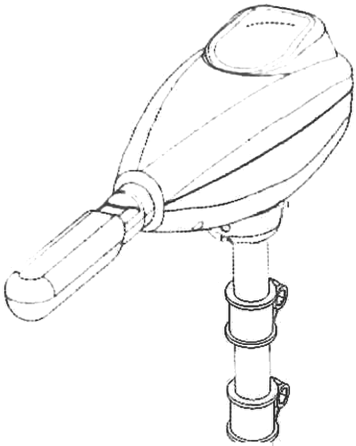
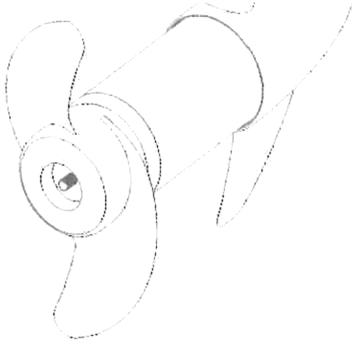
CE REACH RoHS



ELECTRIC OUTBOARD MOTOR

KAYAKA-SERIES

Owner's Manual



Please read and retain this manual before using this electric motor

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GENERAL INFORMATION

Thank you for purchasing our product and we wish that you enjoy it.

trolling motors are designed and developed by professional engineers and have been continually developed over a number of years. There is a wide range of outboard motors, from 32lbs through to 100lbs to suit every customer's requirements and application.

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

SPECIFICATIONS

ITEMS-NO.	THRUST IN LBS	THRUST IN KG	INPUT	INPUT POWER	MAX SPEED*	WEIGHT IN KG
NRS-32L	32	14.5	12V, 26A	312W	5 KM/H	
NRS-36L	36	16.3	12V, 29A	348W	6.5 KM/H	
NRS-40L	40	18.1	12V, 34A	408W	7.8 KM/H	
NRS-46L	46	20.9	12V, 40A	480W	9.5 KM/H	
NRS-55L	55	25.0	12V, 52A	624W	14.5 KM/H	
NRS-62L	62	28.2	12V, 58A	696W	18 KM/H	
NRS-68L	68	30.9	12V, 64A	768W	19.2 KM/H	
NRS-86L	86	37.2	24V, 48A	1152W	22KM/H	
NRS-100L	100	43.3	24V, 58A	1398W	28KM/H	

* Since speed depends on many factors, such as loading, water condition, hull type and wind speed etc., it would be difficult to give an accurate speed rating, we give the speed for reference purposes: Boat size, 2.3m\ Loading, 90kg\ Quiet water.

WIRING AND BATTERY RECOMMENDATIONS

Battery Type

Recommended battery(s): 12-volt Deep Cycle battery or Marine battery, battery should have at least 50-ampere hour rating or higher. To extend running time either a larger capacity or an additional battery can be used. See section on battery connection method. **NOTE: 86lbs and 100lbs model requires a 24-volt battery**

Circuit Protection

It is recommended to install a 50 amp manual reset circuit breaker in the electric outboard motor leads within 1.8m (72 Inches) of the battery(s).

Cable Size

If extending the standard battery cable supplied with the product, recommends the use of 13mm^2 wires (6-gauge wire, AWG).

⚠ WARNING

Batteries contain sulphuric acid, which can cause severe burns. Avoid contact with skin, eyes and clothing. The battery also produces hydrogen and oxygen gases when being charged. 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

Be sure all switches are in the OFF position before connecting to battery or batteries. Electrical arcing near the battery could ignite hydrogen gas and cause the battery to explode.

SAFETY INFORMATION

Do not allow children to operate the electric outboard motor.

Do not modify the unit in any way or add accessories not intended for this product.

Never fully submerse the unit, if unit is accidentally submersed disconnect battery and leave to dry.

⚠ WARNING

Always disconnect power from the motor when replacing propeller, removing debris around the propeller, charging batteries, transporting boat or when the motor is not in use.

To prevent accidental damage of the fiberglass shaft, do not over tighten the mounting bracket.
Only use this product between the temperatures of -20C to +45C (-4F to +113F).

User(s) should always wear approved Life Jackets.

FIRST TIME RUNNING

1. Place Electric Outboard onto the back of the vessel in the Stow away position.

2. Loosely tighten Transom Mounting Screws till they grip the Transom Mount.

3. Press the Tilt Lever and slowly let the motor enter the water.

4. Use the Depth Adjuster Collar to adjust the height of motor (Recommend running depth between 150mm and 300mm below the waterline).

