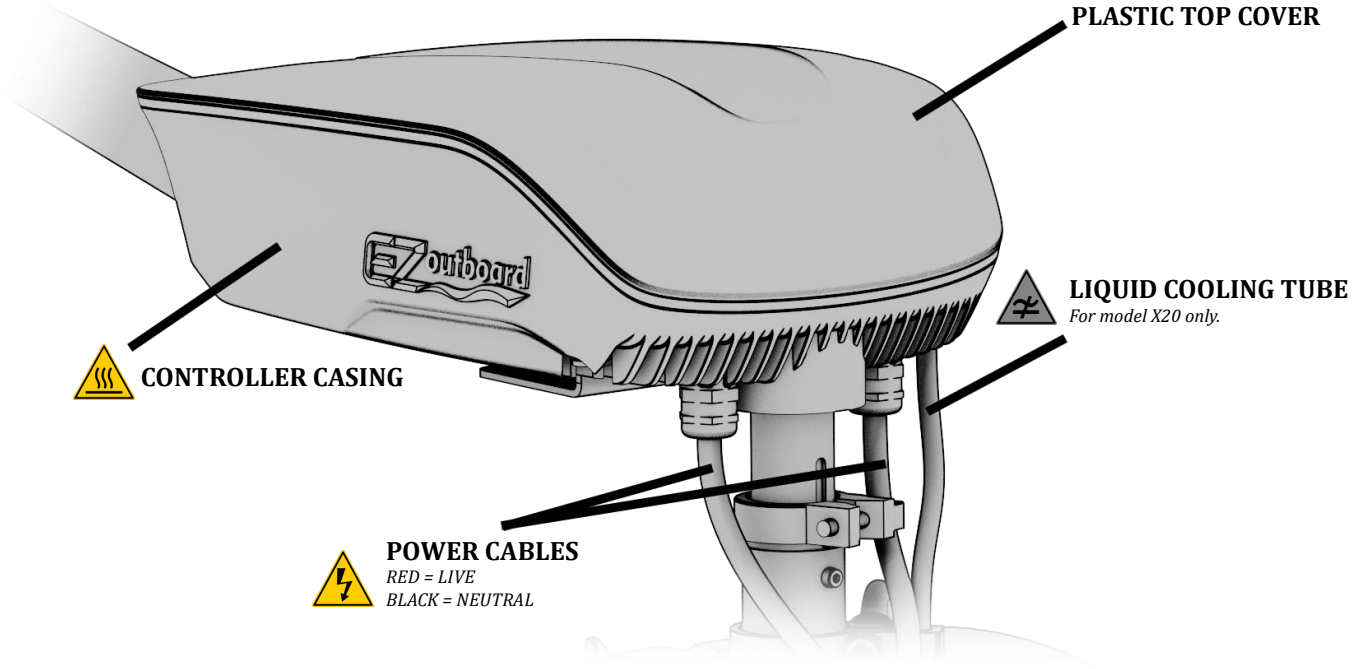
3. PART DESIGNATION

There are 3 main components of the outboard, this section will help you familiarize yourself with their terminology.

