

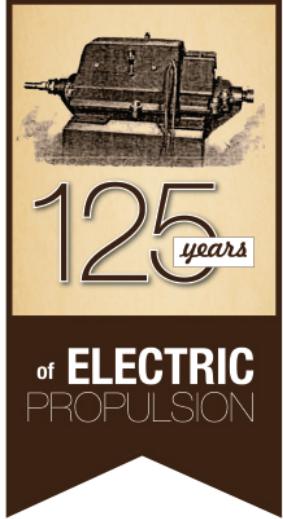
# Go Electric in 4 Steps



Award Winning Electric Boat Motors



# Go Electric in 4 Steps



Elco Motor Yachts has continued its commitment to the marine industry for over 125 years, providing our customers with the broadest range of electric propulsion systems in the world. Elco offers a full line of award winning outboard and inboard electric motors as well as hybrid systems. Our products go through a rigorous testing process, the result of which is the highest quality product that when combined with superior value will provide efficiency, power and durability to our customers.

Over the past few years Elco has received more than 10,000 inquiries from people like you that want to go electric. Their interest in electric boating can be attributed to being better informed consumers who understand the benefits of converting to electric. These benefits include greater safety, reliability, higher performance, ease of installation, improved comfort, lower operating costs and a reduced environmental impact. When it comes to selecting the right motor for your boat, we believe there are four basic questions that you need to answer. This guide will help you understand and answer those questions in order to create lasting memories during your time on the water.

## 4 Basic Steps:

1. Choose a Motor ————— How fast will I go?
2. Select Batteries ————— How long will I go?
3. Pick a Charger ————— How do I recharge?
4. Connect Batteries ————— How do I install?



# Step 1: Select an Electric Motor

*How fast will I go?*

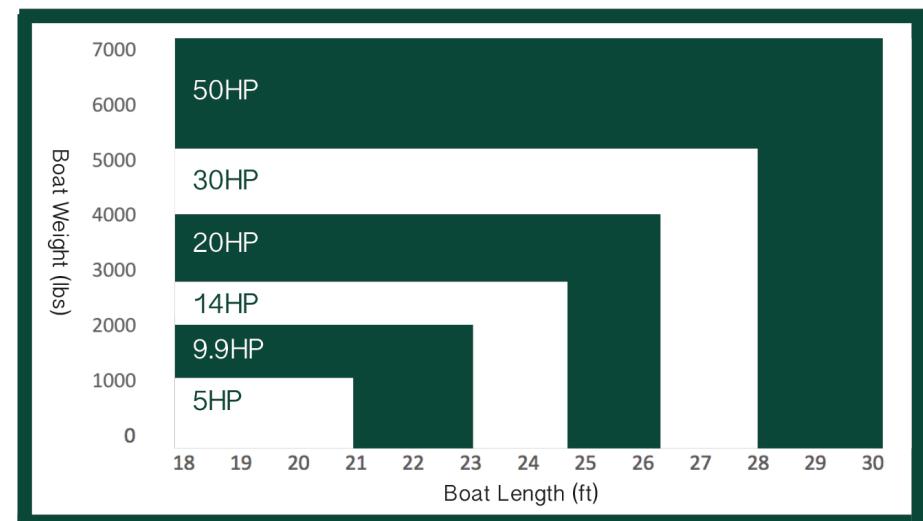
## Displacement Boats:

Choosing the correct motor begins with determining how fast you want your boat to go. The hull shape of your boat impacts speeds regardless of your use of a gas or electric motor. There are three basic hull shapes; displacement, semi-displacement and planing. Displacement and semi-displacement hulls essentially run at hull speed. Hull speed is approximately equal to  $1.25 \times \sqrt{\text{boat length}}$ .

Boat Length: (ft)	Hull Speed (Knots)
12	4.33
18	5.30
22	5.86
30	6.85

## Planing Boats

The formula for planing powerboats considers the actual weight of the boat and not the length. This is because the power to weight ratio must be enough to get the boat up on plane. If not, you will achieve hull speed as your maximum. To calculate your maximum planing speed, divide your displacement by half of your HP. Then divide 150 by the square root of the first number you calculated.