5. When you are satisfied that the motor is at a safe depth and isn't too close or in danger of hitting the bottom of the lake, river or other water ways you may proceed to tighten the Transom Mounting Screws.

6. Once this is done it should be safe to connect the battery to the motor. Ensure that the twist grip is in the neutral position and that the nuts are tight on the terminals to prevent a poor connection.

7. Select the desired speed and direction using twist grip on the tiller arm.

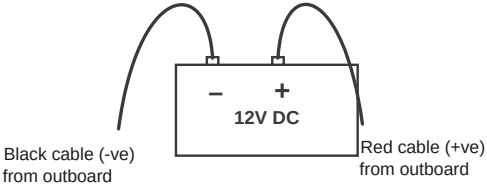
8. Do not go from full forward speed to full reverse speed without letting the propeller stop turning first or motor damage may occur.

MOTOR USAGE

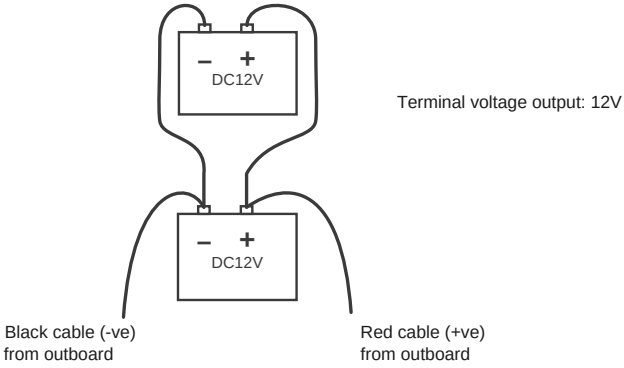
The motors package does not include batteries; please choose a battery with 12V (24V for 86LBS and 100LBS motor) output to fit this motor, the recommended type of battery is deep cycle battery or marine battery, as they will last much longer and designed for this application.

Battery Connection Method (12 Volt only)

Connection with one battery (12V DC)
The red wire should connect to positive; the black wire should connect to negative.
(It is recommended install 50 amp circuit breaker in line with positive lead.)



Connection with two batteries in parallel (12V DC)
The red wire should connect to positive; the black wire should connect to negative.
(It is recommended install 50 amp circuit breaker in line with positive lead.)

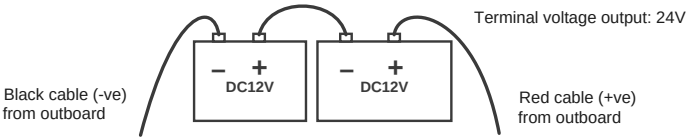


Battery Connection Method (24 Volt only)

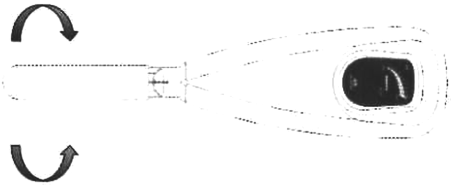
Connection with two batteries in series (12V DC)

The red wire should connect to positive; the black wire should connect to negative.

(It is recommended install 50 amp circuit breaker in line with positive lead.)



How to Control the Motor



⚠ WARNING

Remember always disconnect from the battery(s) once the motor leaves water as a rotating propeller can cause personal injury.

On/Off Speed Control

Rotate handle clockwise to obtain any of the 5 forward speeds. Rotate handle anticlockwise for any of the 3 reverse speeds. To stop the motor from running, position the handle following the arrow marker and position on level 0.

Battery Level Indicator

There are 10 LED lights on the top cover, seven of them are green and the rest are red. When seven (7) green LED's are out, the meter is indicating that the input voltage is less than 9.5V (normal voltage draw, 12V). It is advised to disconnect the motor from the battery to prevent damage to the battery and recharge.

Adjusting Motor Depth

Position the depth adjustment collar so the propeller blades will be submerged 150mm - 300mm (6inches - 12inches) below the water's surface.

⚠ CAUTION

Remember to wash the motor by using fresh water after being used in salt water as it can greatly reduce the possibility of corrosion.

⚠ CAUTION

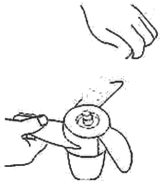
The motor can only be used in water deeper than 0.7m.

HOW TO REPLACE THE PROPELLER

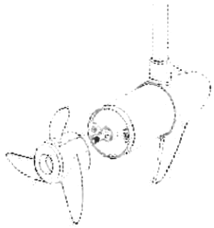
⚠ CAUTION

Make sure that the motor has been disconnected from batteries.