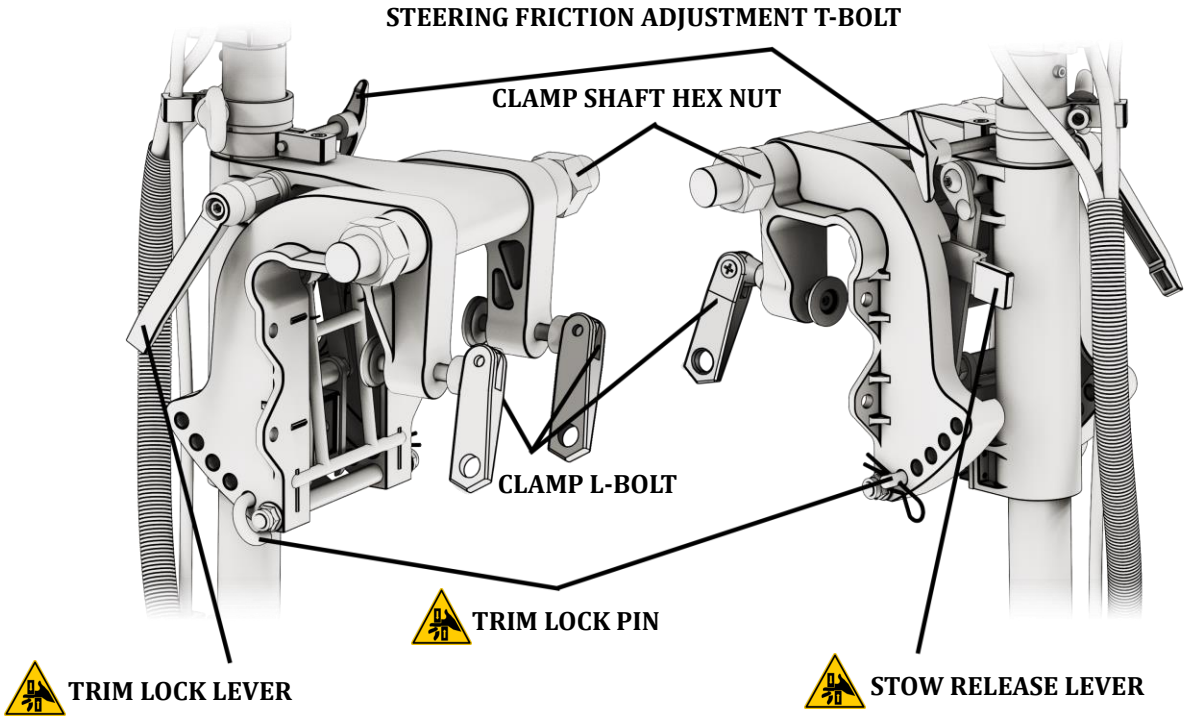
3.1. OVERVIEW



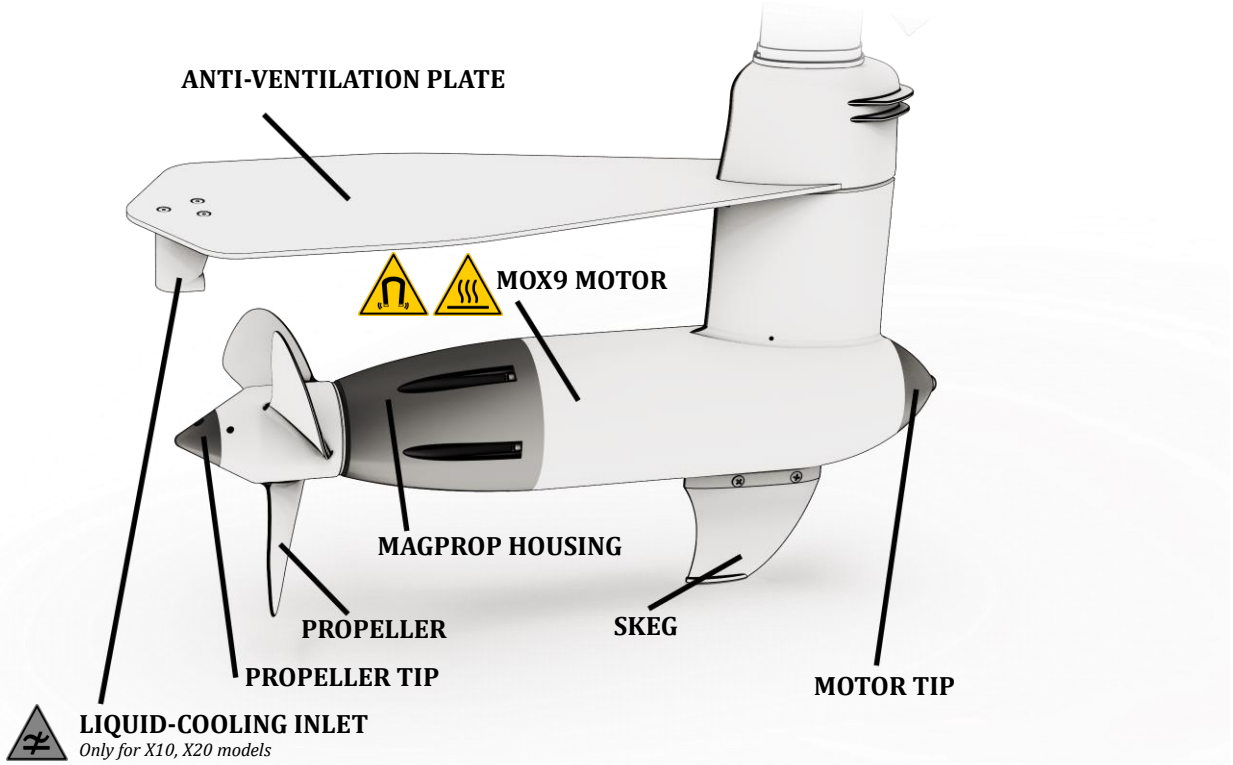
3.1.1. CONTROLLER COMPONENT



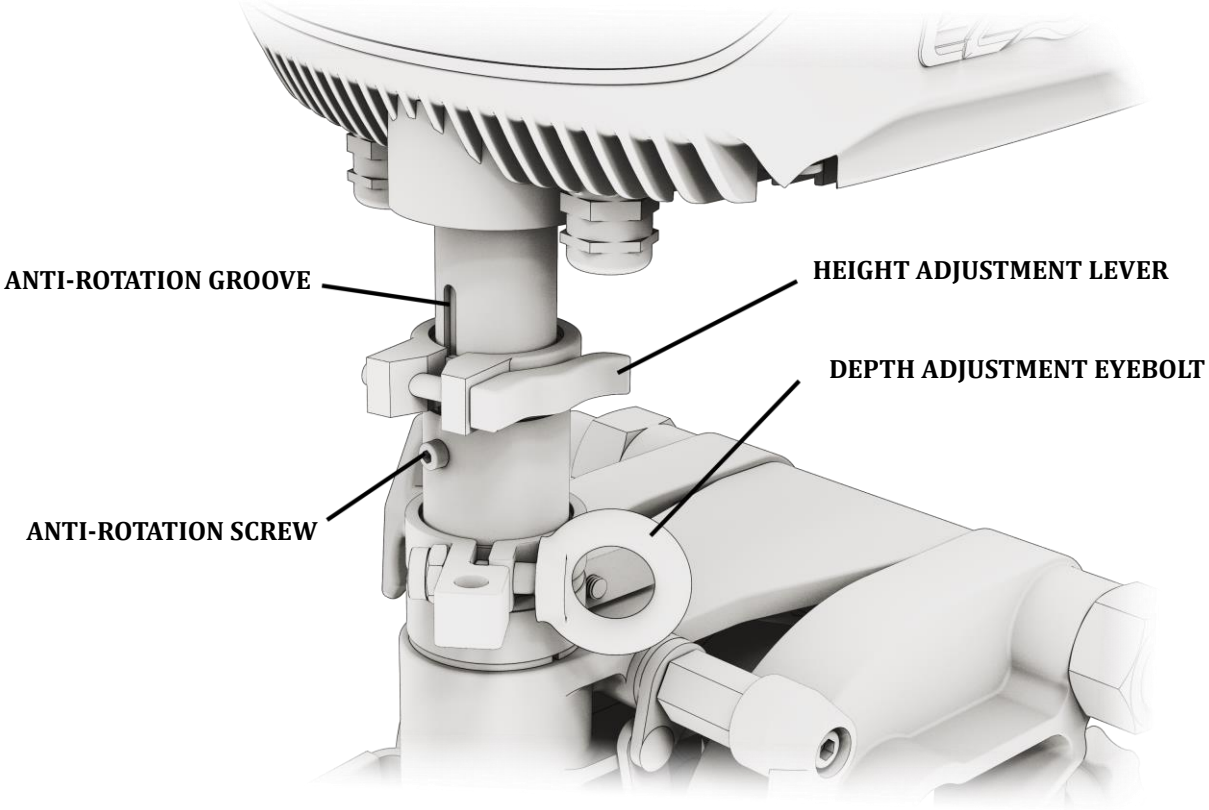
3.1.2. MOUNTING COMPONENT



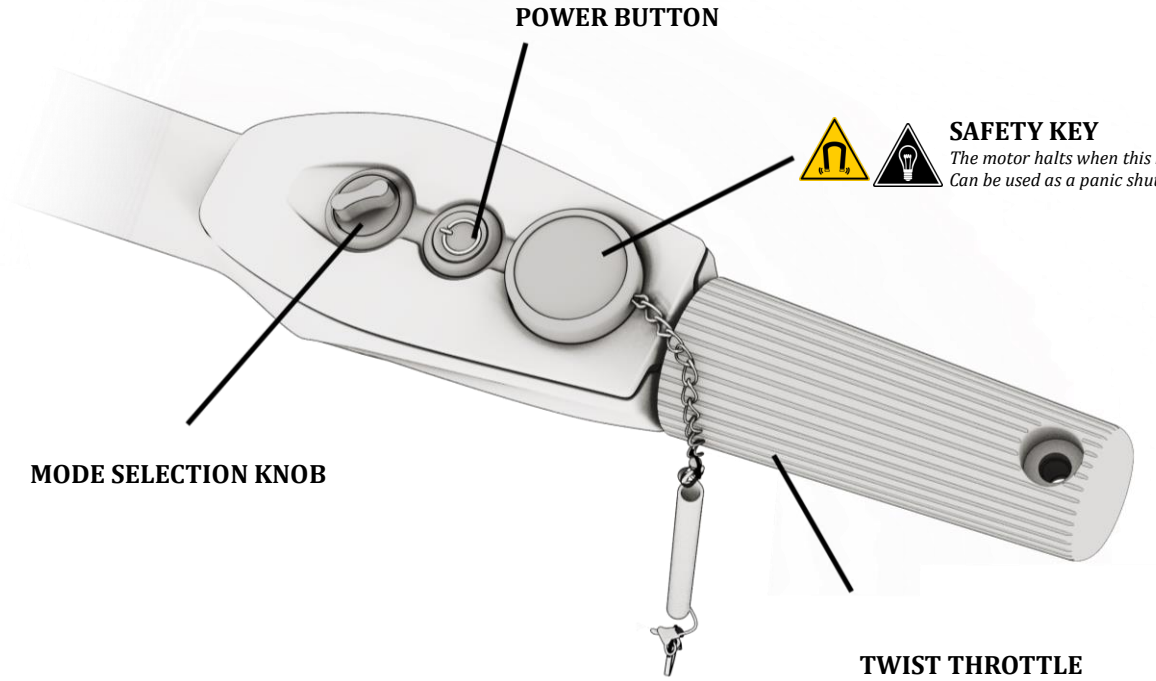
3.1.3. PROPULSION COMPONENT



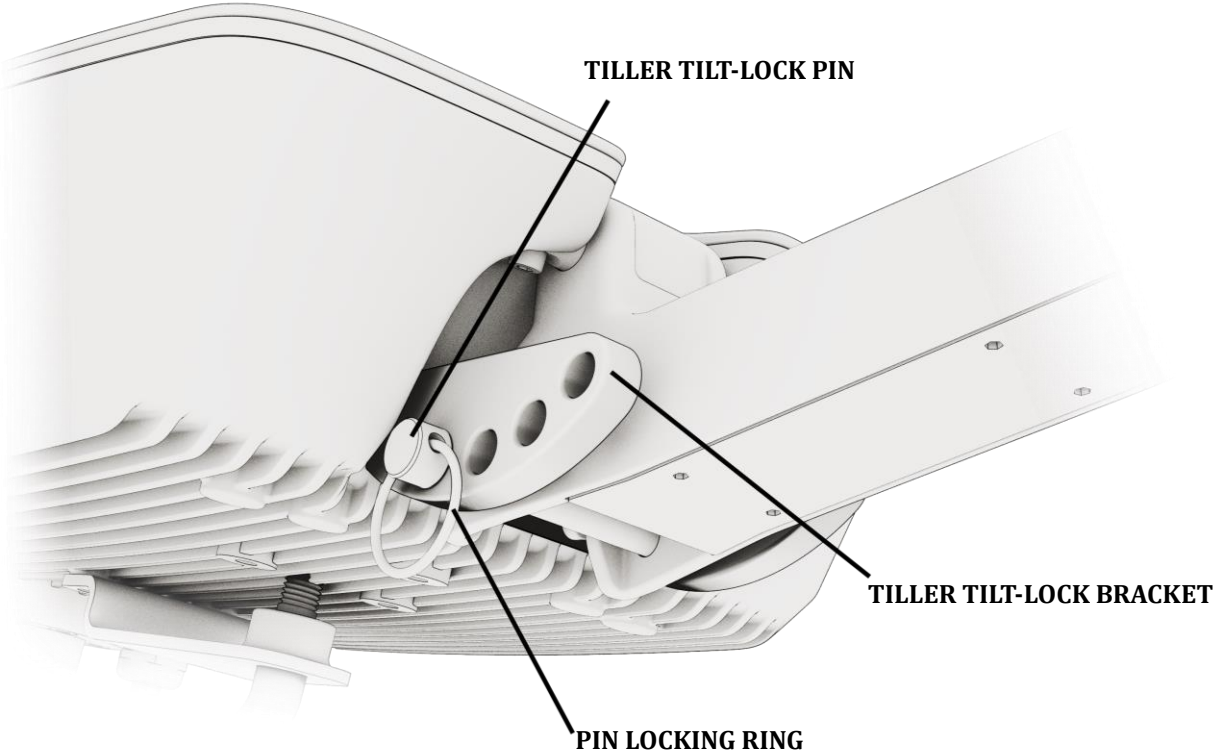
3.1.4. ADJUSTMENT COMPONENTS



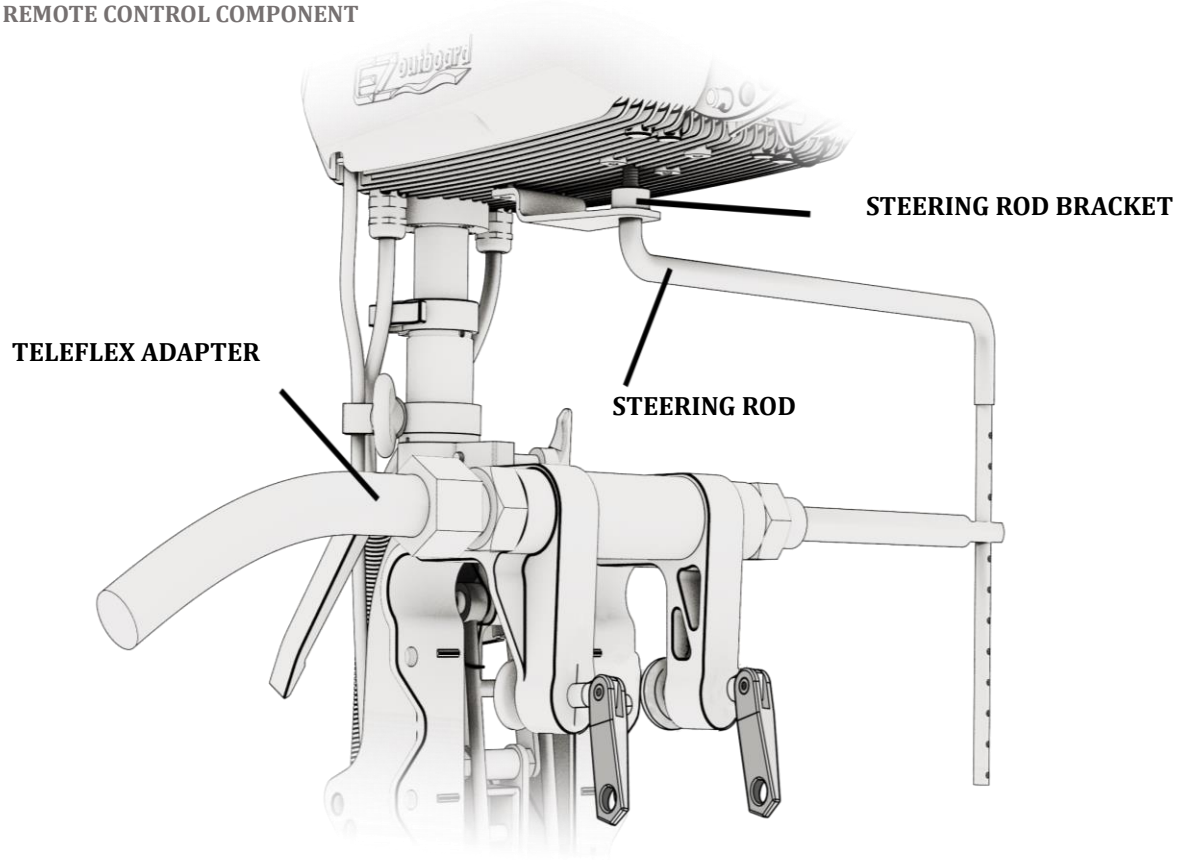
3.1.5. TILLER COMPONENT



3.1.6. TILLER TILTING LOCK



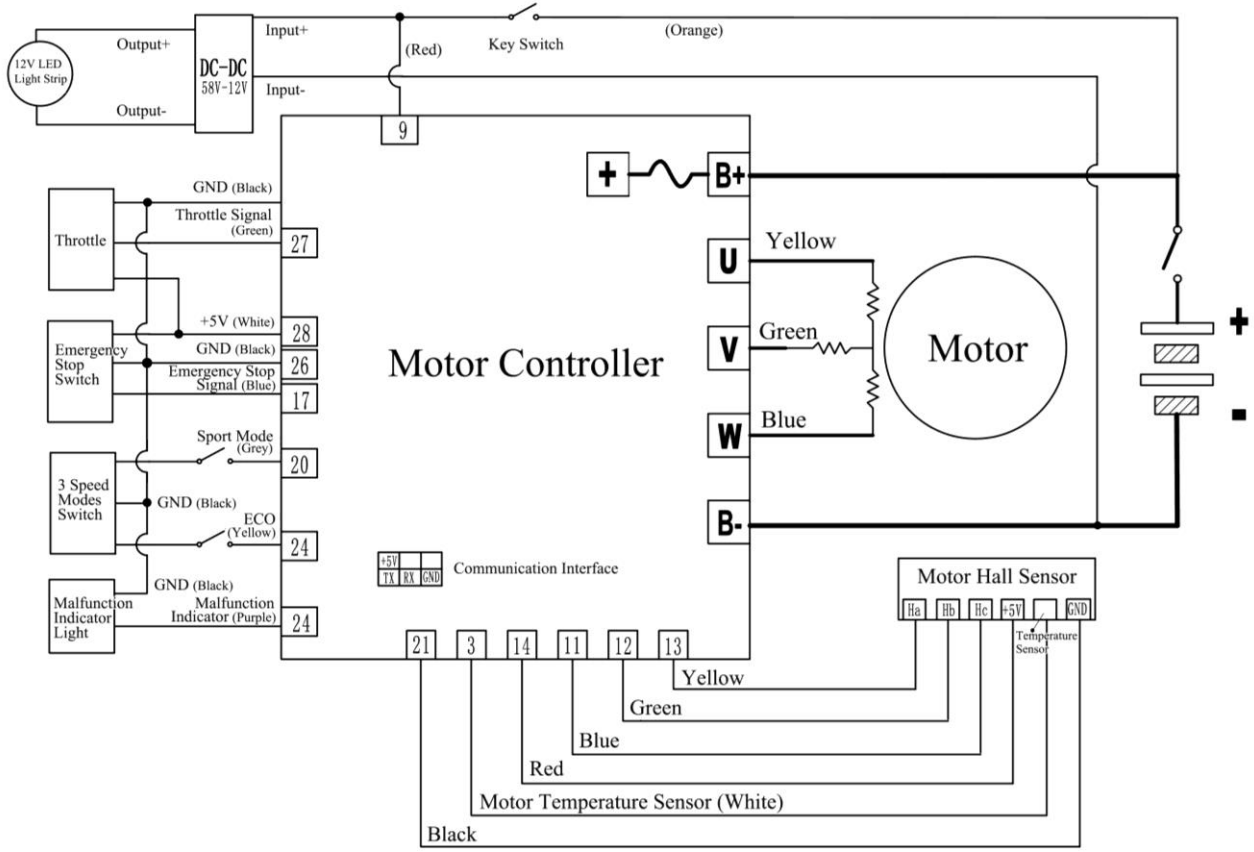
3.1.7. REMOTE CONTROL COMPONENT



3.1.8. WARNING TAGS



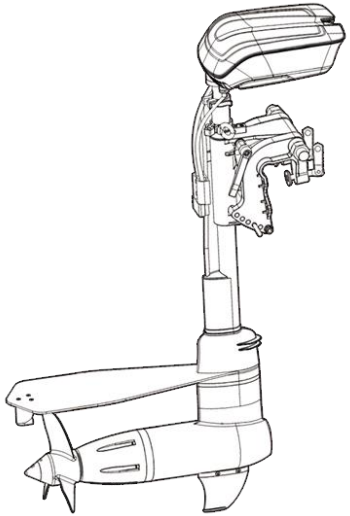
3.2. CIRCUIT DIAGRAM



3.3. SCOPE OF DELIVERY

Before using your outboard for the first time, please check that the follow items supplied are complete and in good condition. Please refuse delivery otherwise. If that ship has sailed and the package has already been signed for, please contact your local supplier to sort out the issue.

