# Guide To Buying Your First Powerboat

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# Introduction

So, you are ready to buy your very first powerboat! How exciting! You can probably already see yourself out on the high seas, enjoying the wind, the sun, and the waves – doing what you know you love – boating!

If you're like most soon-to-be power boat captains, you've already planned your first boating trip, and the only thing stopping you from leaving this very minute is the fact that you haven't bought the boat yet.

The first question you may ask when you arrive at the dealership will most likely be 'how much does it cost?' But this really isn't the first thing to consider. Neither is 'how fast does it go?'

While these *are* questions that need to be asked at some point, they aren't the *first* things to consider. A great deal of thought and research needs to go into purchasing a power boat – even if it isn't your first one! There are many decisions to be made.

First, you need to understand that certain elements of a power boat have a huge effect on the boats performance, handling, and safety. Not taking these things into consideration could result in a disaster on the open seas that you don't even want to think about right now. Let's just say that not taking the time to select the *right* boat for *your* boating needs could result in a tragedy, such as death.

That's what this guide is for – to help you learn everything you need to learn in order to make the *right* decisions when you go power boat shopping. By the time you finish studying this guide, you will arrive at the boat dealership well-prepared, and while you will still have plenty of questions of your own to ask, such as 'how much is it?' and 'how fast does it go?' you will be able to answer all of the questions that the salesman needs to ask you as well. Together, with help from your salesman, it won't take very long at all to find and buy the perfect power boat for you.

Just so that we are on the same page, so to speak, let's start by defining exactly what a power boat is. A powerboat is any boat or water vessel that is powered by an engine.

The engine may be an inboard engine, and inboard/outboard engine, or an outboard engine. The engine may be powered by gas or diesel fuel, but diesel fuel is usually used for larger powerboats.

Steam is another method of powering a powerboat, and the first powerboat was in fact a steamboat. Obviously, this method of powering boats is out-dated and no longer used.

Powerboats are typically between 10 and 220 feet long, and Yachts, which are considered to be powerboats, may be even longer. The price for powerboats can cost as little as $2000 for a small, used boat, on up into the millions for Yachts. Depending on the type of powerboat you buy, there may be sleeping capacity for 0 to 10 people on board.

It is important to shop around. Don't buy the first boat that you see at the first dealer you visit. Visit other dealers in your area, or even in other towns. Check out dealers websites online. Take a look at the used boats that are for sale as well – you may find a stellar deal!

Read reviews on the various brands of boats that you are interested in. This is always a great way to start your research when shopping for a boat – or any other major purchase! Don't pay attention to manufacturer type reviews – the ones that are sales ads designed as reviews. Look for *customer* reviews. Those are always the most enlightening.

Finally, read through this entire guide. Print out the checklist that you will find at the end of the book, and take it with you when you go shopping for your first powerboat.

Don't assume that you will remember all of the things to ask or check! It is a known fact that customers who are well informed are the ones that get the best value and quality for their money. That's the kind of customer you want to be, and this guide can help you do it.

When you arrive at the dealership, and you tell the salesman that you are in the market for a powerboat, you may get a blank stare. Keep in mind that the term 'powerboat' covers a great many types of boats! It's a good idea to know what type of powerboat you are looking for when you arrive, and to determine that, you need to assess your boating needs and desires first. So read on!

## Assessing Your Boating Needs

Because there are so many different types of powerboats, you need to assess, define, and understand what your boating needs are before you start shopping. If you can't tell yourself exactly what you want, in boating technical terms, you certainly can't make anyone else understand what you want or need.

Start by thinking about what you will be using your boat for. Is it strictly for day boating trips? Will there ever be an occasion that anyone would need to sleep on the boat? If so, approximately how many people will the boat need to accommodate in terms of sleeping arrangements? If the boat will not require sleeping accommodations, write that down. If it will, write that down as well, including how many people the sleeping quarters should accommodate.

Naturally, if you will be spending more than just a day out on your boat, you may need a galley, where meals can be prepared. Do you need this? If so, how elaborate does it need to be? Is it possible that you just need a refrigerator?

Again, determine what your needs are, and write it down – keeping in mind that all of these additions will add to the overall cost of the boat.

Will the boat just be used for sports, such as skiing? If this is the case, you may not need sleeping accommodations or a galley at all. You've just reduced the price of the boat incredibly!

No matter what you will be using the boat for, how many people will be on the boat at any given time? The boat must be large enough to comfortably seat everyone on board, without exceeding any weight capacities.

Will the boat be used as a showboat? Will it be used for racing purposes, or just for cruising purposes? Again, all of this must be considered and noted. One thing you must understand from the very beginning. There is no boat that will do everything that there is for boats to do.