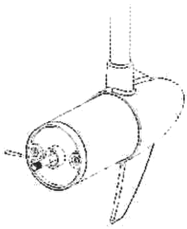
Hold the propeller blade and loosen the propeller nut using the prop spanner supplied or a set of needle nose pliers. Remove the propeller nut. Pull the propeller straight off. If prop is stuck, grasp one blade with one hand and tap on the backside of the opposite blade lightly with a rubber mallet, until the propeller comes off. If the propeller pin is bent, replace it. Align the new propeller with the propeller pin. Reinstall the propeller nut and tighten firmly by hand, tighten with spanner another 1/4 turn.



Step 1



Step 2



Step 3

⚠ CAUTION

Do not strike bent prop pin with hammer to remove pin. Damage to motor armature may occur that would not be covered by warranty.

DAILY MAINTAINANCE

1. Check behind the propeller after each day for weeds, fishing line or other debris that may get wrapped behind the propeller.

2. 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.

3. Check tightness of the battery lead connections.

4. Visually check condition of main battery cables.

5. Inspect for loose or corroded wiring connections.

6. Always thoroughly rinse your electric outboard motor with fresh water after every use in salt water. Only rinse the areas that have been in contact with salt water, avoid getting the top cover wet as this may damage the circuitry inside.

7. Inspect for tightness of all nuts, bolts and screws.

8. Recharge batteries after each use. Follow the battery manufacture's recommendations for battery maintenance.

9. During freezing temperatures, when your electric motor is not being used, it should be stored in an area where it will not freeze.

10. Never connect the wire with wrong battery terminal. You must disconnect the battery during maintenance.

TROUBLE SHOOTING

Loss of Power

Propeller may be fouled. Remove propeller, clean and replace.

Battery connections may be corroded.

Battery has low voltage, recharge.

Battery may be faulty, recharge and check.

Insufficient cable size from battery to motor wiring, 13mm^2 thickness / 6 gauge wire (AWG) recommended.

Bad or faulty connection in boat wiring or electric motor wiring

Permanent magnet cracked or chipped. Motor will whine or grind.

Motor Makes Excessive Noise or Vibration

Propeller may be fouled.

Propeller by be damaged or unbalanced.

Check to see if propeller is secured.

Bent armature. Remove propeller, set at medium speed, turn unit on and check for armature wobble.

Turn propeller by hand. It should turn freely with a slight magnetic drag.

Bearing bushes may be worn out.

Motor Fails To Run

Check fuse circuit breaker on boat for electric motor.

Check for loose or corroded connections.

Check plug for loose or bad connection.

Test main rotary switch.

Turn prop by hand. It should turn freely with a slight magnetic drag.

Total battery failure. Recharge and check voltage.

Propeller Fouled.

Motor Loses One Or More Speeds

Lose wire on rotary switch. Check wiring diagram.

Lose connection in top housing.

Rotary switch damaged.

Speed coils in lower unit may be burned.

PLEASE NOTE:

During the usage of the electric outboard motor, the propeller is possible to get stuck by the weeds, fishing lines and fishing webs, or sometimes due to the variance of the water depth, the propeller is covered by the silt. If those situations stated above happen, please disconnect the battery in time and clean up the propeller. (Please DO NOT rise steps and increase the thrust of electric outboard motor to solve the problem, or it may cause permanent damages to the electric outboard motor.)

The characteristics between the electric outboard motor and gasoline outboard motor are different, if the propeller of the motor gets stuck, the gasoline outboard motor will only shut down and not cause any permanent damage to the motor itself, however, the electric outboard will draw extremely large current due to the motor stall and generate large amount of heat to damage important components in the motor such as switch, rotor and other connecting parts or even cause serious battery explosions.

