2 Preparations

2.1 Selecting the Battery

It is recommended to use ePropulsion E Series Batteries.

Lithium-based and lead-acid batteries can be used to supply power for NAVY Evo. Considering the high performance in energy density and discharge ability, lithium-based batteries are more preferable. To ensure that NAVY Evo can work at its full power continually, the batteries are required to possess over 62.5A(NAVY 3.0 Evo) or 125A(NAVY 6.0 Evo) of continuous discharge current. To ensure at least one hour of duration, the battery capacity should reach 3000Wh(NAVY 3.0 Evo) or 6000Wh(NAVY 6.0 Evo) or above.

The rated continuous discharge current is affected by the battery type and quantity of parallel batteries. To use lead-acid batteries, conventional lead-acid or AGM or GEL batteries are acceptable, while starter batteries are not recommended. Traction batteries or deep cycle batteries are more preferable as they give power over sustained period of time. Besides, the deep cycle marine batteries are also capable.

Battery capacity is a major factor that affects trip duration and distance. For instance, a battery with 48V of rated voltage completely discharges at a continuous current of 125A in 1 hour, so its rated capacity is 6000Wh (125Ah*48V=6000Wh), we also can say its rated capacity is 125Ah. The maximum power of NAVY 6.0 is 6kW which means the system can be running at full power for about 1 hour when using this battery. You can select a battery with proper capacity based on your requirements for travelling time and distance. Note that the operating time and distance are also affected by the input power of the outboard plus the external environment and temperature. In addition, boat type and load also play important roles.

Users can connect four 12V batteries in series to make a 48V battery set and use it to supply power for NAVY 6.0. Users can also enlarge the battery capacity by parallel configuration.

When using E Series Batteries, the batteries will work well once being correctly connected. When using non-ePropulsion batteries, before starting the outboard, users should configure the batteries via the Evo Control System for the first time use, otherwise the batteries may not work properly.

⚠ Only use the same batteries (same model, same capacity, same age and same manufacturer) in series or in parallel configuration. Variations in the batteries will cause damage to them.

2.2 Selecting and Mounting the Propeller

For NAVY 3.0 Evo, the propeller of NAVY 3.0 Evo is attached on the motor before delivery. If necessary to replace a propeller, please follow the steps below to replace and mount the propeller.

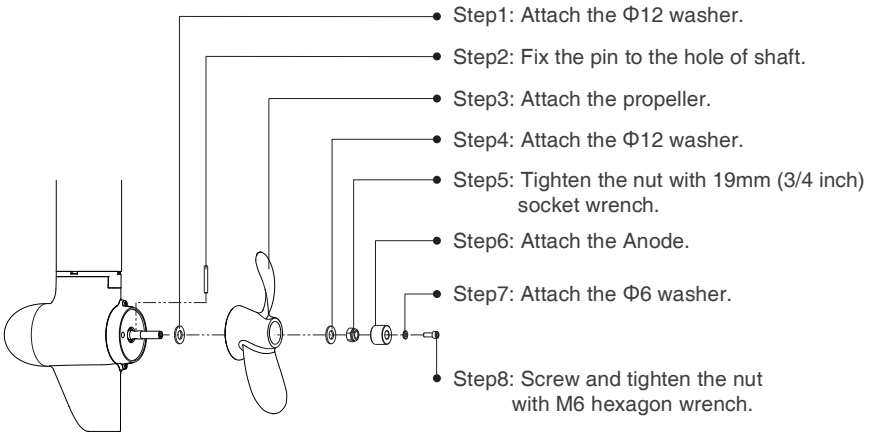

Figure 2-1

For NAVY 6.0 Evo, there are two types of propellers are available. Users can select a proper propeller based on different conditions. For a heavily loaded boat with large thrust, a low pitch propeller is more appropriate. Inversely, for a lightly loaded boat with a fast running speed, a high pitch one is preferable.

In the delivery package, there are two sets of propellers, including a low-pitch propeller and a high-pitch propeller. The low-pitch propeller with a larger diameter generates larger thrust at low speed, while the high-pitch propeller generates proper thrust to propel boats at high speed. It is recommended to use the high-pitch propeller if the boat speed can reach 15km/h or above, as the propeller can't work at full performance at low speed. Figure 2-1 displays how to mount a propeller correctly.