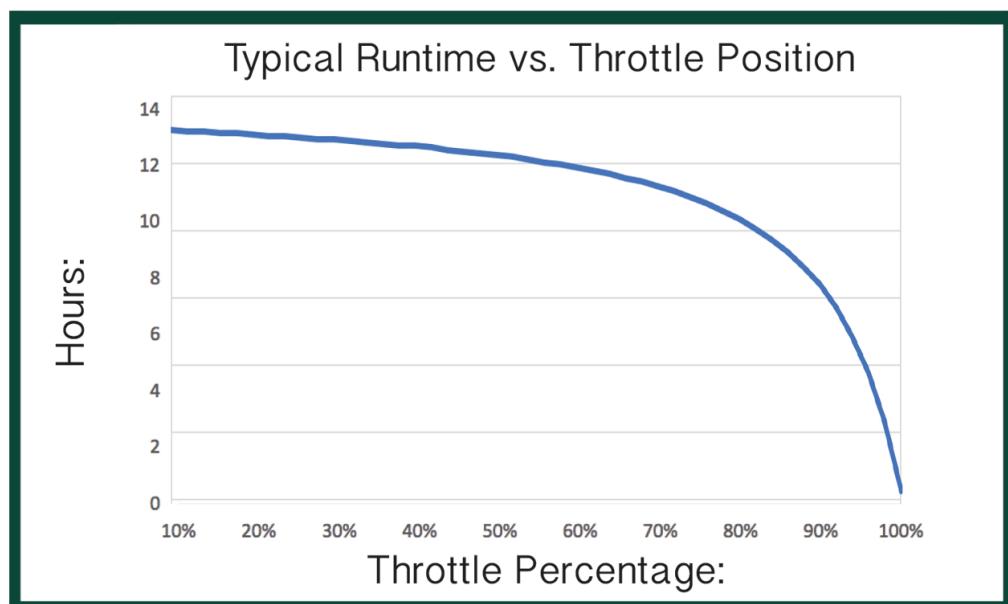
# Step 2: Select Batteries

*How long will I go?*

An Amp Hour (Ah) is the amount of current a battery can supply for a period of time. How long you run for is determined by the capacity of your batteries. Elco recommends matching the Ah of the battery to the continuous Amp draw of the motor. With this approach, our typical boater achieves about 4 hours of runtime. However, as you decrease your throttle, your runtime and range will increase exponentially so your runtime can change drastically.

Outboard Motors			
	Volts:	# of 12V Batteries	Suggested Battery (Ah):
EP-5	24	2	90 - 120
EP-9.9	48	4	90 - 120
EP-14	48	4	130 - 225
EP-20	48	4	130 - 225
EP-30	96	8	130 - 225
EP-50	96	8	165 - 250

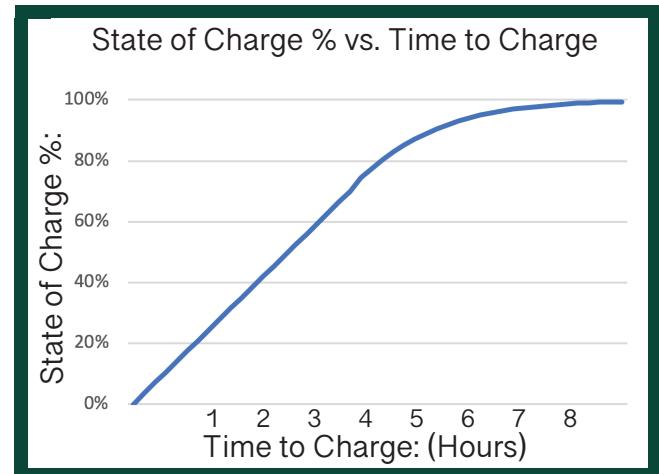
Inboard Motors			
	Volts:	# of 12V Batteries	Suggested Battery (Ah):
EP-6	36	3	100 - 200
EP-12	48	4	100 - 200
EP-20	72	6	130 - 225
EP-40	108	9	165 - 250
EP-70	108	9	200 - 250
EP-100	144	12	200 - 250



# Step 3: Select Charger

## *How long does it take to charge?*

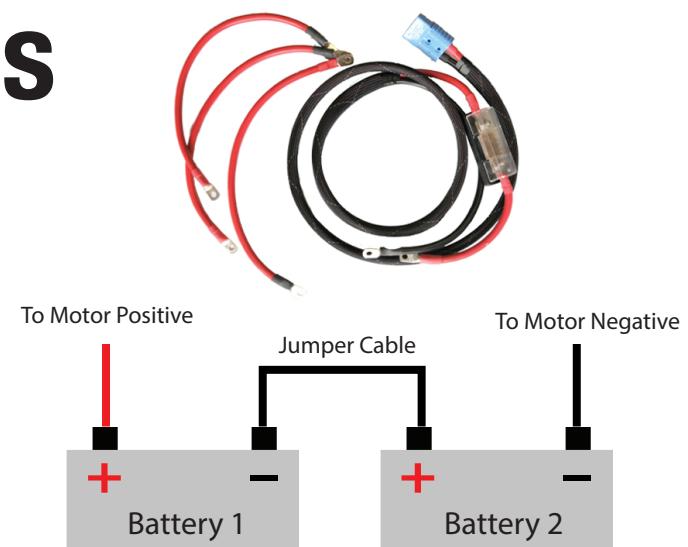
Chargers are designed to match with specific battery types and charge at set rates. By using the chart to the right you can estimate the amount of time that it takes to charge your batteries based on the current state of charge percentage. Charging immediately after use and using an auto balancing, high quality charger will increase the lifespan and performance of your batteries.



# Step 4: Connect Batteries

## *How do I install?*

The last step is to install your batteries. To reach the desired voltage of each motor you will need to connect the batteries in series. Start by connecting the positive battery lead cable from the set to battery 1. Then attach the jumper wire to the negative terminal of the next battery. Once you reach the last battery, connect the negative battery lead cable from the set to the negative terminal. When running any type of cable, always make sure to follow US Coast Guard and ABYC Guidelines. Lastly, make sure to distribute your batteries in a manner that best suits your boat.



Have a Question?

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