



Electric Outboard Motor

# User Manual

Joy 6.0

Suzhou Parsun Power Machine Co., Ltd.

## Preface

Dear customers

Thank you for choosing Parsun products, and we attach great importance to the efficiency, safety and comfort of electric outboard motor. We will conduct rigorous tests to ensure your experience prior to delivery. Please read this manual carefully before using this product, so as to operate this product correctly and safely.

Using this product means that you have read this manual. Please do not lend the machine to someone who has not read this manual. Parsun reserves the right not to be responsible for the accidental loss due to failure to follow this manual.

This manual will be updated from time to time. In case of any inconsistency between your product and this manual, you can contact us at [www.parsunpower.com](http://www.parsunpower.com), and we will answer your questions. Since this manual is prepared in several languages, the contents may not be the same. Parsun reserves the right of final interpretation on this manual.

We strive to constantly improve and optimize our products; therefore, if you have any suggestions on our products, please let us know at [www.parsunpower.com](http://www.parsunpower.com).

## Legends

This manual contains many legends, please refer to the following text for understanding.

### Caution

High risk, which could result in serious injury or death if not avoided.

### Warning

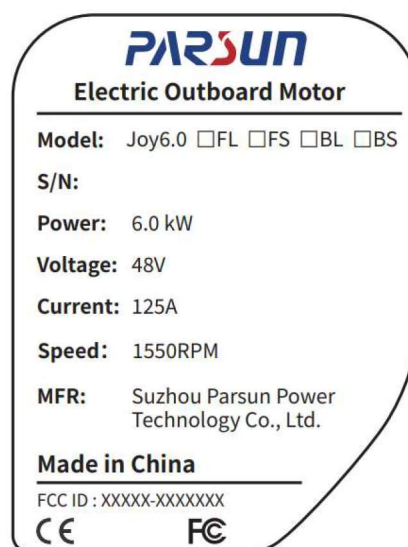
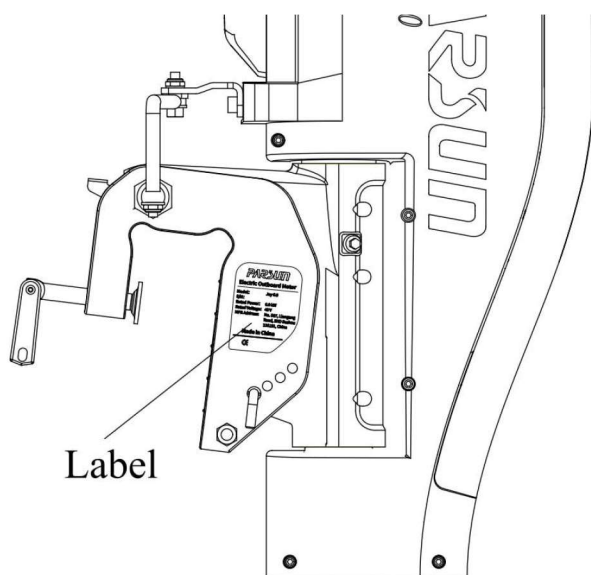
Low risk, which could result in possible damage to machine or minor injury to personnel if not avoided.

### Instruction

Focus or skill.

## Product Serial Number

The product serial number is stamped on the nameplate affixed to the side of clamping bracket. The serial number is recorded as S/N on the nameplate to help you order spare parts from the distributors, provide product warranty and other after-sales services, it can also be used as a reference in case that the outboard motor is stolen. Please do not tear off the label by all means.



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# 1 Product Overview

## 1.1 Safety instructions

This product is used in marine power system and is driven by batteries; therefore, it is dangerous to some extent. Please make sure to carefully read the safety and warning instructions in this manual before using this product. Failure to comply with these instructions may result in personal injury or damage to the machine. Parsun will assume no responsibilities for accidents due to violation of safety instructions.

### 1.1.1 Safety characteristics

The following table describes common safety features of this product. Please refer to *Section 4.4 Fault Codes* for more safety characteristics.

Safety Characteristics	Description
Emergency stop switch	Remove the emergency stop switch and the outboard motor will lose power immediately.
Harness switch and battery switch	If the harness is switched off or the battery is switched off directly through the button thereon, the outboard motor will lose power immediately.
Zero position sensing	As the handle is not at zero position upon startup, the outboard motor will not be subject to power output. The outboard motor can only be operating as the handle is at zero position.
Fuse	Prevent accidents in case of short circuit.
Over-current protection	In order to protect the motor and battery, the outboard motor will stop running in case of over-current.
Over-temperature protection	In order to protect the motor and battery, the outboard motor will automatically reduce power to ensure battery and battery temperature control.
Locked rotor protection	If the propeller is stuck with debris, the outboard motor will stop running to prevent injury.
Battery power protection	The motor reduces power at 30% and 5% battery power