3.3.1 TILLER VARIANT



❶ EZoutboard BODY



❷ TILLER TILT-LOCK UNIT
SET OF 4 M4X12 SCREWS



❸ TILLER TILT-LOCK PIN



❹ TILLER THROTTLE UNIT



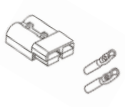
❺ TILLER PLATE
SET OF 8 M4X10 SCREWS



❻ SAFETY KEY



❻ MOTOR TIP
1 M8X45 SCREW



❼ BATTERY CONNECTOR



❽ PHILIPS SCREWDRIVER



❾ 1XM5 HEX KEY
1XM3 HEX KEY
1XM2.5 HEX KEY

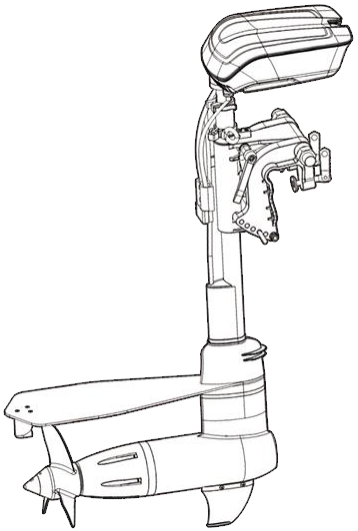


❿ TUBE FITTING TOOL

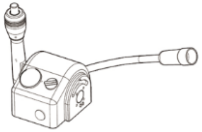


⓫ HOOK SCREWS
(to fix outboard on boat)

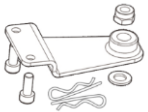
3.3.2 REMOTE VARIANT



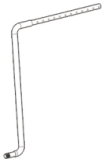
❶ EZoutboard BODY



❷ REMOTE-CONTROL UNIT



❸ STEERING ROD ADAPTER
SET OF 2 M6X15,
1 M8 SELF-LOCKING NUT



❹ STEERING ROD



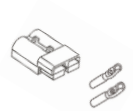
❺ REMOTE-CONTROL CABLE



❻ SAFETY KEY



❼ MOTOR TIP
1 M8X45 SCREW



❽ BATTERY CONNECTOR



❾ PHILIPS SCREWDRIVER



❿ 1XM5 HEX KEY
1XM3 HEX KEY
1XM2.5 HEX KEY



⓫ TUBE FITTING TOOL



⓬ HOOK SCREWS
(to fix outboard on boat)

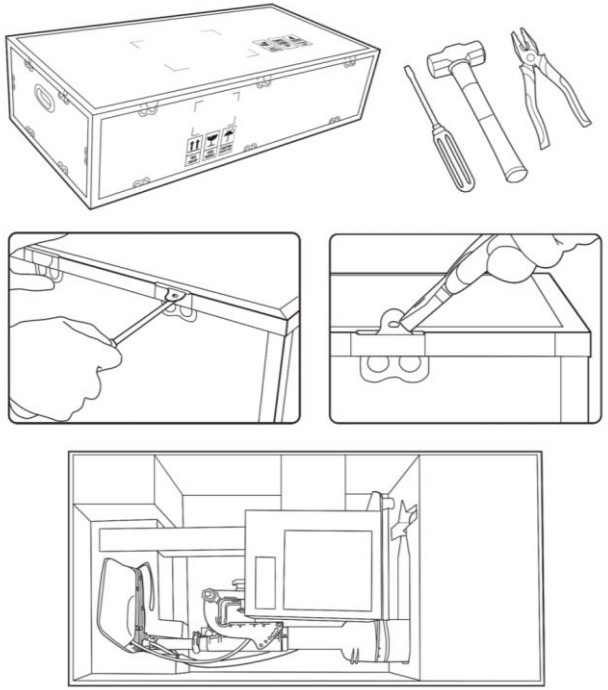


⓭ REMOTE THROTTLE
INSTALLATION SCREWS

4. SETUP

4.1. UNPACKING

Tools you'll need:
- Flat head Philips screwdriver
- Pliers
- Hammer
- Gloves



1. Use a Philips screwdriver to pry out the metal laps.

   You are only required to pry out the flaps 45 degrees.

2. Use pliers to grip the flap and bend it 180 degrees.

3. Use a hammer in conjunction with the pliers to hammer the flap until it is flat.

4. Pull out the top wooden cover.

- Be cautious when using tools.
- Watch out for wooden splinters.
- The packaging must be kept in good condition in order to be eligible for returns/exchanges.
- During the assembly, use, maintenance and storage of EZ Outboards, do not lie down them for a long time and always keep them verticality.

4.2. MOUNTING CLAMP CALIBRATION



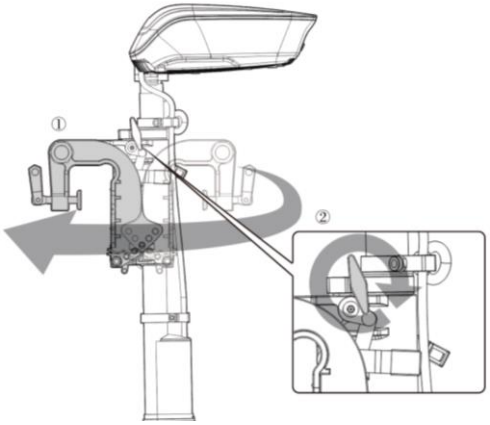
1. Grab the CONTROLLER by its side and push the EZoutboard into an upright position with the MOTOR sitting on the packing foam.

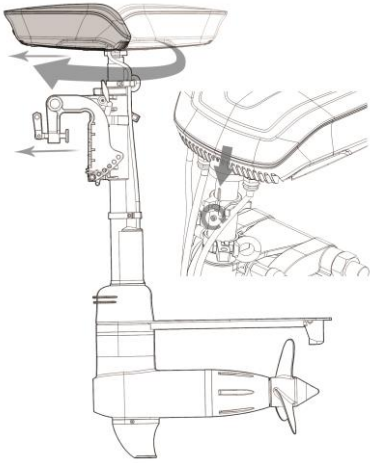
2. Rotate the MOUNTING CLAMP 180 degrees clockwise until it is parallel to the MOTOR.

3. Rotate the CONTROLLER 180 degrees clockwise until it is parallel to the MOTOR COMPONENT.

4. Loosen the DEPTH ADJUSTMENT EYEBOLT and the STEERING FRICTION ADJUSTMENT T-Bolt.

5. Align the ANTI-ROTATION GROOVE to the ANTI-ROTATION SCREW and tighten the ANTI-ROTATION SCREW.





4.3. STEERING COMPONENT INSTALLATION

4.3.1. TILLER VARIANT

❶ Slot a nylon pad (friction pad) on each side of the mounting shaft.

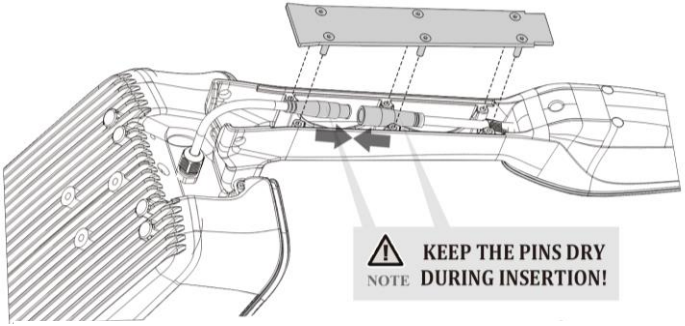
❷ Slot the tiller onto the controller casing.

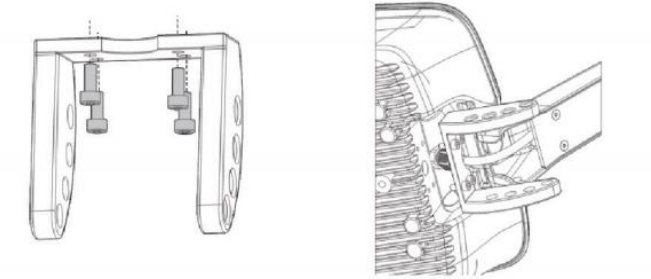
❸ Install the M4 screws with the M4 hex key.

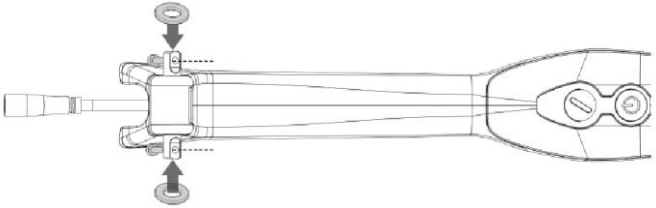
❹ Connect the tiller cable.

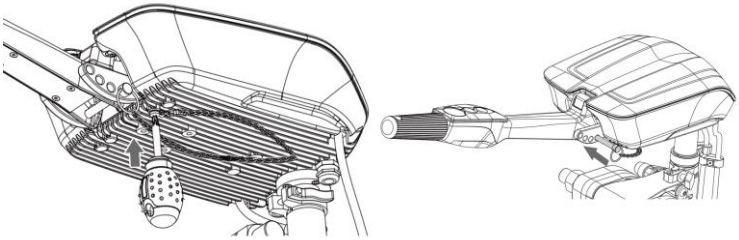
❺ Install the TILER PLATE with 6 M4 screws and the M4 hex key.

❻ Fix the Tiller Tilt-lock Pin to the bottom of the controller box.
Adjust the angle of the tiller throttle to facilitate the outboard tilting up.



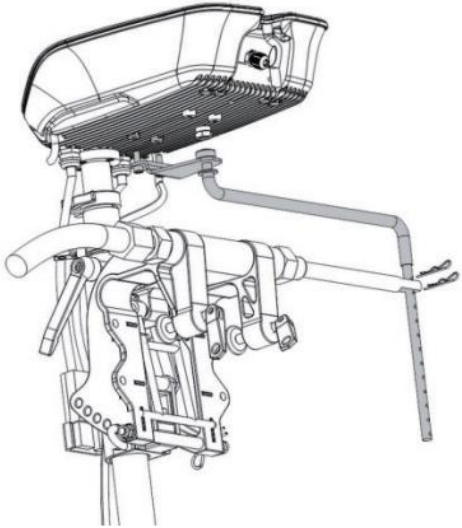




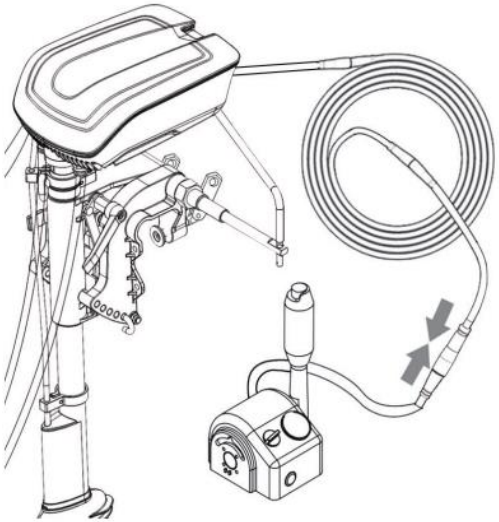


4.3.2. REMOTE VARIANT

❶ Install the Remote steering components.



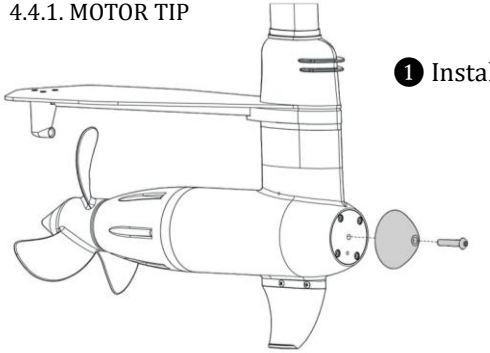
❷ Connect the signal cable with the cable from the controller box.



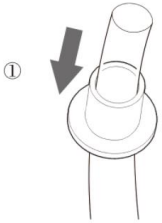
■ Standard signal cables for remote control variation are 10’/3m long. Signal cables longer than 10’/3m must be purchased separately.

4.4. PARTS INSTALLATION

4.4.1. MOTOR TIP



❶ Install the motor tip, do not overtighten the screws.

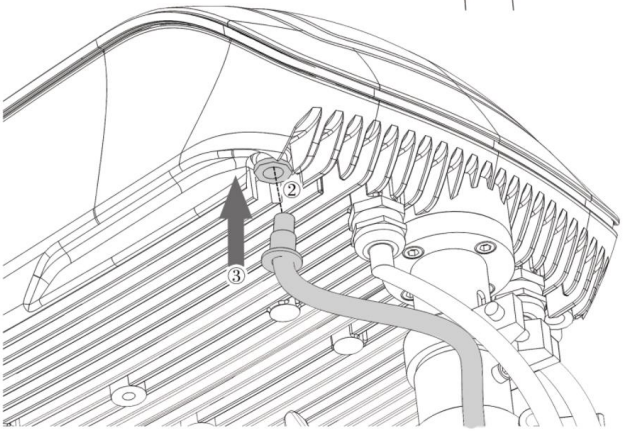


4.4.2. LIQUID COOLING TUBE

❶ Insert the TUBE FITTING TOOL into the LIQUID COOLING TUBE.