What this means is that larger boats that are designed to accommodate passengers for several days or weeks can't be used for skiing. Ski boats, which are often called speedboats, can't really be used to accommodate passengers for several days. Different types of boats are meant to serve different boating purposes.

About the only thing that one can do with all different powerboat types is fish. If you plan to fish, you can do that from any type of boat that you buy! But then again, if you plan to run a commercial fishing boat, where you take on

passengers for the day, not just any type of boat will do. You will need a larger fishing boat.

As you can see, you really have to be specific about what you will be using your boat for in order to determine what type of boat you need, how big that boat must be, how fast that boat must go, and even what luxury add-ons the boat will require – such as sleeping quarters and a galley.

How long will you be on the boat? This is an important question. If you will be living on the boat fulltime, or traveling on the boat for extended periods of time, your accommodations must be taken into consideration.

Space and storage are big factors. When everyone on the boat is tripping over each other, the fun ends fairly fast. If people that can't be confined in small spaces together will be on the boat, again, it's not going to be fun for very long. Take all of this into consideration.

Write the information down. Write it as a list or as a statement – just write it. You will be referring to it again and again in your quest for the perfect boat for you. By the time you greet a salesman, you will have what you have written memorized, and the salesman won't waste any of your valuable time – or his – showing you boats that you have no interest in.

Close your eyes and think about being on your boat. Think about how you will spend a day on your boat, who will be with you, what activities you will be doing, what you will be eating or drinking – all of it. This is the easiest way to make your list of how you will be using your boat. Do this several times, picturing different scenarios each time, until you feel that you have completely outlined the various ways you will use your boat, and the various requirements that it must meet.

The initial cost of the powerboat isn't the only issue you need to consider. The operation and upkeep of the boat is a whole new ballgame. Boating is not an inexpensive hobby by anyone's standards – unless you are very, very wealthy.

Operating an average sized powerboat can cost approximately $1000 or more per year, depending on how often you use the boat. You will have to pay insurance, docking fees, fuel, oil, maintenance, and winter storage. You will also have to pay state registration fees, and if a permit to operate a boat is required in your state, or courses for a permit are required, you will have to pay those fees as well.

Of course, the larger the boat is, and the more often it is used, the higher the operating costs are. Another consideration in cost is how the boat will be transported. In many cases, boats are sold with trailers to haul them – if the boat is small enough to be hauled on a trailer by a regular sized car or pickup truck. Larger boats have to be hauled by semi-trucks or by cargo carriers. Another

option is to drive to boat to where it needs to be, or to hire someone to do so. These costs must be considered, as they are part of operating the boat – in a way. There may be other fees that are specific to your boat, your state, or your boating purposes that are not listed here as well.

Many people struggle to purchase powerboats, only to have them parked in their driveways or moored at the dock for the majority of the year. They find that after all that struggling, they don't have the funds available to pay for the boat and operate the boat!

Again, boating is not a cheap hobby. When making the decision to purchase a boat, don't buy more boat than you can afford to pay for, operate, and maintain. Set a budget for the purchase of the boat, a budget for operating the boat, and a budget for maintaining the boat, and stick to it!

After you list the equipment and luxuries that you want for your dream boat, go back over the list and determine what you absolutely must have, what you can wait a while on, and what you can absolutely live without. Really think about this and consult with your family about it. Just be sure that you don't mark off any vital safety equipment or features!

How and where your boat will be financed must also be taken into consideration – if financing will be required. A boat – any boat – is considered a luxury item, and some financial institutions charge higher interest rates for such loans.

Many dealerships work with private finance companies, but the interest rates are usually considerably higher than what you will find at banks, credit unions, or savings and loans. If possible, obtain your own financing; don't depend on the dealership unless you cannot obtain financing elsewhere.

Before you talk to *any* lender, check your credit report. You can obtain a copy online or through any credit reporting agency. If there are any negative remarks on the credit card, get these cleaned up before you look for boat financing.

It is perfectly acceptable, and in many cases expected, that you will search for a source of financing before you even start shopping for a boat. This is a good way to help select a boat actually, because your lender will be able to tell you upfront how much they are willing to lend, how much you will be required to put down, what your payments will be, and what your interest rate will be.

You can choose a fixed rate loan or a variable rate loan. If the interest rates are presently low, go with a fixed rate loan. If they are high, go with a variable rate loan and wait for the interest rates to drop, then refinance and lock in a lower interest rate with a fixed rate loan.

An important question to ask your lender is whether or not the boat will be allowed to travel outside of U.S waters before the loan is paid off. Many lenders will not allow this. If this is important to you, you may need to find another source of financing that will allow this, or plan to pay the boat off early. Ask if there are penalties for early pay-off!