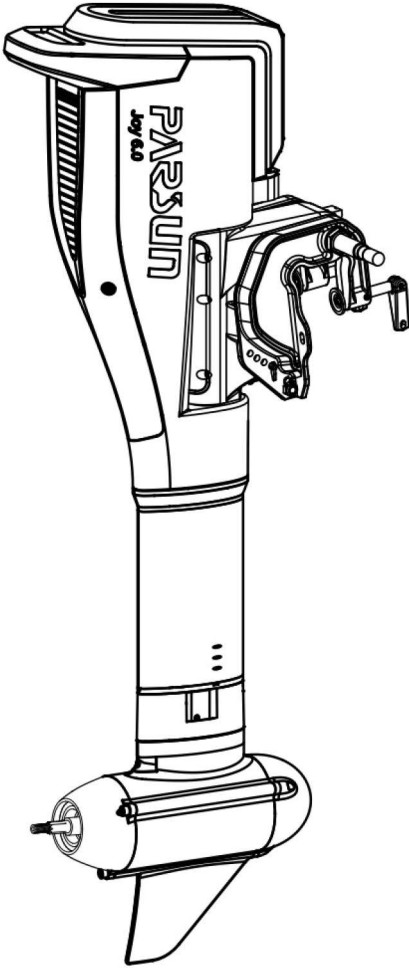
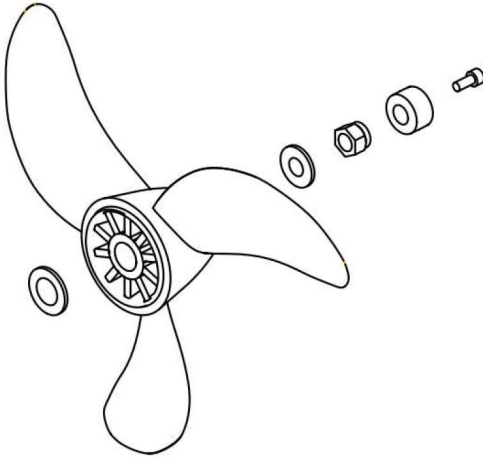
### 1.1.2 Precautions

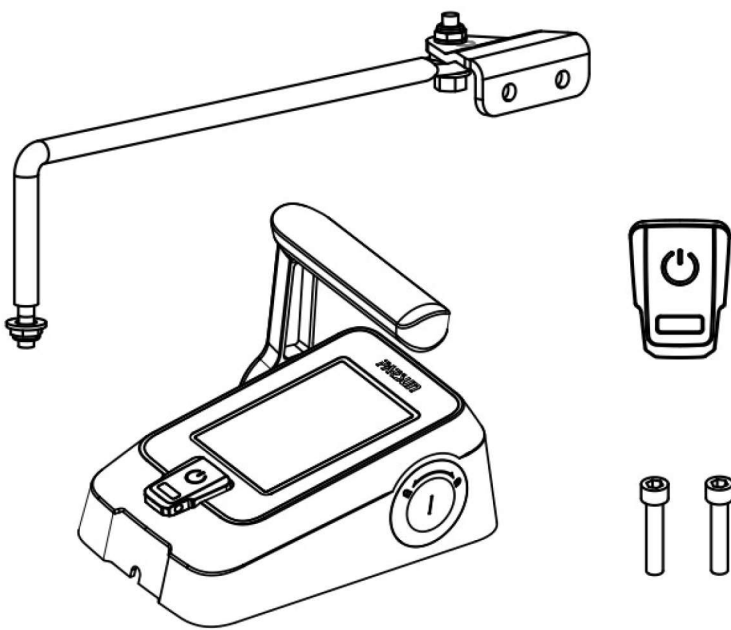
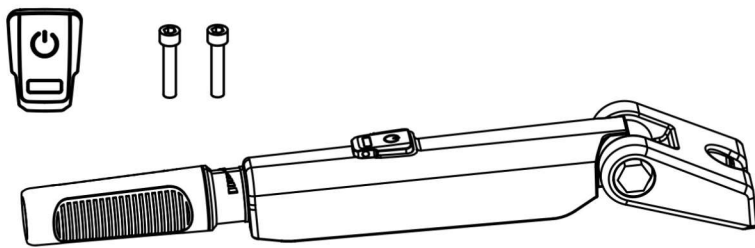
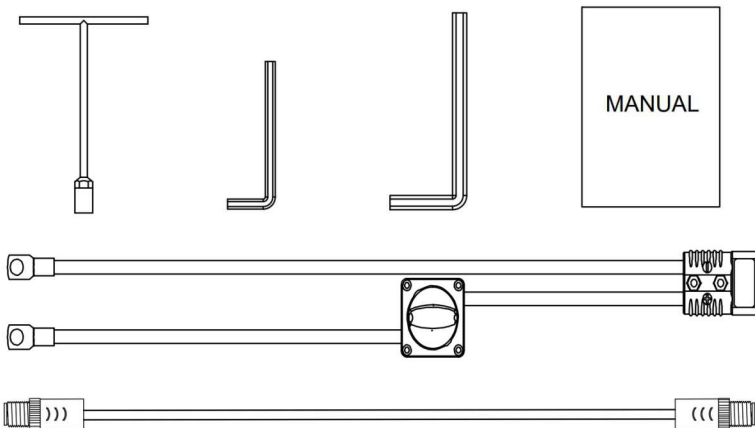
- Please use a vessel that matches the power of outboard motor.
- Make sure to master the basic operations before use, such as start and stop, steering, tilt, etc.
- Make sure to check the battery power before each use.
- Make sure to check for any person around the water before each use to prevent them from being hurt by propeller.
- Make sure that the emergency stop is on the wrist or life jacket during operation.
- Please immediately stop the running outboard motor in case of someone around the water.
- Please immediately stop the running outboard motor in case of someone on board falling into water.
- Make sure the battery is not contacting water to avoid short circuit during operation.
- It is very important that you read the contents related to batteries carefully before operating the batteries.
- Please remove metal watch or jewelry in operating the battery.
- Make sure the battery is powered off in connecting the battery.
- Make sure that the polarity is correct and the connection is secure in connecting the battery.
- Where non-standard battery is used, the power on display is only for reference since there's no communication with the outboard motor.
- Keep the battery connector clean and free of conductive medium.
- Please turn off the battery after operation.
- Lift the outboard motor above the water after operation.
- Wash the outboard motor surface with fresh water after operating in salty water.
- Please do not repair without permission if any part except the propeller is damaged. Please contact the dealer, Parsun will not assume responsibility for any damage caused by unauthorized repair.
- Make sure the outboard motor is powered-off in disassembling the propeller.