❷ Using the TUBE FITTING TOOL, insert the tube into the liquid cooling outlet.

❸ If you need to pull out the tube, just push the TUBE FITTING TOOL up and pull the tube out from the liquid cooling outlet.



■ *Liquid cooling only applicable for X10, X20 models.*

4.5. MOUNTING

4.5.1. SINGLE OUTBOARD

❶ Place one hand on the shaft and the other hand below the motor, keep your back firm and straight and lift the outboard using your leg muscles. Do not proceed if you are unable to handle the weight of the outboard, ask for help or use a crane lift instead.

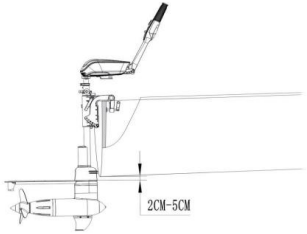
❷ Position the mounting clamp onto either the transom of your boat or a jack plate.

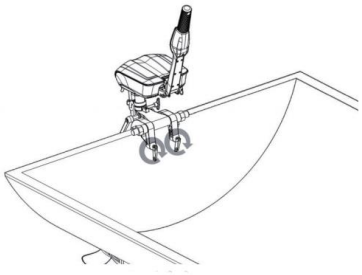
❸ Position the outboard towards the center of your craft.

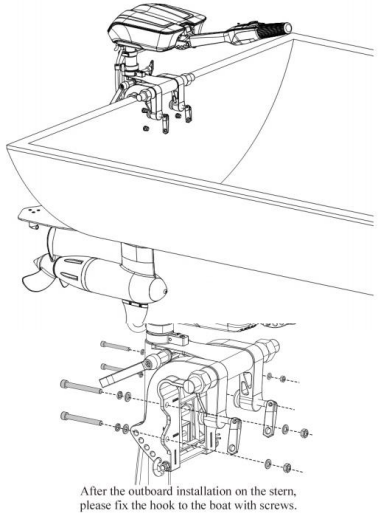
❹ Drill 4 holes through the transom of your boat at the location of the mounting screws.

❺ Insert the provided screws and washers and fasten with nut washers on the other side.

❻ Rotate the clamp fasteners clockwise to tighten.







Installation Method 1: Temporary Installation

Use clamp L-bolts on mounting clamp:

This method can only be adopted for temporary use and is not recommended for long-term application.

Please tighten the clamp L-bolts on mounting clamp again after a few minutes of outboard running. Check and re-tighten the clamp L-bolts periodically during operation to ensure they remain secured.
When using this installation method, reduce the speed if large-angle steering is required; otherwise, there is a risk of the outboard detaching from the hull and falling into the water.
During transportation of boat with outboard over land, please take off the outboard from boat. Otherwise, there is a risk of damaging the outboard's mechanical structure or even causing the outboard to fall directly from the boat.

Installation method 2: Fixed installation

Install the outboard to the stern panel with perforated screws:

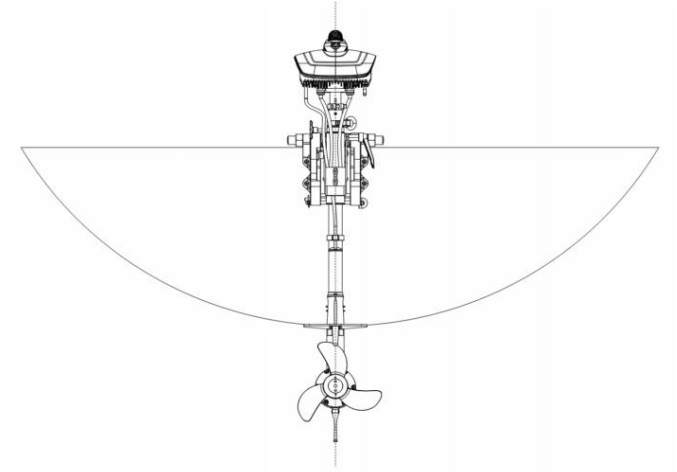
It is recommended to use this installation method as much as possible if conditions permit.

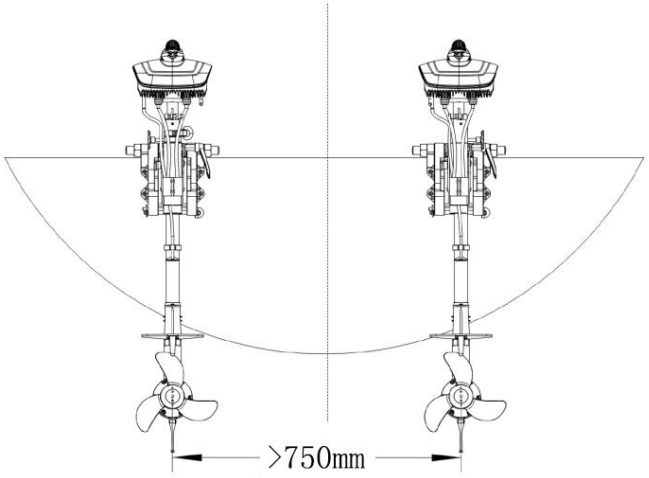
For this installation method, please loosen the clamp L-bolts on mounting clamp.
During transportation of boat with outboard over land, please place the outboard vertically and do not tilt it during transportation, otherwise it may damage the mechanical structure of the outboard.

- *Risk of lower back injury if handled incorrectly.*
- *Steps 4-5 involves drilling holes through the transom for the purpose of installing mounting screws. These steps are **MANDATORY** for transporting the outboard on a personal watercraft trailer.*

4.5.2. MULTIPLE OUTBOARDS

- *Follow the steps from 4.5.1. SINGLE OUTBOARD*
- *The outboards must be at least 750mm apart from each other and equidistant from the center of your watercraft.*
- *If the spacing is between outboards is too short, there is a risk whereby one propeller might hit the motor tip of the adjacent outboard during steering.*





4.6. PROPELLER DEPTH

**In the context of this manual, DEPTH refers to the depth of the propeller or ADJUSTABLE SHAFT LENGTH.*



- For maximum efficiency (to get the most nautical mileage out of your battery charge), the depth of the propeller must be fine-tuned. The optimum depth occurs when the hydrodynamic resistance is kept to a minimum while still retaining hydrodynamic traction.

- On one end of the spectrum, an extremely deep propeller will ensure a high degree of hydrodynamic traction i.e., the propeller is able to 'grip' the water more effectively to generate thrust. However, this increases hydrodynamic resistance as there is a larger chunk of the machine beneath the water surface. A lower depth might also cause problems whereby the skeg is more likely to hit the seabed and other debris.



- On the other end of the spectrum, an extremely shallow propeller will experience a lower hydrodynamic resistance. However, since the propeller is now closer to the water surface, it is more likely to draw air from the water surface. Although air is technically a fluid, but due to its much lower density compared to water, the propeller is unable to effectively 'grip' it. The motor speed will also increase abruptly due to the lower resistance of the air, and this might cause the motor to overheat.

- The Anti-ventilation plate is there to prevent the propeller from drawing air from the surface into the propeller. However, this would be pointless if the Anti-ventilation plate is above the water surface.

- Adding weight to the watercraft will cause the whole installation to go deeper below the water surface.



- Recommendation: With only one person on the watercraft, position the depth of the motor in a way such that the anti-ventilation plate is about 2-5 cm below the boat bottom.

- Follow-up tuning: If you observe a high volume of air bubbles forming in the wake of the propeller, increase the depth until the air bubbles are no longer visible.



■ *Wait until the CONTROLLER CASING is cool to the touch before attempting to adjust propeller depth.*

Refer to section 3.1.5. ADJUSTMENT COMPONENTS

❶ To adjust propeller DEPTH, loosen the STEERING FRICTION ADJUSTMENT T-Bolt.

❷ Adjust the propeller depth accordingly.

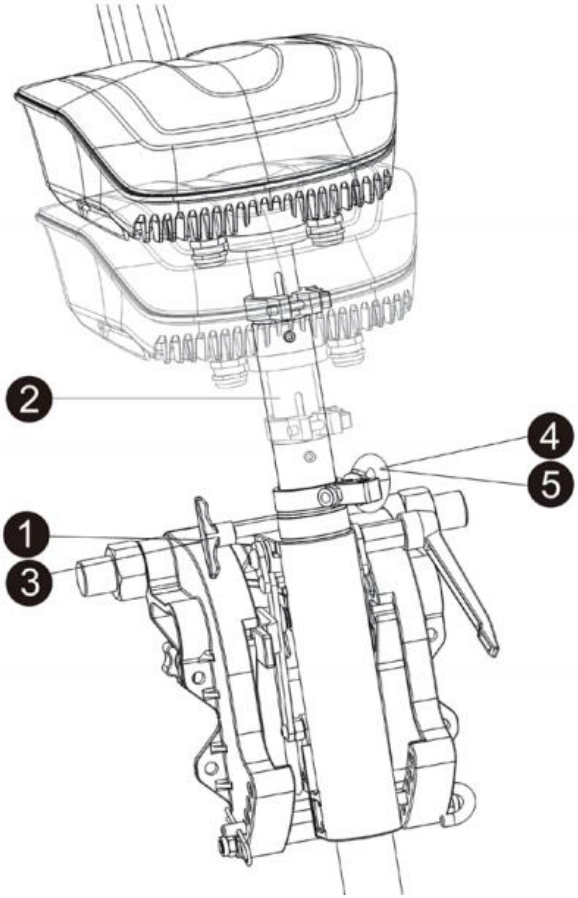
❸ Tighten the STEERING FRICTION ADJUSTMENT T-Bolt.

❹ Loosen the EYEBOLT and put it at bottom.

❺ Tighten the EYEBOLT.



■ *Keep your back straight when attempting to lift the entire outboard.*
■ *Do not place fingers near the shaft.*