Boat loans come in many different lengths – just like boats! Depending on the cost of the boat, your loan may cover a period of five to twenty five years! Twenty-Five YEARS! Many people mortgage their homes for that same length of time!

Be realistic. Make sure that you can not only afford the down payment and the notes on the loan, but that you will have the income to pay the notes as the years go by. If you want a shorter loan term, make a bigger down payment or opt for higher payments. Again, do not put yourself in a bind! If you are struggling to pay your bills, the chances are very good that you won't have the time or the energy to enjoy your boat.

Be willing to compromise. Boaters seldom get everything they dream of when they purchase a boat anyway. Either they can't have all the features that they want combined in one boat, or they can't afford all of the features that they want. Be willing to start small and work your way up to your dream boat. We seldom start at the top in anything else in life – why should our boats be any different?

Once you have fully assessed how you will be using your boat, and how you and your passengers must be accommodated on the boat, you will be ready to look at the different types of powerboats that are available today. This is covered in the next chapter. From there, you will be able to get into more detail concerning other features that you want or need for your boat.

## Different Types of Powerboats

As mentioned, there are many different types of powerboats. Hopefully, you have taken the time to consider and write out your boating needs. That information will be necessary in selecting the right type of powerboat.

This doesn't mean that you will have the *brand* of boat selected at the end of this chapter – just the *type*. Each type of boat may have one, two, or several different manufacturers of that type.

Once you know what type of boat you need, you will be ready to make other decisions concerning your dream powerboat. There are essentially three types of power boats, but within those three types, there are many different types of powerboats as well. With so many different types of power boats, it would be impossible to cover them all here.

What you need to know for now, is the three types of powerboats. These are not 'official' types of powerboats; these types are just listed here for general 'description' purposes. They include smaller boats that do not accommodate for sleeping or eating, such as bass boats and pontoon boats; medium sized boats that do have sleeping quarters and galleys, such as Aft Cabin boats; and much larger boats, such as Yachts.

The chart on the next page lists several different types of powerboats, and the main type of powerboat that they fall in, such as small (s), medium (m), or large (L).

You should note that for description purposes, the term 'small' is used to describe any boat that is typically only for day use, meaning that it does not have sleeping accommodations.

The chart also will tell you how many passengers the type of boat can carry, the available lengths of the boat, and whether the boat has sleeping accommodations. This will help you rule out specific boats and concentrate more on the boats that interest you.

| Name | Type | Length | Passengers | Sleeping? |
|---|---|---|---|---|
| **Aft Cabin** | M | 32 – 44 ft. | 4 - 10 | 4-6 people |
| **Air Boat** | S | 12 – 18 ft. | 2-18 | No |
| **All Purpose** | S | 12 – 19 ft. | 2 - 4 | No |
| **Bass Boat** | S | 12 – 21 ft. | 2 – 6 | No |
| **Bow Rider** | S | 17 – 29 ft. | 6 - 10 | No |
| **Catamaran** | S | 16 – 50 ft. | 4 – 10 | No |
| **Center Console** | S | 12 – 32 ft. | 4 – 8 | No |
| **Classic** | S | 17 – 40 ft. | 4 – 9 | No |
| **Convertible** | M | 16 – 37 ft. | 4 – 10 | 2-6 people |
| **Cruiser** | M | 24 – 42 ft. | 2 - 6 | 2-6 people |
| **Cuddy Cabin** | M | 24 – 28 ft. | 4 – 6 | 2-4 people |
| **Deck Boat** | S | 16 – 24 ft. | 4 – 6 | No |
| **Down East** | M | 28 – 36 ft. | 6 – 10 | 2–4 people |
| **Flats Boat** | M | 16 – 41 ft. | 6 - 10 | 3-4 people |
| **Fly Bridge** | M | 31 – 60 ft. | 6 – 10 | 3-8 people |
| **Jet Boat** | S | 12 – 60 ft. | 4 – 6 | No |
| **Pilot House** | M | 45 – 80 ft. | 4 - 8 | 4-8 people |
| **Pontoon** | S | 16 – 22 ft. | 6 - 12 | No |
| **Runabout** | S | 12 – 21 ft. | 4 – 8 | No |
| **Sedan Bridge** | M | 28 – 50 ft. | 4 – 6 | 4-6 people |
| **Ski Boat** | S | 16 – 24 ft. | 4 – 6 | No |
| **Sun bridge** | M | 20 – 42 ft. | 4 – 6 | 4–6 people |
| **Super Yacht** | L | 85 + | 10 – 16 | 8 - 10 |
| **Trawler** | L | 32 – 70 ft. | 2 - 8 | 2-8 people |
| **Wake Board Boat** | S | 16 – 24 ft. | 4 – 6 | No |
| **Walk Around** | M | 18 – 36 ft. | 4 – 6 | 4-6 people |

With the chart on the previous page, you should be able to select different types of boats that you are interested in purchasing, based on the passenger and sleeping capacity, and the length's available. Remember, that you are just getting started in the decision process, and you are actually still in the 'assessing your needs' stage at this point.