### 1.2 Product list

Items of this product package are shown in the following list. Once the package has been opened, please check for any missing or damaged items and contact your dealer if any.

Packing Box of Main Engine

Product	Qty	Diagram
Outboard motor	1 set	
Propellers assembly	1 set	

Remote control package	1 set	
Tiller handle package	1 set	
Accessories	1 set	

Battery Packing Box

Product	Qty	Diagram
Battery	1 set	
Remote switch Parallel line 1 of battery Connector 24V output line Parallel line 2 of battery	1 set	

Charger Packing Box

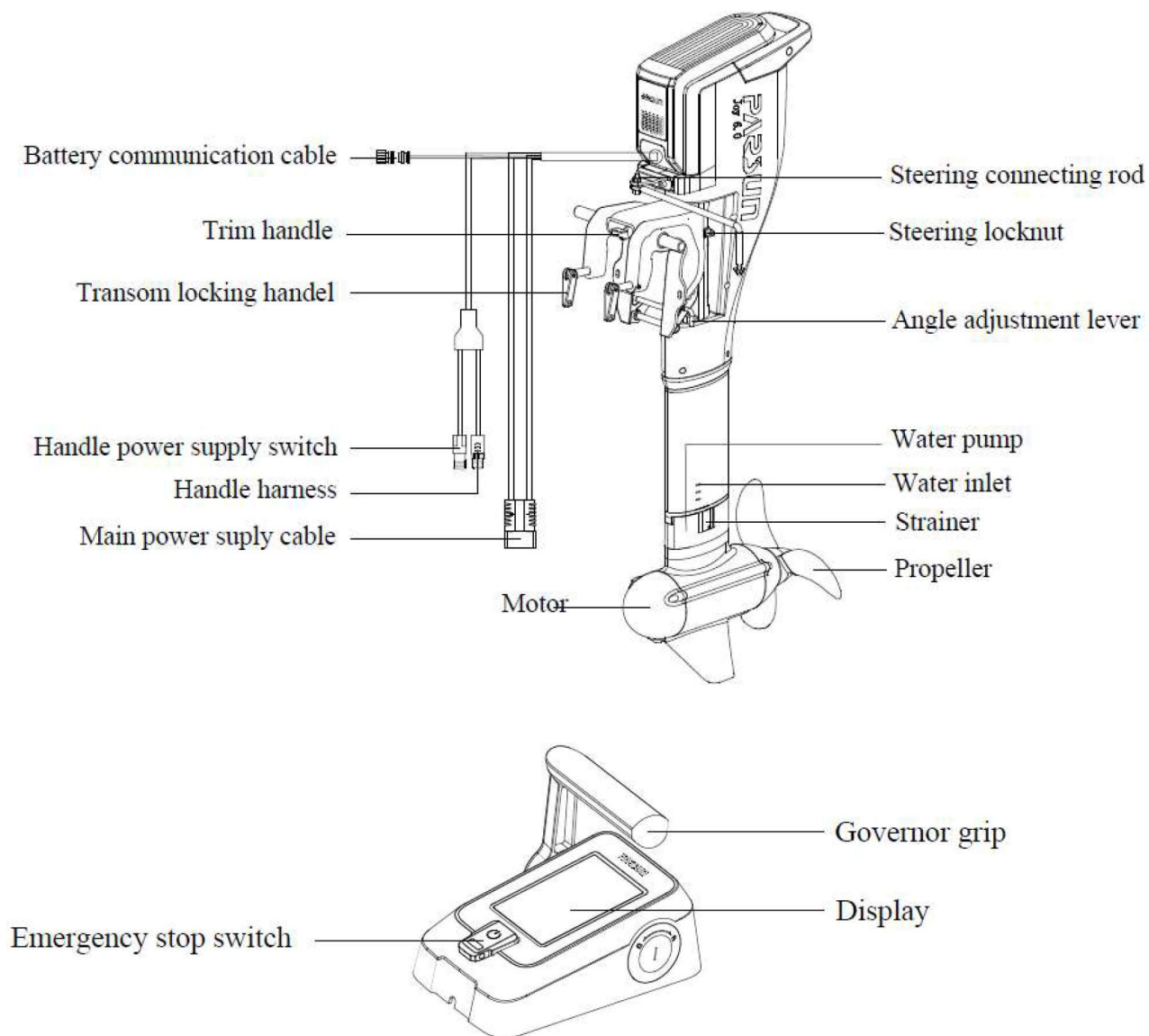
Product	Qty	Diagram
Charger	1 nos.	