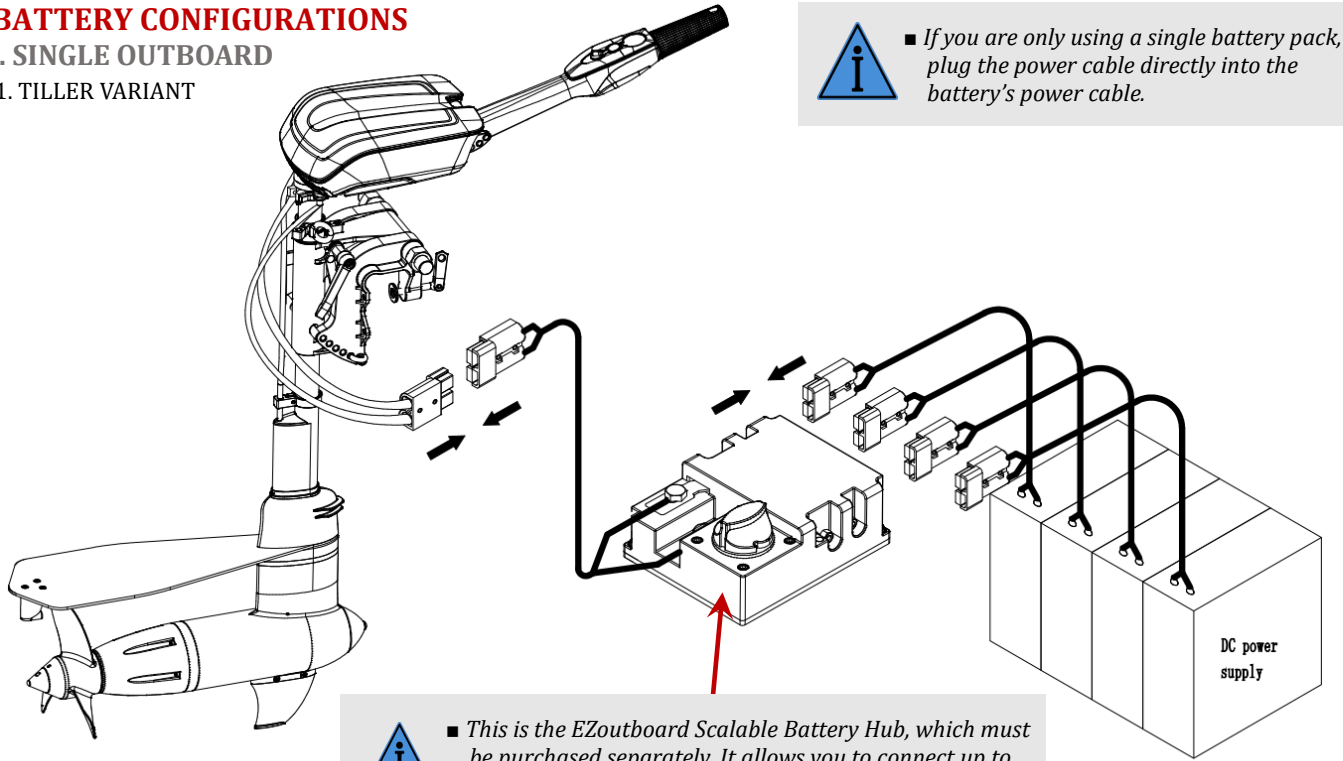


5. BATTERY CONFIGURATIONS

5.1. SINGLE OUTBOARD

5.1.1. TILLER VARIANT

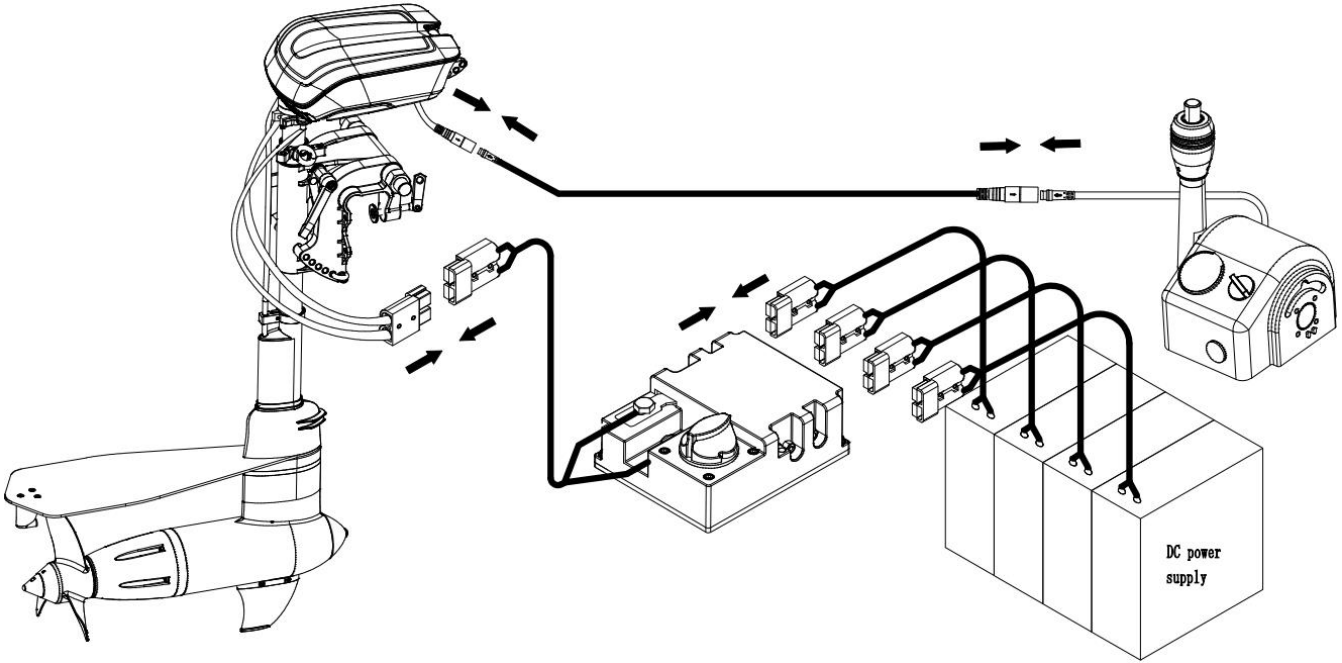
■ *If you are only using a single battery pack, plug the power cable directly into the battery's power cable.*



■ *This is the EZoutboard Scalable Battery Hub, which must be purchased separately. It allows you to connect up to four batteries in parallel configuration.*

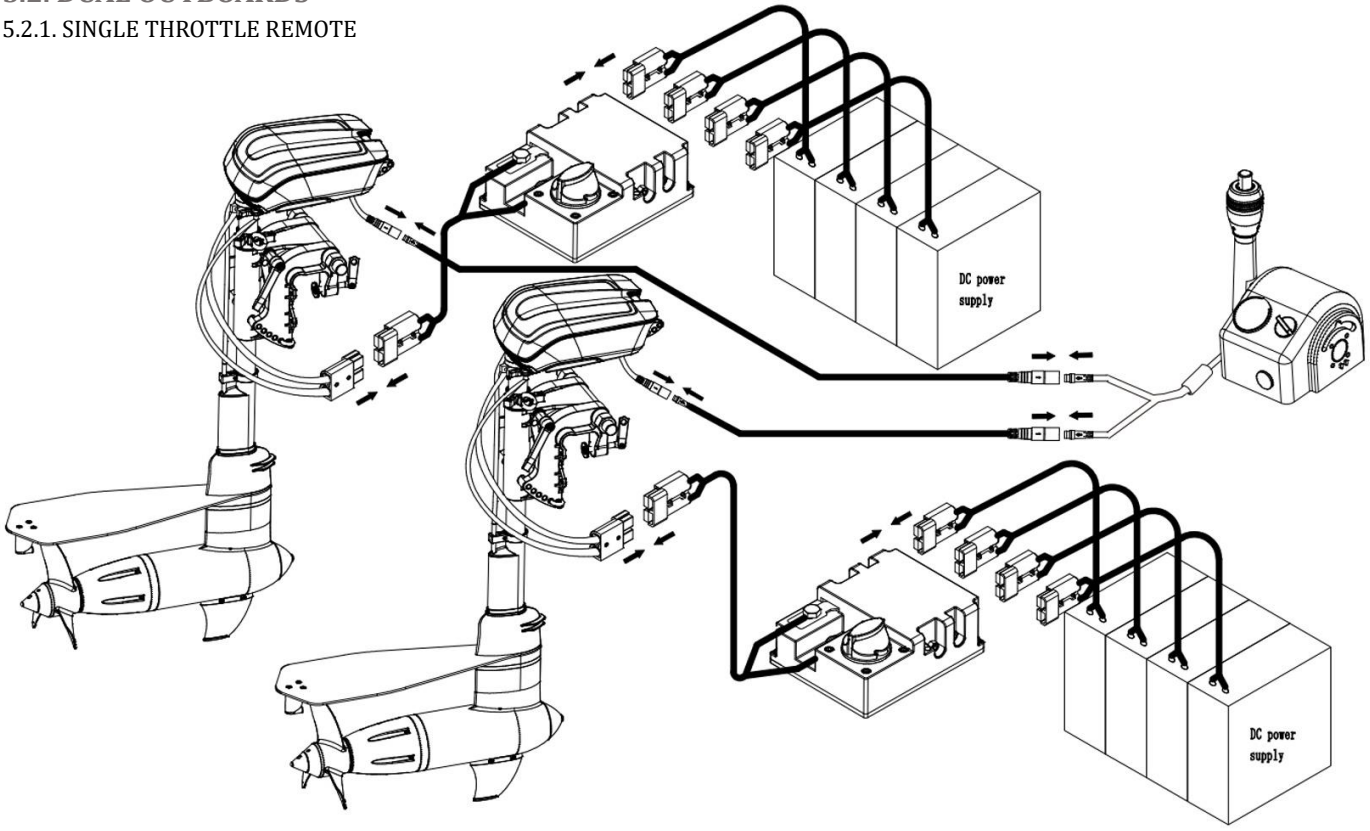
■ MODEL NUMBER: **BH4X**

5.1.2 REMOTE VARIANT

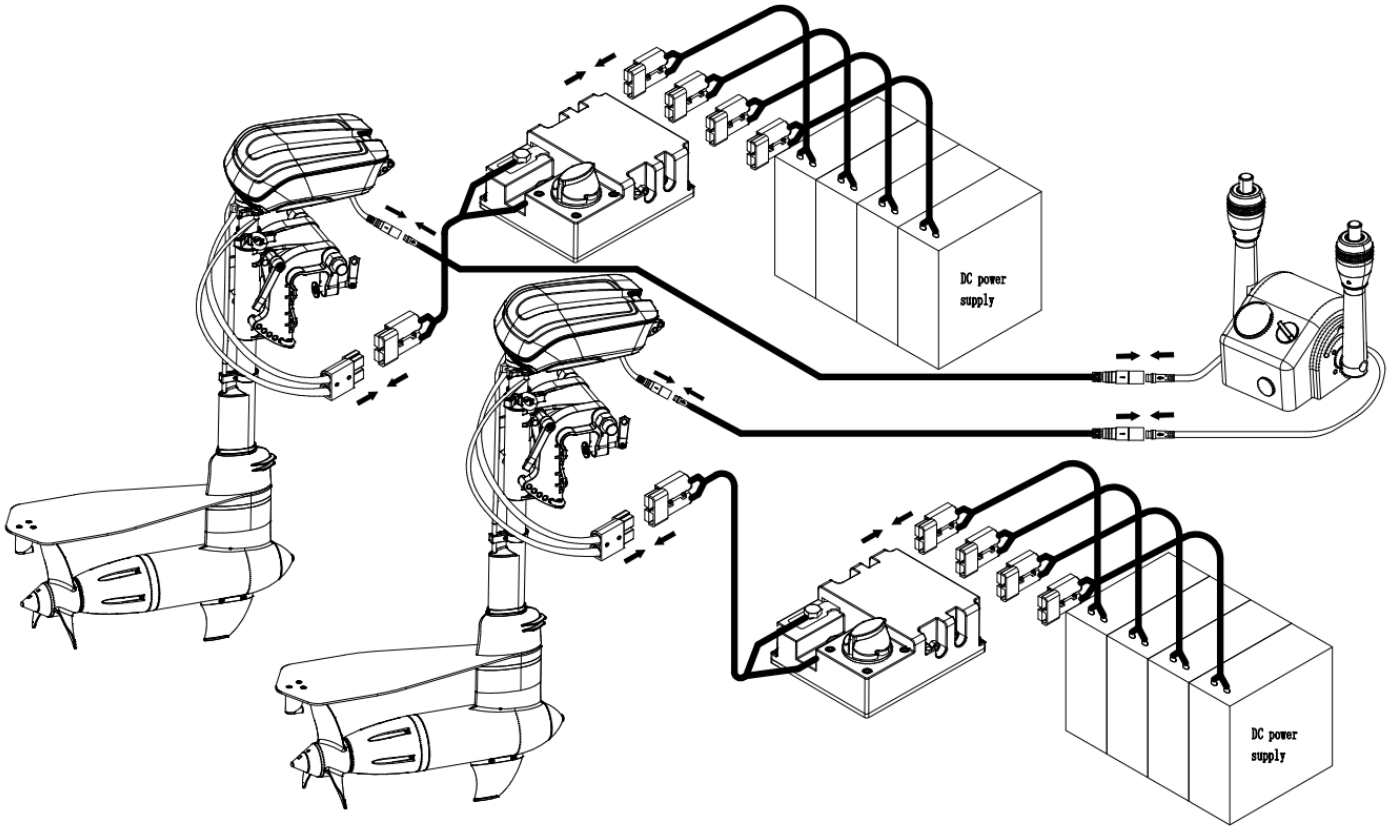


5.2. DUAL OUTBOARDS

5.2.1. SINGLE THROTTLE REMOTE



5.2.2 DUAL THROTTLE REMOTE



5.3. THIRD PARTY BATTERIES

- If you are using a locally sourced third-party battery, be sure to check the technical specifications.
- Battery type: Lithium-ion
- Voltage: 48V
- Continuous current discharge: More than or equal to the FULL SPEED CURRENT of your respective EZoutboard model.

SPECIFICATION	X05	X10	X20
[1]*approx.* OPTIMUM SPEED (km/h) kilometers per hour	14.1	25.2	30.9
[1]*approx.* OPTIMUM SPEED (nm/h) nautical miles per hour	7.6	13.5	16.2
FULL SPEED CURRENT (Amps)	**65**	**135**	**220**
RECOMMENDED CAPACITY (Ah)	100	200	400
RECOMMENDED CAPACITY (Wh)	4800	9600	19200
[2]*tested avg* RANGE (minutes)	100	100	100
[2]*tested avg* RANGE (kilometers)	23.5	42.0	51.5
[2]*tested avg* RANGE (nautical miles)	12.7	22.7	27.8

- *[1] Optimum speed values may differ from actual values due to factors such as watercraft size, shape, and weight.*
- *[2] Range values may differ from actual values due to factors such as water current bearing, water current speed, wind, and other factors.*
- *Values calculated based on built-in GPS speed and other data extracted from log file of the mobile app. Watercraft used in test was a 5m dingy with 3 persons onboard averaging 220kg.*

6. INITIAL STARTUP

6.1. ADJUSTMENTS

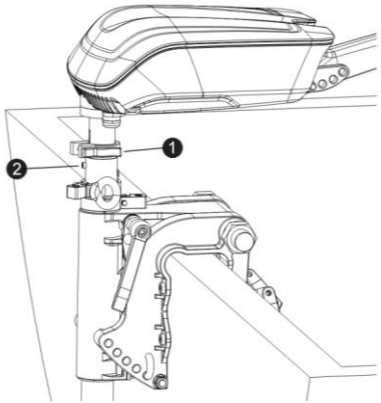
6.1.1. PROPELLER DEPTH ADJUSTMENT

■ *See section 4.6. PROPELLER DEPTH.*

6.1.2. TILLER HEIGHT ADJUSTMENT

■ Height adjustment o*nly applicable to X05 and X10 models due to limited movement of thicker cables.*

Refer to section 3.1.5. ADJUSTMENT COMPONENTS.