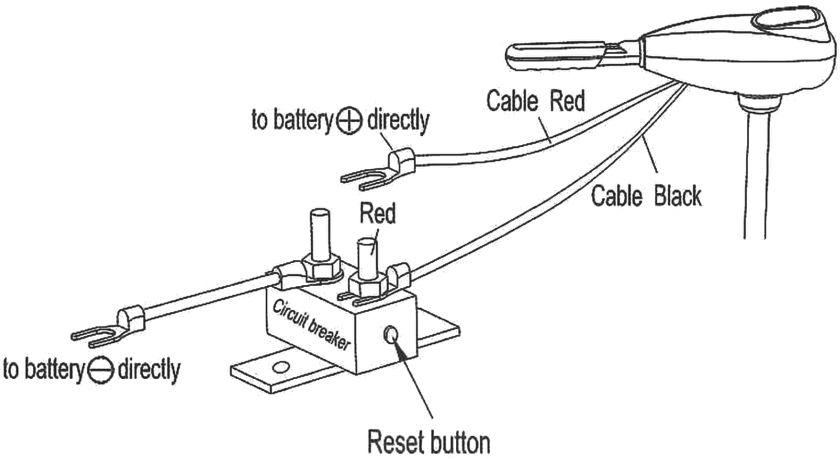
In some muddy water areas, user is hardly to recognize that motor is stuck and shut down the power. To prevent these situations occur, it is strongly recommended to use circuit breaker to protect the electric outboard motor. If the current draw of the electric outboard motor exceeds the limit of normal usage, the circuit breaker will cut off the power automatically to prevent any possible damage to the electric outboard motor. The circuit breaker has the reset button and is therefore reusable.

To prevent the rotor coil damage from exceeding current, it is highly suggested to circuit breaker to protect electric outboard motor.

FUNCTION OF THE CIRCUIT BREAKER

During the usage of the electric outboard motor, when the propeller is stuck by the weeds, small stones, fishing lines or so forth, the circuit breaker will cut off the power automatically to prevent the damage of the electrical parts.

If the circuit breaker cuts off the power please disconnect the battery first, then check and clean any obstacles. At last, press the reset button on the circuit breaker and reconnect the battery, the electric outboard motor is able to continue the work.



WARRANTY

Duration of Coverage

This Limited Warranty provides coverage for two (2) years from the date the product is first manufactured from sold. Therefore the ultimate purchaser may have limited warranty coverage period for less than two (2) years due to the time of transferring, sale and storage. The only reference for duration of warranty coverage is the serial No., which is imprinted on the surface of motor's transom mount. The repair or replacement of parts, or the performance of service under this warranty, does not extend the life of this warranty beyond its original expiry date.

Conditions That Must Be Met In Order To Obtain Warranty Coverage

Warranty coverage is only available from an authorized dealer to distribute the product in the country in which the sale occurred. Routine maintenance out-lined in the Operation and Maintenance section must be performed in order to maintain warranty coverage. If the retail customer performs maintenance, reserves the right to make future warranty coverage possible only with proof of proper maintenance.

How to Obtain Warranty Coverage

Delivering the product to an authorized dealer for inspection should make warranty claims; proof of purchase will be required to receive warranty.

The dealer will then arrange for the inspection and any necessary repair. The purchaser in that case shall pay for all related transport charges and/or travel time. If the service provided is not covered by the warranty, purchaser shall pay for all related labor and material, and any other expenses associated with that service.

What Is Not Covered

This limited warranty does not cover routine maintenance items, adjustments, normal wear and tear, damage caused by abuse, abnormal use, operation of the product in a manner inconsistent with the recommended operation/duty cycle section of the Operation and Maintenance Manual, neglect, accident, submersion, improper installation (proper installation specification and techniques are set forth in the Operations and First time running sections in this manual), improper service, use of an accessory or part not manufactured or sold by us, or alteration or removal of parts. Expenses related to haul-out, launch, towing, storage, telephone, rental, inconvenience, slip fees, insurance coverage, loan payments, loss of time, loss of income, or any other types of accidental or consequential damages are not covered by this warranty.

Check the following chart to see what parts are in warranty coverage.

Motor Rotor	Free replacement within 2 Years, shipped by sea, distributor must keep faulty part for inspection
Motor Magnet	Free replacement within 2 Years, shipped by sea, distributor must keep faulty part for inspection
Speed Switch	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Carbon Brush Holder	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Propeller	Not available, the end-user should pay for it.
Screw	Not available, the end-user should pay for it.
Telescopic Handle	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
10 Points Battery Meter	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Plastic Control Box	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Electrical Wire	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Sticker	Not available, the end-user should pay for it.
Rubber Band	Not available, the end-user should pay for it.
Other Electrical Parts	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection
Other Metal Parts	Free replacement within 1 Year, shipped by sea, distributor must keep faulty part for inspection

LIABILITY FREE CLAUSE

Damage caused by dropping, crashing, cuts, piercing or other man-made behaviors;

The end-user did not follow the instruction manual;

The end-user ignored the warning information;

Placed or changed the motors under wet circumstances which may damage the batteries, the circuit or other electric parts.

User used parts or accessories that are not genuine components.

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