Instruction

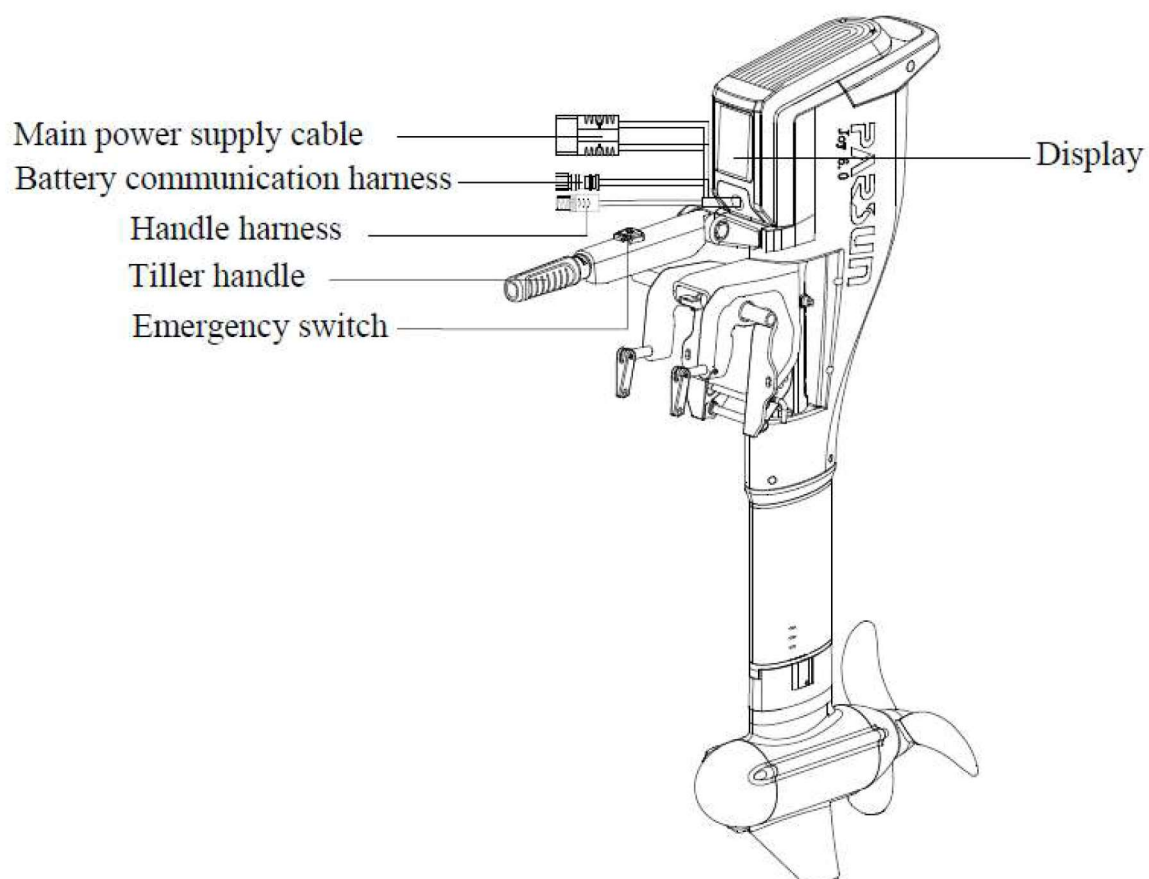
- 1、 Batteries, remote switches and chargers are purchased separately.
- 2、 The tiller handle and remote control packages in the main engine packing box are shipped according to your choice, thus there is only 1 number in general.
- 3、 Parsun has two battery models, P9.0 single-box and P4.1 double-box (with two boxes connected in parallel), and only connectors, parallel connection line and 24V output line are provided in purchasing P4.1 double-box battery.

## 1.3 Components

### 1.3.1 Remote control model



### 1.3.2 Tiller handle model



## 1.4 Specification

Joy 6.0 – S/L	
Rated voltage	48V
Input voltage range (DC)	42.6V~57.6V
Rated input power	6kW
Equivalent gasoline outboard motor (thrust)	9.9hp
Rated rotational speed	1550rpm
Speed regulation mode	Stepless speed regulation/Continuous variable transmission
Type of motor	Permanent magnet synchronous motor
Control mode	Tiller handle/remote control
Net weight	35kg
Steering angle	Left 50 °, Right 50 °
Tilt angle	Max. 60 °
Trim angle	0°、4°、8°、12°
Dimension (L × W × H)	558x284x1338(L) / 1211(S) mm
Shaft length	570(L) / 442(S) mm
Propeller diameter/pitch	340 mm / 174mm