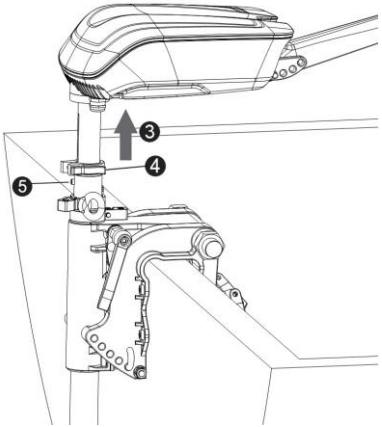
❶ Unlock the HEIGHT ADJUSTMENT CLAMP handle.

❷ Grab onto the CONTROLLER CASING and unfasten the HEIGHT ADJUSTMENT SCREW slowly until the controller box shaft is loose.

❸ Adjust the height of the CONTROLLER CASING until desired TILLER height is achieved.

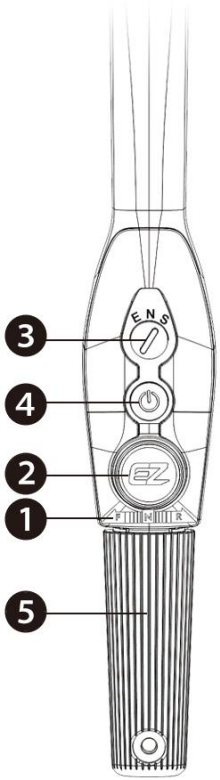
❹ Lock the HEIGHT ADJUSTMENT CLAMP.

❺ Fasten the HEIGHT ADJUSTMENT SCREW.



6.2. INITIAL STARTUP

6.2.1. TILLER VARIANT



❶ Make sure throttle is at (N) position before operating.

❷ Put the safety key in its grooved place on throttle. If it's removed, the battery power will be cut off and the outboard will stop working.

❸ Select the speed mode you need (Sports, Normal, ECO). Normally speaking, the outboard can reach its best performance at Sports mode, while it can save energy at ECO mode.

❹ Press the power button, it will light up when power is on.

❺ Twist the tiller throttle slowly to F (Forward) or R (Reverse), then outboard will start working and the boat will start running.

- Before running EZ Outboard on boat, if testings are needed, please pay attention:
  1. Please fix the EZ Outboards before testing and make sure personnel and other items are far from the propeller. Otherwise, it might cause serious damages.
  2. Do not run EZ Outboards un-loaded! Make sure the propeller is fully in the water before the testing.

6.2.2. REMOTE VARIANT

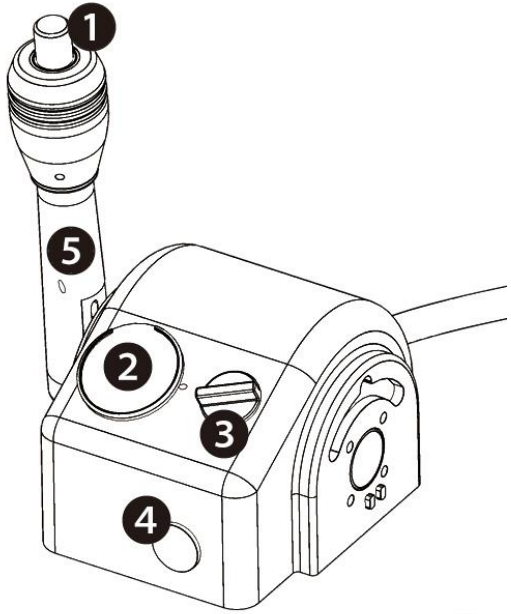
❶ Make sure the joystick is vertical and at (N) position before operating.

❷ Put the safety key in its grooved place on throttle. If it's removed, the battery power will be cut off and the outboard will stop working.

❸ Select the speed mode you need (Sports, Normal, ECO). Normally speaking, the outboard can reach its best performance at Sports mode, while it can save energy at ECO mode.

❹ Press the power button, it will light up when power is on.

❺ Press the button on the joystick and push it slowly to F (Forward) or R (Reverse), then outboard will start working and the boat will start running.





- Before running EZ Outboard on boat, if testings are needed, please pay attention:
  1. Please fix the EZ Outboards before testing and make sure personnel and other items are far from the propeller. Otherwise, it might cause serious damages.
  2. Do not run EZ Outboards un-loaded! Make sure the propeller is fully in the water before the testing.

6.3. MOBILE APP

6.3.1 DOWNLOAD APP

https://www.goldenmotor.com/apps/EZdashboard.apk

SCAN QR CODE TO DOWNLOAD APP

OPEN CAMERA APP, POINT TOWARDS QR CODE, TAP THE PROMPT TO OPEN LINK IN BROWSER.

EZoutboard
ANDROID

EZoutboard
iOS

6.3.2 INTERFACE

LOG FUNCTION
■ *Records a log of your trip parameters.*

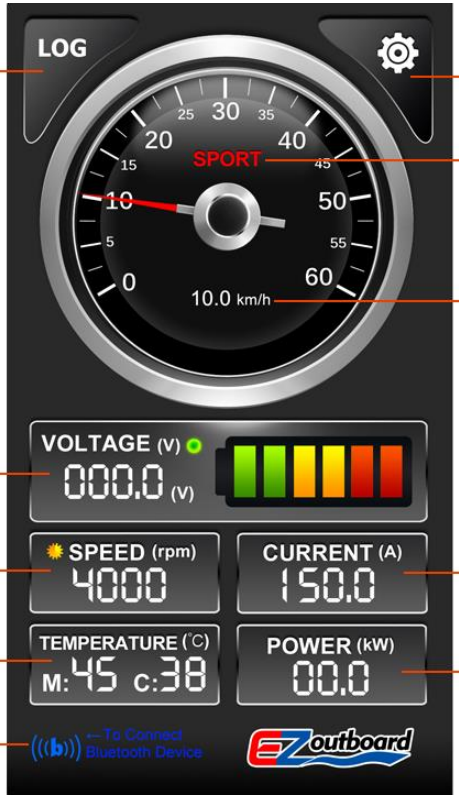
■ Section 9.4.1. EFFICIENCY explains how you can use these parameters to find your optimum TRIM and PROPELLER DEPTH.

BATTERY VOVOLTAGE
■ *Displays battery voltage in Volts.*

PROPELLER SPEED
■ *Displays MAGPROP Speed in RPM.*

TEMPERATURE
■ *M: Displays MOX9 Motor Temperature in Celsius.*
■ *C: Displays Controller Temperature in Celsius.*

PAIRING
■ *Tap to pair mobile device with EZoutboard.*



SETTINGS
■ *Advanced settings for customizing the output current Eco, Normal and Sport modes.*

DRIVE MODE
■ *Displays selected drive mode.*

SPEEDOMETER
■ *Displays GPS speed in km/h.*
■ *Can be switched to mile/h.*

CURRENT
■ *Displays MOX9 Motor current in Amps.*

POWER
■ *Displays MOX9 Motor Power in Kilowatts.*

6.3.3 PAIRING

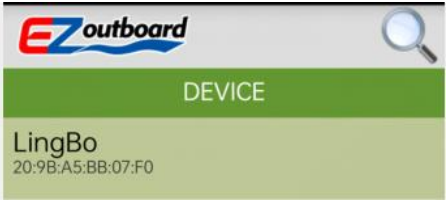
❶ To start pairing your EZoutboard to your mobile device, you need to enable BLUETOOTH on your mobile device.

❷ Power up your EZoutboard.

❸ On the EZoutboard APP, tap the PAIRING button.



❹ Tap on “LingBo”.



❺ The PAIRING button turns blue if pairing is successful.



■ *Be sure to allow the APP to track your position to enable GPS speed display.*

7. TRANSPORATION

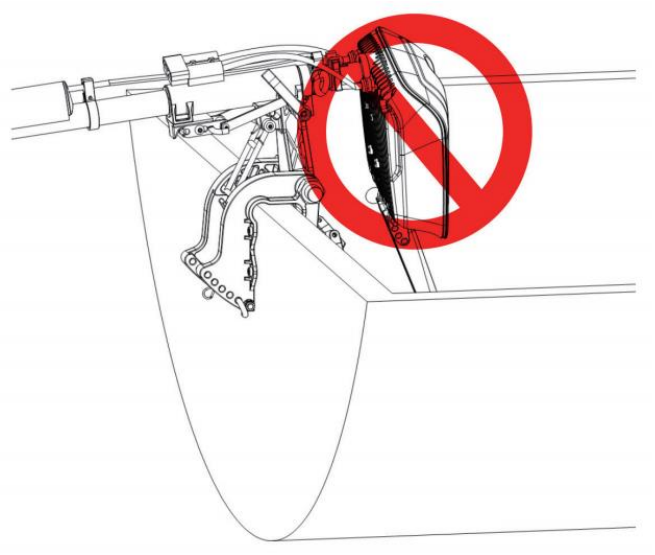
Precautions:

1. Check that you have completely secured the MOUNTING CLAMP to the boat with the four mounting screws mentioned in Section 4.5 Steps 4 & 5.

2. DO NOT stow the EZoutboard during transportation.

3. Keep the EZoutboard in its vertical position, if the SKEG touches the road, TRIM the outboard upwards.

4. If the maximum TRIM angle still causes the SKEG to touch the road, your only option is to unmount the outboard and place it lying flat in the watercraft.



- The above precautions are **MANDATORY** when attempting to transport a fully assembled EZoutboard.
- Please make sure you avoid uneven road surfaces if you are transporting the EZoutboard on a personal watercraft trailer. If this is unavoidable, slow down your vehicle when driving across bumps and potholes.
- The MOUNTING CLAMP is designed only to endure buoyancy forces of water waves which do not generate large amounts of shock and impulse on the clamp. Uneven road terrains will generate massive amounts of shock and impulse that only vehicle suspension systems are able to withstand.

8. STORAGE

- If you are going to store the EZoutboard for more than two months, we recommend that you disassemble the EZoutboard and store it in the original packaging.
- Clean your EZoutboard with fresh water and soap before long term storage.
- Store in a cool and dry place.



- No matter the EZ Outboards will be stored in their original packing or other packing, remember to add paddings to the MOTOR and make sure the MAGPROP and PROPELLER will not touch any hard surface.
- Make sure EZ Outboards will be in vertical state during storage.



- Salt water will crystallize over time. It is possible for residual salt to jam the gap between moving parts. Make sure you rinse off saltwater before storage.
- Even though EZoutboard is processed with corrosion resistant paint, salt water and other unknown chemicals in the water might still cause corrosion, do not use chemicals such as paint thinners or acetone to clean the EZoutboard.
- Wet dirt and dust particles will harden after water has evaporated, similar to saltwater, the residual dirt and dust will clump and jam the gaps between moving parts.
- Long term exposure to extreme heat and UV rays from sunlight will cause ABS plastic parts to deteriorate and deform, if you are unable to store the EZoutboard under shade, place a reflective cloth on top of plastic parts.
- If the MAGPROP and PROPELLER is under constant stress from unidirectional forces, its center axis of rotation will shift and in turn cause vibration problems. If such a problem arises the EZoutboard will need to be repaired and recentered.

9. MANEUVERS

9.1. BASIC MANEUVERS

9.1.1 FORWARD/REVERSE

- To accelerate forwards, twist the throttle Anti-clockwise towards the ‘F’.
- To accelerate in the reverse, twist the throttle Clockwise towards the ‘R’.
- The further you twist, the faster you accelerate.
- There is no dedicated brake, however if you wish to slow the watercraft, twisting the throttle in the opposite direction will slow down the watercraft.
- When the throttle is in the neutral position, denoted by ‘N’, the motor is in standby mode and will not spin.

9.1.2 STEERING

- On a tiller system, facing towards the front of the watercraft, pushing the tiller to the right will cause your watercraft to turn left and vice versa.
- On a remote-control system, steering depends on how you have setup the Teleflex cables.