## 1.5 FCC Compliance Statement

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

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

### **FCC Caution:**

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## 2 Installation

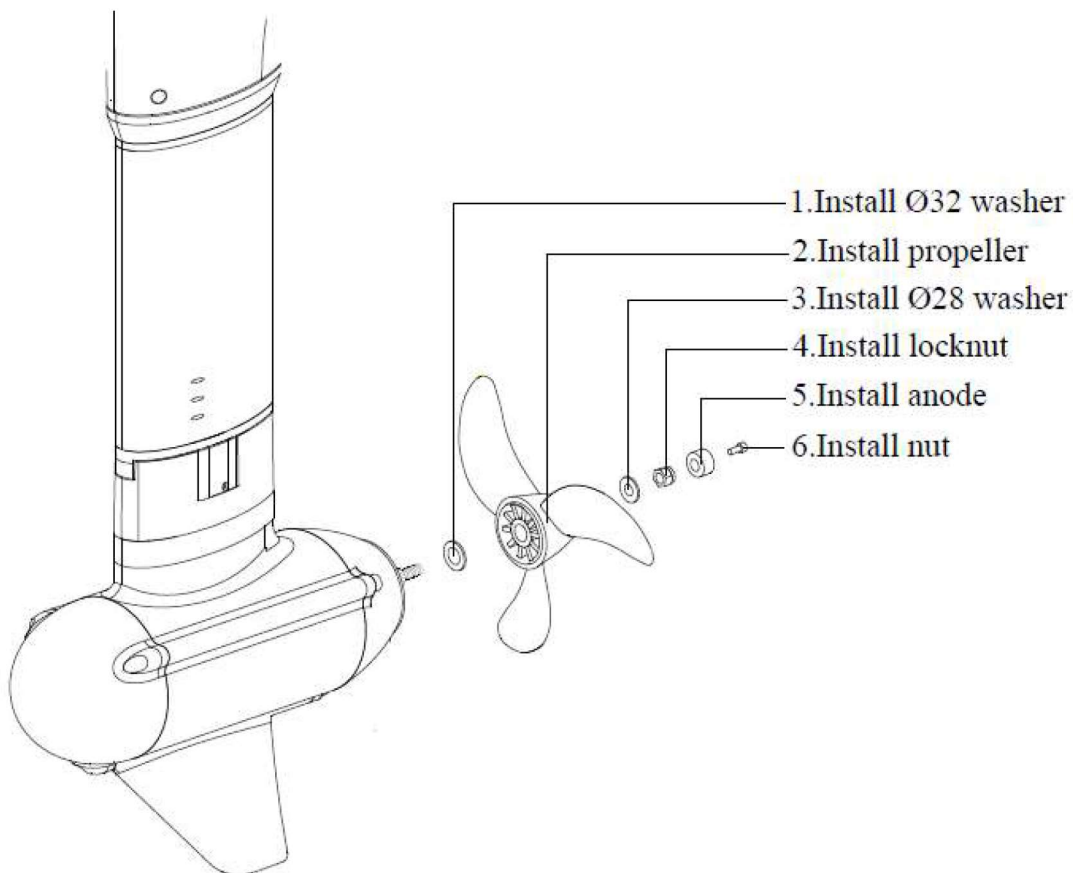
### 2.1 Propeller installation

In order to protect the propeller, Joy6.0 is shipped without propeller installed and requires the user to install it.

The following text are the installation steps for propeller, which you can follow.

Please check the following items before installation.

- Check motor shaft for damage
- Check each propeller blade for wear
- Check for any fishing line stuck on motor shaft
- Check spline for wear or damage



### Warning

Make sure the outboard motor is powered off in installing and removing the propeller; otherwise the propeller may cause an accident. In addition, we recommend that you wear gloves in removing and installing.

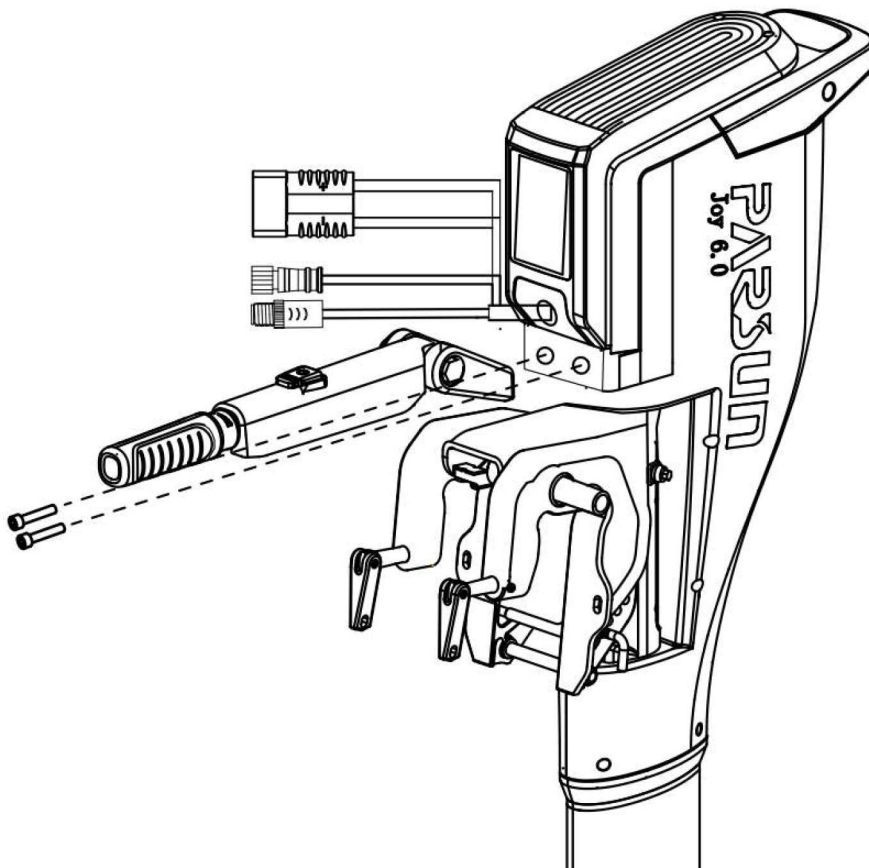
## 2.2 Installation of tiller handle or remote control component

In addition to the propeller, you will need to install the tiller handle or remote control assembly. Please follow the following steps for installation.

### 2.2.1 Installation of tiller handle

Mount the tiller handle on the complete unit according to the figure, and then connect the handle harness on main engine to the interface on the back of tiller handle.

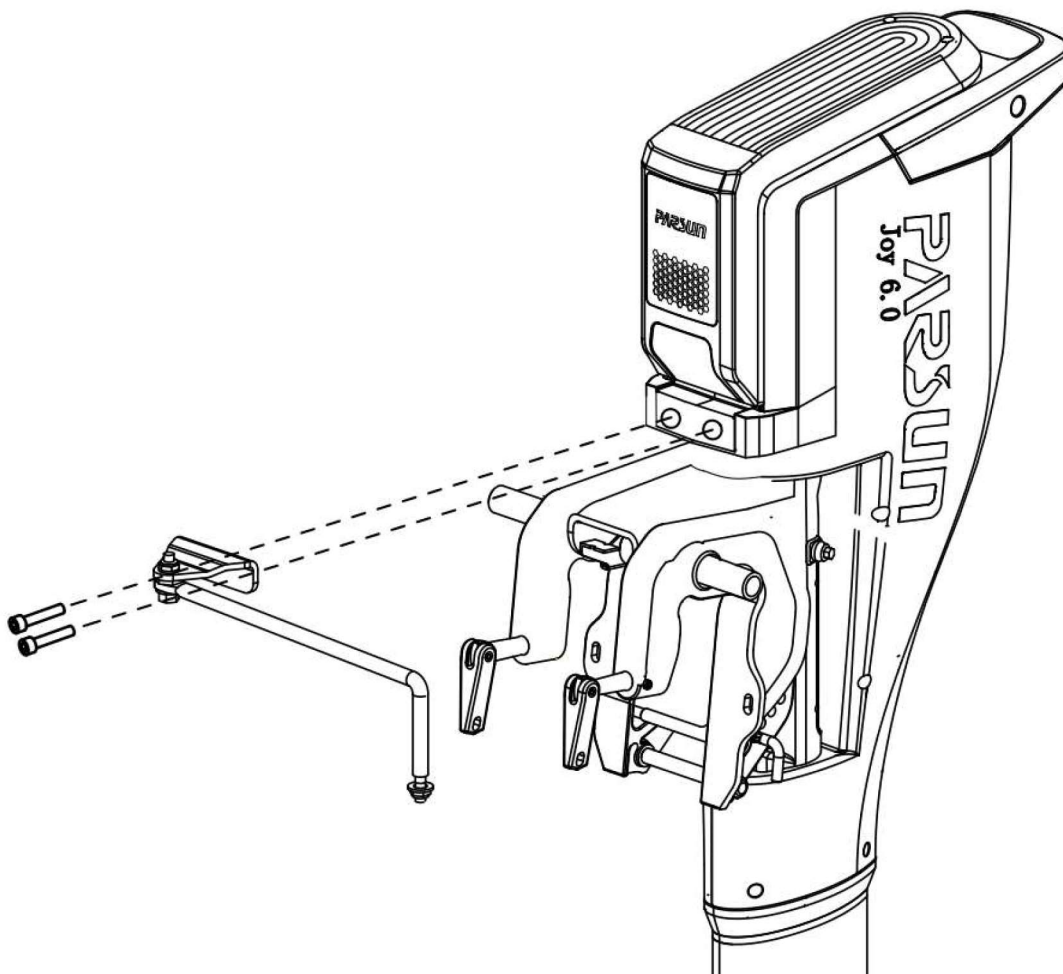
Refer to *Wiring Diagram* in last page of this manual for connection diagram



### 2.2.2 Remote control installation

Mount the steering connecting rod onto complete unit as shown in the figure, and then connect the handle harness on main engine to the interface on the back of remote control box.

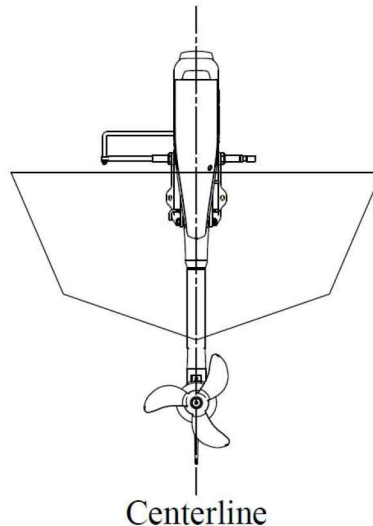
Refer to *Wiring Diagram* in the last page of this manual for connection diagram