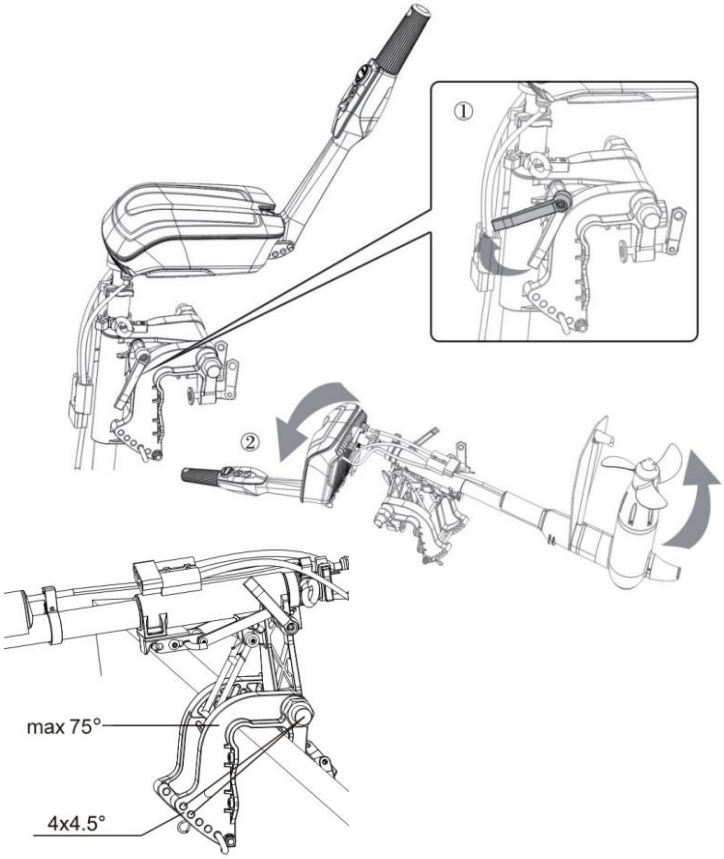


- There is no maximum steering angle, the EZoutboard can be steered 360 degrees full circle.
- Depending on how you set up the EZoutboard, steering the EZoutboard **more than 60 Degrees** either direction might cause problems whereby the Propeller or Anti-ventilation plate might hit the watercraft.
- Be advised that when left unattended, strong underwater currents might cause the EZoutboard to rotate. Always stow the EZoutboard when not in use.

9.2. ADVANCED MANEUVERS

9.2.1. STOWING

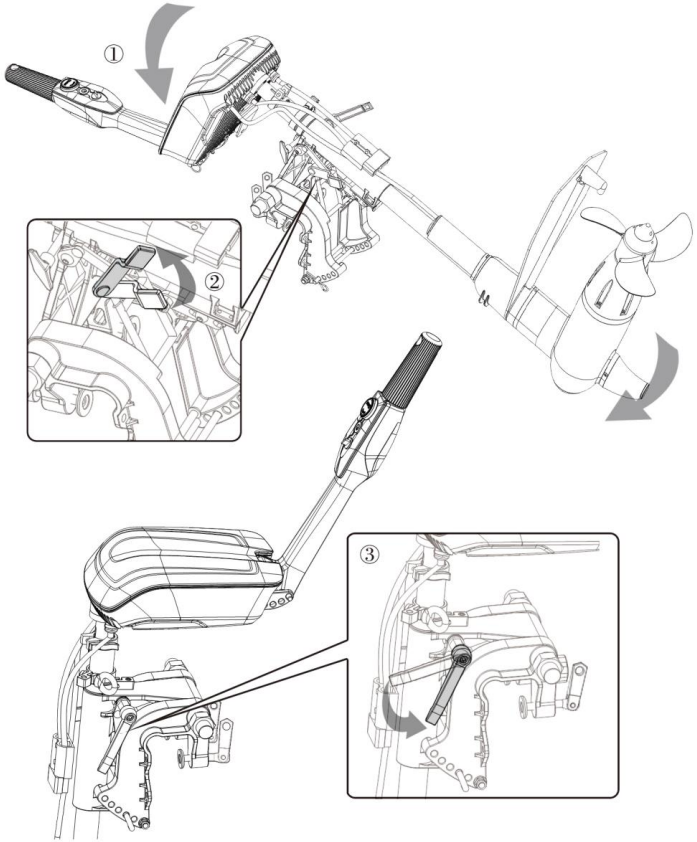
- To stow the EZoutboard, unlock the TRIM LOCK LEVER.
- Select a suitable tiller tilt angle and push down on the throttle until the entire EZoutboard is at its stowing position of 75 degrees. (Or until you hear a click)
- To unstow the EZoutboard, push down on the throttle a little and unlock the STOW RELEASE LEVER.
- Slowly unstow the EZoutboard until the base is in contact with the TRIM LOCK PIN.
- Lock the TRIM LOCK LEVER and nudge on the throttle to make sure that the EZoutboard is firmly secured at its trimming position.



- For users without a tiller module, you might not be able to fully stow the EZoutboard unless you have purchased the STAND-ALONE STOWING LEVER.

9.2.2. TRIMMING

- To trim the EZoutboard, you need STOW the EZoutboard first.
- Nudge the TILLER to ensure that the EZoutboard is completely locked at its STOWING position.
- Reach down and pull out the TRIM LOCK PIN's wire clip.
- Do not place your hands between the shaft and mounting clamp, move to the other side and pull out the TRIM LOCK PIN.
- Insert the TRIM LOCK PIN to a desired trimming angle, available angles are in increments of 4.5 degrees.
- Push the wire clip on the other side through the TRIM LOCK PIN.
- Hold down the tiller with your **left** hand and pull on the STOW RELEASE LEVER with your **right** hand.
- Allow the EZoutboard to tilt back slowly to its vertical position.
- Lock the TRIM LOCK LEVER.
- Nudge the TILLER to ensure that the EZoutboard is completely locked at its trimmed position.



9.3. EMERGENCY PROTOCOLS

9.3.1. COLLISION

■ In case of a collision with floating debris:

❶ Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
❷ Your top priority is to stay calm and assess the situation and the general well-being of you and any passengers onboard.
❸ STOW the EZoutboard and assess for damages, specifically on critical parts as the MOTOR, PROPELLER, MAGPROP, LOWER SHAFT and MOUNTING CLAMP.
❹ If your assessment concludes that the critical parts mentioned in step ❸ has sustained substantial damage i.e., deformations, cracks, or missing parts, cease operation and return to the nearest port via oars or tugboats.
❺ If your assessment concludes that the critical parts has only sustained minor damage, UNSTOW the EZoutboard and continue operation at a lower speed.

■ In case of a full-on collision with another vessel:

❶ Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
❷ Your top priority is to stay calm and assess the situation and the general well-being of you and any passengers onboard both yours and the other vessel.
❸ Discuss with the Captain of the other vessel in a friendly manner about the collision.
❹ If the EZoutboard did not come into contact with the point of collision, assess for damages to the MOUNTING CLAMP.
❺ If the EZoutboard came into contact during the collision, STOW the EZoutboard and assess for damages, specifically on critical parts as the Motor, Propeller, MAGPROP, lower shaft and Mounting Clamp.
❻ If your assessment concludes that the critical parts mentioned in step ❺ has sustained substantial damage i.e., deformations, cracks, or missing parts, cease operation and return to the nearest port via oars or tugboats.
❼ If your assessment concludes that the critical parts has only sustained minor damage, UNSTOW the EZoutboard and

continue operation at a lower speed.

■ **In case of the EZoutboard scraping the seabed:**

❶ Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
❷ Your top priority is to stay calm and assess the situation and the general well-being of you and any passengers onboard.
❸ STOW the EZoutboard and assess for damages on the SKEG as well as critical parts as the MOTOR, PROPELLER, MAGPROP, LOWER SHAFT and MOUNTING CLAMP.
❹ If your assessment concludes that the critical parts mentioned in step ❸ has sustained substantial damage i.e., deformations, cracks, or missing parts, cease operation and return to the nearest port via oars or tugboats.
❺ If only the SKEG and LOWER SHAFT is slightly bent, UNSTOW the EZoutboard and continue operation. Get your SKEG and LOWER SHAFT fixed before the next voyage.
❻ If only the SKEG is damaged, UNSTOW the EZoutboard and continue operation. Get your SKEG replaced before the next voyage.



■ Since EZoutboard utilizes a Direct Drive design, the shaft contains no rotating parts or gears.

■ There are 4 cables in the shaft, 3 Phase Cables and 1 Control Cable, which are all flexible.

■ Though it is risky, you might get away with a slight bend in the shaft.



■ DO NOT attempt to continue using the EZoutboard if there is substantial damage visible as this will most probably cause irreparable damage to your EZoutboard.

■ Do not underestimate cracks on critical parts. These cracks may look harmless, but they generate a stress concentration point and will cause complete fracture if further stresses are applied.

9.3.2. ENTANGLEMENT

■ **Diagnosis. Your Propeller is entangled if the following symptoms are observed.**

- ■ The MOTOR emits a growling noise.
- ■ Your controller reports an OVERLOAD error.
- ■ The MOTOR runs but your watercraft is not advancing.

■ **In case of entanglement:**

1. Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
2. STOW the EZoutboard and remove the debris either by hand or using a sharp edge to sever the fibers. If unsuccessful, perform a PROPELLER REPLACEMENT. See section 11.3.1. PROPELLER.
3. If the debris has been successfully removed, UNSTOW the EZoutboard and accelerate forwards and reverse slowly.
4. If problems persist, chances are that your MAGPROP is deformed i.e., it does not spin on its central axis, cease operation, and return to the nearest port via oars or tugboats.
5. If the symptoms disappear, continue operation.



- ■ In most situations, entanglement is caused by seaweed or ropes and strings from fishing nets floating in the water.
- ■ On rare occasions, entanglement might be caused by build-up of dried dirt and dust particles between the gap of the MOX9 MOTOR and the MAGPROP. The only workaround is to perform a full MAGPROP REPLACEMENT.

9.3.3. MAN OVERBOARD

■ **In case of man overboard:**

❶ Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
❷ STOW the EZoutboard.
❸ Get the man onboard by means of a rope or float board.

■ **In case of unconscious man overboard:**

❶ Pull off the safety key to halt the motor. Press the POWER button to turn off the power and disconnect the battery.
❷ STOW the EZoutboard.
❸ Put on a life vest, toss another life vest towards the unconscious man overboard and swim to retrieve the person.
❹ Assess the situation and follow standard boating emergency protocols.



■ DO NOT attempt to drive the vessel towards the man overboard, the propellers are extremely fast, and you might not be able to stop the watercraft in time.

■ It is always safer for the man overboard to swim or be pulled towards the watercraft.

9.3.4. OUTBOARD OVERBOARD

■ **In case of outboard overboard:**

❶ Disconnect the battery and pull on the safety cable until the EZoutboard has resurfaced.
❷ Grip on the CONTROLLER COMPONENT and try to drag the EZoutboard back onboard.

9.4. POWER AND EFFICIENCY

9.4.1. BATTERY VOLTAGE

- When your battery output voltage is below 44V, the controller automatically changes your PROPULSION MODE to ECO.
- Switch to a diesel-powered generator or an alternative power source.

9.4.2. COMPATIBLE ALTERNATIVE POWER SOURCES

- You can either charge your battery by means of a solar powered charger. The specifications of the solar powered charger must match your battery's power input specifications.
- Choose a diesel-powered generator that can output **48V DIRECT CURRENT** and the current required by your particular mode. Refer to section 2.1. Technical Specifications.
- Diesel-powered generators that can output more current than required are also compatible as long as the voltages match as EZoutboard will only draw whatever amount of current that is needed.



- It is possible to use a Diesel-powered generator that outputs a lower current than what is required, however this would mean that you cannot use the EZoutboard at full throttle. The controller will output a "Low current" failure if your EZoutboard tries to draw more current than what your diesel generator can provide. Hence you would need to throttle just below the output current limit of your diesel generator.



- If you are having difficulty grasping the concept of Voltages Current and Watts, let's compare it to a petrol-engine of a vehicle. Voltage can be thought of as the type of fuel used and Current as the rate of fuel being consumed. The current draw increases as you throttle harder, but the voltage remains the same. The higher the current, the more heat is produced within the entire circuitry and thicker cables and components must be used. However due to higher voltages being extremely dangerous especially when used in a wet environment, we have instead opted for a safe 48V system sacrificing thermal efficiency.

- Meanwhile, Power is the product of Voltage X Current in Watts and is proportional to your Current draw.

9.4.3. EFFICIENCY (VERY TECHNICAL)

Skip this section unless you want to drop down this rabbit hole.

■ To get the most distance out of your battery, you want to find the sweet spot where the EZoutboard is most efficient.

■ This depends on a multitude of factors; here's a full list of these factors:
- Watercraft hydrodynamic resistance (A function of watercraft shape, effective surface area and depth.)
- Angle of watercraft to water surface (A function of speed and weight distribution. Can be fine-tuned via TRIMMING.)
- Propeller slip (A function of propeller pitch, speed of advance and motor speed.)
- Wind conditions.
- Water viscosity and density.
- Motor efficiency curve (The speed at which the motor is most efficient, which is 2500RPM for the MOX9.)

■ Since we are unable to address all of these factors of which some are out of control, the best we can do is fine-tune the factors that we can simplify and fine-tune the controls that we have.

■ The sweet spot of efficiency is defined as the longest distance you can travel on one charge of battery.