## 2.3 Installation of outboard motor

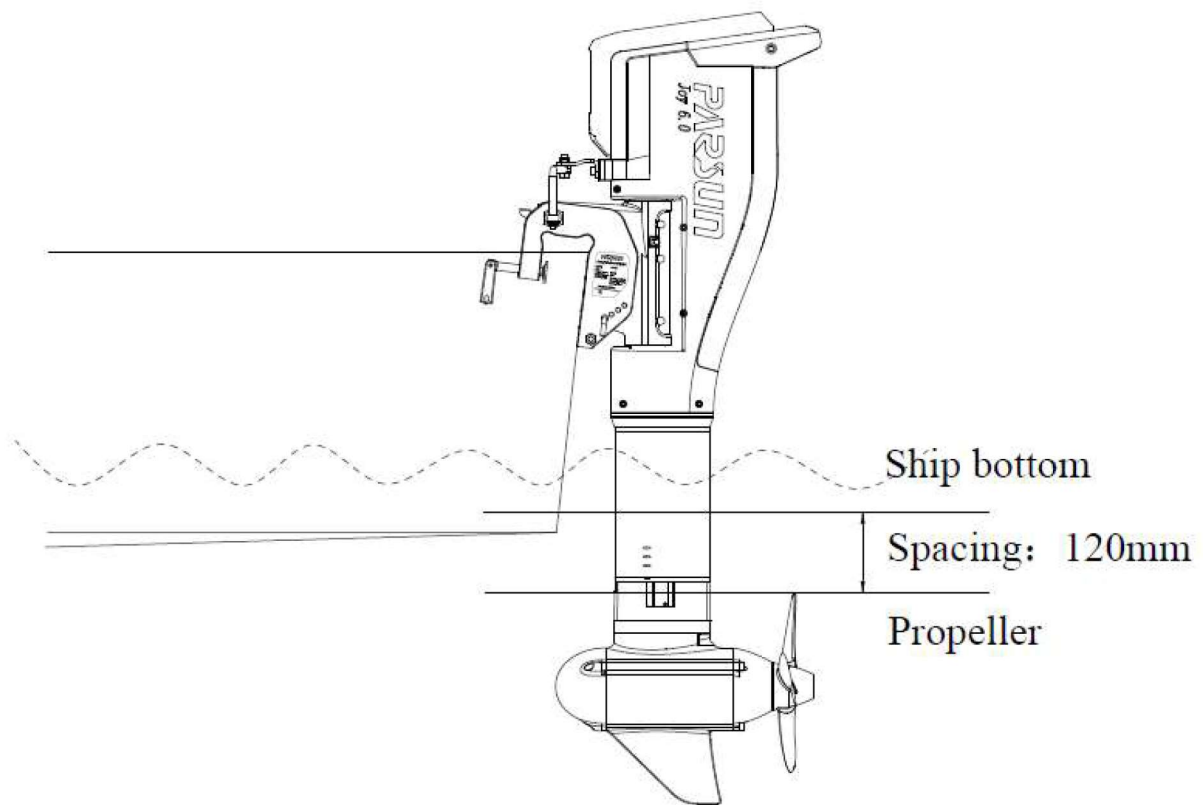
### Step 1:

Please install the outboard motor at the center of transom to maintain balance of the vessel. If the transom is not symmetrically designed, consult your local dealer for guidance.

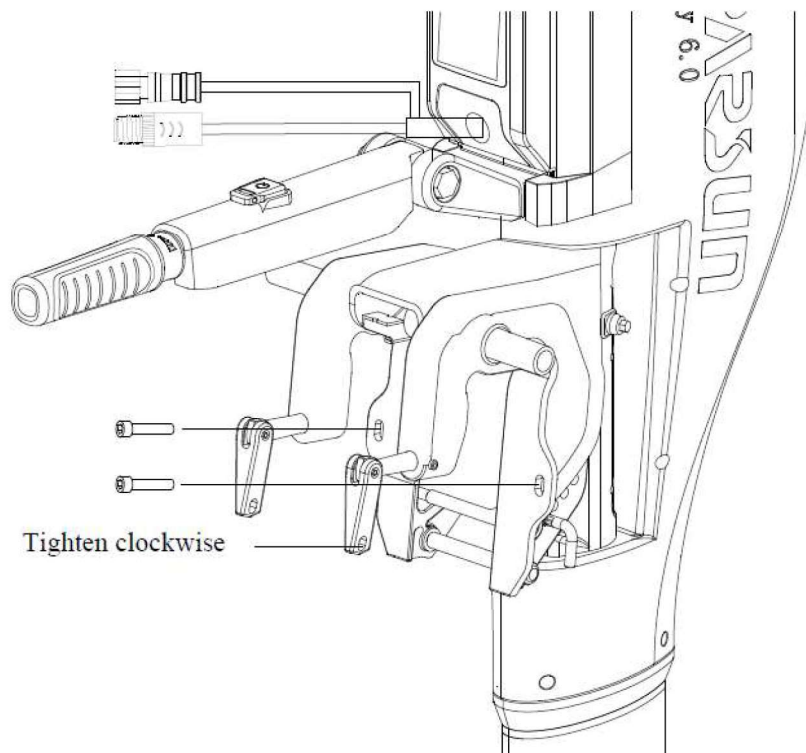


### Step 2:

Select proper installation height for outboard motor. The installation height of outboard motor determines efficiency of the ship. If the installation height is too high, eddy current will be generated which would reduce the thrust. If the installation height is too low, water resistance will be increased, thus reducing the efficiency of outboard motor. Recommended heights are as follows.

**Step 3:**

Tighten the transom locking handle clockwise to fix the outboard motor. You can also screw the outboard motor onto the ship through the mounting holes near transom locking handle.



### Warning

- 1、 Please make sure that the transom locking handle is firmly installed. If not, the outboard motor may fall into the water.
- 2、 Before or after a period of use, please recheck whether the locking handle is secure.

## 2.4 Battery installation

This product is compatible with batteries from Parsun and other manufacturers. Parsun provides single-pack P9.0 and P4.1 batteries. Where P4.1 batteries are used, two packs are required. One single pack only provides 3kW output. Where batteries from other manufacturers are used, please select batteries with voltage of 42.6V—57.6V and continuous discharge current of 175A.

### Caution

- 1、 Make sure the battery is switched off before connecting.
- 2、 Avoid battery short circuit in connecting.
- 3、 Make sure the battery polarity of harness connection is correct in connecting.
- 4、 Please lock the screws of battery fastening harness in connecting.
- 5、 Store the battery and wire harness in a dry environment.

### 2.4.1 Installation of Parsun single-pack P9.0 battery

Step 1: Connect the main power cable equipped with switch to the battery, red cable to battery positive connector and black cable to battery negative connector.

Step 2: Where remote switch is required, connect remote switch to the battery CAN-IN port.

Step 3: In order to ensure perfect functions, please connect the outboard motor with the Motor port on the battery through communication cable.

Step 4: long press battery power switch for approximately 2 seconds and turn on the switch on the harness to run the outboard motor.

Refer to *Wiring Diagram* in the last page of this manual for connection diagram

### 2.4.2 Installation of Parsun double-pack P4.1 battery

Step 1: Connect the main power cable equipped with switch to the battery, red cable to battery positive connector and black cable to battery negative connector.

Step 2: Use battery parallel line 2 to connect the positive connectors and negative connectors of two batteries respectively.

Step 3: Connect one end of battery parallel line 1 to CAN-IN port of one battery, and then connect the other end of battery parallel line 1 to CAN-OUT port of another battery.

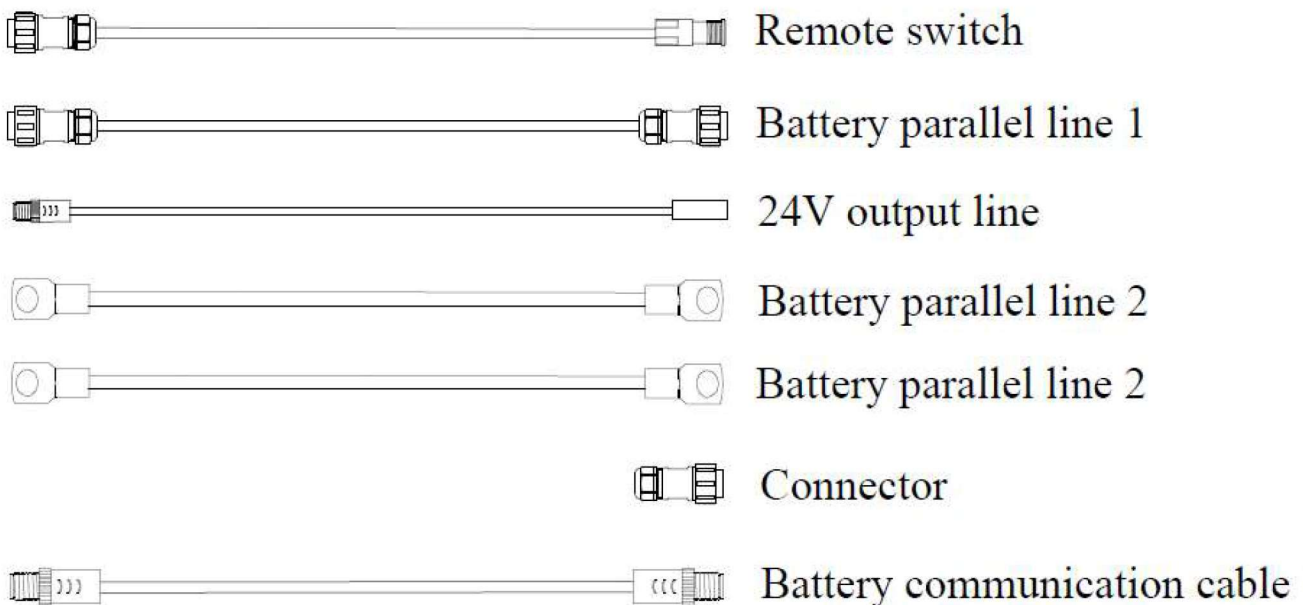
Step 4: Connect the connector to battery CAN-IN port, it can be replaced with a remote switch.

Step 5: In order to ensure perfect functions, please connect the outboard motor with the Motor port on the battery through communication cable.

Step 6: long press battery power switch for approximately 2 seconds and turn on the switch on the harness to run the outboard motor.

Step 7: where 24V output is required, connect the 24V output cable to battery 24-OUT port

Refer to *Wiring Diagram* in the last page of this manual for connection diagram



### 2.4.3 Installation of batteries from other manufactures

Connect the wire harness equipped with switch to the battery and turn on the switch on wire harness to run outboard motor. After the outboard motor is started, please configure the battery type in display setting, after which the display will indicate estimated power, which is only for reference. The actual power is subject to battery voltage.