■ Refer to Section 6.3. MOBILE APP. By monitoring motor speed and current draw, you are able to find the optimum TRIM ANGLE and PROPELLER DEPTH. Tweaking the TRIM angle and PROPELLER DEPTH and keeping the motor speed constant at 2500RPM, you are trying to look for the lowest current draw.

■ Disregarding wind speed and underwater current speed, the optimum TRIM ANGLE and PROPELLER DEPTH would produce the longest distance travelled per battery charge.

■ Keep in mind that the optimum settings will only work for your current configuration and will be different as you make changes to your watercraft.

10. MALFUNCTIONS

■ When your EZoutboard automatically detects a problem, your LEDs will flash. The number of flashes will indicate the problem detected. Most of the time this problem can be resolved by restarting the system. If this does not solve the problem, power off your EZoutboard and refer to the table below for a full diagnosis of the problem.

	CAUSE	DESCRIPTION	REQUIRED ACTIONS
1	OVERVOLTAGE	Battery Voltage above allowed limit.	Use a suitable battery.
2	UNDERVOLTAGE	Battery Voltage below allowed limit.	Battery power is depleted, charge the battery.
3	MOTOR OVERCURRENT	Case 1: Short circuit has occurred. Case 2: Battery is incompatible.	Try using another battery. If problem persists, send for repair.
4	MOTOR OVERLOAD	Case 1: MAGPROP jammed or entangled. Case 2: Propeller stuck in seabed.	Refer to section 9.3. EMERGENCY PROTOCOLS.
5	HALL SENSOR FAILURE	Case 1: Motor flooded with water. Case 2: Hall sensor circuitry faulty.	STOW outboard, send for repair.
6	MOSFET FAILURE	Controller MOSFETs faulty.	Restart system. If problem persists, send for repair.
7	PHASE ERROR	Phase cables are disconnected.	Send for repair.
10	SELF-CHECK FAILURE	System parameters has failed startup self-check test.	Restart system. If problem persists, send for repair.
11	CONTROLLER OVERHEATED	Controller temperature above allowed limit. Thermal protection engaged.	Power off the EZoutboard and wait for the controller to cool. Restart and try not to use the EZoutboard under extreme weather conditions.
12	THROTTLE FAILURE	Throttle output voltage exceeded limits set by controller.	Restart system. If problem persists, send for repair.
13	MOTOR OVERHEATED	Motor temperature above allowed limit. Thermal protection engaged.	Power off the EZoutboard and wait for the motor to cool. Restart and try not to use the EZoutboard under extreme weather conditions.
14	THROTTLE SIGNAL NOT IN "N" POSITION	When powered on, the throttle signal is not in "N" position.	Turn the throttle to "N" position.If problem persists, change a new th rottle.

11. MAINTENANCE

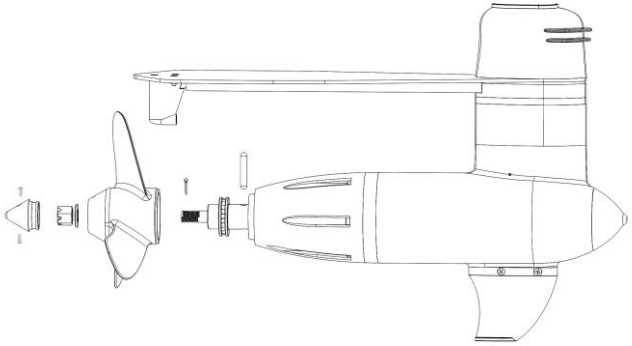
11.1. SERVICE PARTS LIST

MATERIAL CODE	ITEM NO.	REMARKS
GM20.007.618	Motor Tip	Available on demand
GM20.007.623	Propeller Tip	Available on demand
SG0002	Skeg	Available on demand
X10P7	Propeller 10*7	Available on demand
X20P10	Propeller 10*10	Available on demand
X20P7	Propeller 10.5*7	Available on demand
TL00L2	Tiller Throttle	Available on demand
TRC-010L	Remote-Control Throttle (L)	Available on demand
TRC-010R	Remote-Control Throttle (R)	Available on demand
TRC-010D	Remote-Control Throttle (D)	Available on demand
GM20.007.501	Plastic top cover	Available on demand
VEC72220	Controller (X05)	Available on demand
VEC72300	Controller (X10)	Available on demand
VEC72500	Controller (X20)	Available on demand
BL0001	Bluetooth Module	Available on demand
MBL0001	Mounting Clamp	Available on demand
AX0501	Anti-ventilation Plate (X05)	Available on demand
AX1001	Anti-ventilation Plate (X10)	Available on demand
AX2001	Anti-ventilation Plate (X20)	Available on demand
XM05	MOX9 Motor (X05)	Available on demand
XM10	MOX9 Motor (X10)	Available on demand
XM20	MOX9 Motor (X20)	Available on demand
EZLCT	Liquid-Cooling Tube (X20)	Available on demand, customizable
RT0002	Throttle Extension Cable	Available on demand, customizable
GM18.010.008	Coupling Kit (X05)	Available on demand
GM18.010.009	Coupling Kit (X10)	Available on demand
GM18.010.010	Coupling Kit (X20)	Available on demand

11.2. PROPELLER REPLACEMENT

Refer to Section 3.1.4. PROPULSION COMPONENT

1. Using a 4mm hex key, unfasten the 2 socket head screws of the PROPELLER.
2. Place your hex key into the hole of the PROPELLER TIP and pull out the PROPELLER TIP.
3. Flatten the wire clip ends with a long nose pliers and pull the wire tip out of the locking nut.
4. Insert the nose of the pliers into opposite grooves of the locking nut, twist it counterclockwise until the nut is loose and remove the nut by hand.
5. Grab the propeller and pull it out of the MAGPROP.
6. Align your replacement propeller along the locking pin of the MAGPROP shaft and push it down the shaft.
7. Place the locking nut on the MAGPROP shaft with the grooves facing outwards and gently spin it clockwise with your hand until you start to feel torsional resistance. Do not apply any excessive force to the nut.
8. Place the nose of the pliers into the grooves of the locking nut and twist it **clockwise** by approximately **60 degrees.**
9. Untwist the locking nut **COUNTERCLOCKWISE** by approximately **30 degrees.**
10. Insert the wire clip ends into the hole above the locking nut and pry one of end outwards.
11. Remount the PROPELLER TIP and fasten the socket head screws.



- Overtightening the locking nut will cause irreparable damage to the thrust bearings.
- It is imperative that you do not overtighten the locking nut as this will generate stress on the MAGPROP thrust bearings.
- The acceptable range of torque applied on the locking nut is between 0.01Nm to 0.05Nm.

11.3. BEARING REPLACEMENT

Refer to Section 3.1.4. PROPULSION COMPONENT and Section 11.3. PROPELLER REPLACEMENT

❶ Perform steps ❶ to ❺ of Section 11.2. PROPELLER REPLACEMENT.
❷ Using your pliers or a soft faced hammer, gently knock on one end of the locking pin until it can be completely removed.
❸ Take two hex keys and insert each of them into the circular holes of the MAGPROP.
❹ Gently pry on the hex keys until the thrust bearing pops out.
❺ Take your replacement thrust bearing and look for the letter 'M' on one of the three pieces. This is the side that faces the MOTOR.
❻ Sandwich the ball-holding ring between the circular grooves.
❼ Slot the bearing into the MAGPROP shaft with the letter M facing towards the MOTOR and push the thrust bearing all the way into the MAGPROP.
❽ Insert the locking pin and gently knock it until it is midway through the MAGPROP shaft hole.
❾ Perform steps ❻ to ⓫ of Section 11.2. PROPELLER REPLACEMENT.



■ It is acceptable to, in step ❼, to push the thrust bearing with a little more force as this is a direct force with no lever effect. Overtightening the locking nut however, will exert a far greater force on the thrust bearing.

12. WARRANTY & REPAIR

12.1 WARRANTY CONDITIONS

Changzhou Golden Motor Technology Co. Ltd (China) guarantees that the product: EZoutboard X-series, specifically the X-05, X-10 and X-20 models, are of perfect condition without manufacturing defects and in full packaging out of factory. Said defects not including minor cosmetic damages on the product or packaging.

Changzhou Golden Motor Technology Co. Ltd (China) is obligated to compensate for infant failure within 48 hours of use and any non-intentional damage on parts that are eligible for warranty within the warranty period. The definition of the warranty period begins on the date of sale to the end-consumer and ends on the specified duration. Any warranty claims must be claimed before said duration expires.

Changzhou Golden Motor Technology Co. Ltd (China) is not obligated to compensate for any deliberate damages done to the product or packaging out of factory or any incurred fees for freight, towing, communication, accommodation, loss of time and financial losses during the course of the warranty or repair procedure.

Warranty grace period lasts 45 days after expiry date only in cases where date of discovery up to 45 days late prior to date of actual failure.

Distributors or Dealerships are not entitled to make any legally binding statement on behalf of Changzhou Golden Motor Technology Co. Ltd (China) without consent.

Warranty is only eligible under the following conditions:
- The specified parts are eligible for warranty claims.
- The warranty card, point of sale receipt and warranty records (if any) are present.
- The product has undergone proper periodical maintenance stated in this manual.
- The hermetic parts have not been tampered with.
- The product has not undergone unauthorized modification, alteration, deliberate abuse or incorrect method of storage.
- The product has been assembled, installed, and utilized according to the exact methods described in this manual.
- Prior repairs/modifications have been done through official channels and/or by the end-consumer under authorized instructions.
- The product has been used with authorized third-party accessories or with specifications specified in this manual.

12.2 WARRANTY PERIOD

■ The warranty period begins on your first day of purchase.

■ A warranty grace period of up to 45 days after your warranty has expired can be negotiated.

■ Not all parts of the EZoutboard are eligible for warranty claims, check the list below to find out more.

COMPONENT	CLASSIFICATION	ELIGIBILITY	PERIOD
EZoutboard BODY	NON-WEAR	ELIGIBLE	24 MONTHS
MOX9 MOTOR	NON-WEAR	ELIGIBLE	24 MONTHS
EZkontrol CONTROLLER	NON-WEAR	ELIGIBLE	24 MONTHS
PLASTIC TOP COVER	NON-WEAR	ELIGIBLE	24 MONTHS
MOUNTING CLAMP	SEMI-WEAR	ELIGIBLE	24 MONTHS
PROPELLER	WEAR PARTS	NOT ELIGIBLE	N/A
PROPELLER TIP	WEAR PARTS	NOT ELIGIBLE	N/A
MOTOR TIP	WEAR PARTS	NOT ELIGIBLE	N/A
SKEG	WEAR PARTS	NOT ELIGIBLE	N/A

12.3 WARRANTY CARD

■ Fill out your warranty card and staple it together with your receipt.

■ Contact your dealer if you have lost your warranty card.

■ If you have lost your warranty card as well as the receipt, contact your dealer.

12.4 WARRANTY PROCEDURE

- To claim warranty, you need to mail your warranty, receipt and the parts that are under warranty to your nearest dealer.
- Your product will be sent back to you once the issues have been fixed.
- If you have further difficulties, send an e-mail to tech@goldenmotor.com. Include your product serial number, details of your purchase as well as supporting photographs of the problems to help us better understand the scope of the problem.

12.5 REPAIR PROCEDURE

- If your product warranty has expired, you can still repair it for a fee.
- Send an e-mail to tech@goldenmotor.com. Include your product serial number, details of your purchase as well as supporting photographs of the problems to help us better understand the scope of the problem.
- We will advise you on your repair situation.

  - Situation 1: When the repair/shipping costs is higher than the cost of purchasing a newer model, we would advise you to purchase a new model instead.
  - Situation 2: When the damaged parts are irreparable but replaceable, we would advise you to purchase spare parts.
  - Situation 3: When the damaged parts are irreparable and unreplaceable, we would advise you to send the parts to our repair facility.
  - Situation 4: When the problem can be fixed yourself, we would send you a link to a specific repair video tutorial.
  - Situation 5: When the problem is none of the above, we will assess your particular situation and send you a reply.

13. MANUFACTURER CONTACT

Legal business entity: Changzhou Golden Motor Technology Co. Ltd

Legal representative: Mr. Philip Yao

Website: http://www.goldenmotor.com

E-mail: sales@goldenmotor.com

Office Telephone: +86 (0)519 8100-4118

Registered commercial address: 14th floor, R&D hub 5,
Tian Xin Road,
Changzhou City,
Jiangsu Province,
China 213000

14. Details of manual version changes

VERSION	DATE	CONTENT
A/1	2022.10.12	Initial product release
A/2	2022.11.29	Product Upgrade
A/3	2023.1.18	Accessories Update
A/4	2023.3. 9	Instruction Update
A/5	2023.7.19	Product Details Changes
A/6	2023.12.20	Instruction Update
A/7	2024.4.16	Instruction Update
A/8	2024.6.11	Instruction Update
A/9	2025.8.8	Instruction Update
A/10	2026.4.1	Instruction Update
A/11	2026.5.22	Instruction Update


EZ outboard