There are still many other decisions to make, but the safety and comfort of you and your passengers should be considered first, and a lot of that depends on the size and capacity of the boat that you choose.

Naturally, if you plan to use your boat to hunt and fish in swamp type areas, you would choose an airboat. If you were more interested in a party boat that doesn't

have sleeping berths, a pontoon boat would be preferred. If you will just be using your boat for fishing or skiing, you won't need a boat with sleeping quarters.

However, if you will be using your boat to travel for extended periods of time, or if you plan to live on your boat at some point, sleeping berths or at least one state room will be necessary, as well as a galley and a head.

Because there are so many types of powerboats that have different features available, it is important to know – specifically – how and where you will be using the boat before making a purchase.

By determining what your needs are, and the types of boats you are interested in based on those needs, you are steadily narrowing down your search for the perfect powerboat.

You should also note that the length of a boat determines the class of the boat. The class of the boat determines the type of equipment that is required by federal and state laws. The length of a boat is measured from the very tip of the bow to the stern – in a straight line. The chart below divides the four classes of boats.

| | |
|---|---|
| Less Than 16 Feet | Class A |
| 16 feet to 26 feet | Class 1 |
| 26 feet to 40 feet | Class 2 |
| 40 feet to less than 65 feet | Class 3 |

## Inboard Engines

An inboard engine, which is also called a Power Plant, is an engine which is installed in a boat, as opposed to being attached or installed on the outer shell of the boat. An inboard engine boat has everything except the shaft and a propeller inside the boat.

An inboard engine is essentially a four-stroke engine that has been adapted for marine use. Smaller powerboats may have two-stroke engines that require a mixture of oil and fuel to run properly.

There is a transmission located on the back of the engine, and it is attached to a propeller shaft. The propeller shaft passes through the bottom of the boat, supported by struts on the bottom of the hull. The propeller is attached to the end of the shaft, and a rudder is placed aft of the propeller to control the direction of the boat.

There are two types of inboard engines: v-drive and direct drive. A v-drive inboard engine, which is also called a Vee-drive or Angle drive, is mounted in the back of the boat, and faces backwards. The shaft goes toward the front of the boat, and this creates a ‘V’ towards the rear of the boat.

The advantage of v-drive engines is that everything is placed towards the rear of the boat, leaving more room in the interior. A direct drive inboard engine is mounted near the middle of the boat. The propeller shaft goes straight out from the back of the boat.

Inboard engines are usually quite a bit heavier than outboard engines, depending on the horsepower. Inboard engines are positioned in such a way, with a low center of gravity, as to lend better balance in the boat. This type of engine is considered to be the most efficient method of transferring power from the engine to the propeller.

Even though inboard engines are heavier, they have fewer limitations than outboard engines do, simply because there is no need to have everything inside one unit.

The disadvantage of inboard engines is that they take up a lot of space inside the boat. Inboard engine boats are also not maneuvered as easily as outboard engine boats at low speeds or in reverse gear because the propeller is in a fixed position.

## Outboard Engines

Outboard engines are just what they say they are. They are engines that are attached to the outer shell of the boat. Outboard engines may be very lightweight, such as 2 horsepower (HP) portable engines, on up to 350 horsepower engines that are bolted on the stern of the boat.

Outboard engines are self contained, housing the engine, the gear case, the propeller, and the drive shaft. Outboards do have a higher weight to horsepower ratio over other engines.

Boats with outboard engines can be steered directly from the engine itself, with the throttle, gearshift, and steering all attached to the power head – or the top of the engine. They can also be steered with a steering wheel located in the middle or front of the boat, with the help of a cable or hydraulic steering system.

Most outboard engines have separate fuel tanks, and those fuel tanks are either portable, or they may be built into the boat. Smaller outboard engines typically have fuel tanks attached to them.

Outboard engines are internal combustion engines, and they are either four-stroke or two-stroke. Four-stroke outboard engines, however, are more common today. Small electric trolling motors are also in the outboard engine family.

Depending on the type and size of the boat, some boaters prefer outboard engines due to the fact that they are very lightweight and they take up no room in the boats interior. Because there is often a cut out space in the transom for the outboard engine, however, the boat is susceptible to water coming inside the boat.

Even though these engines are lightweight, they do force a great deal of weight towards the stern of the boat, causing the rear of the boat to sit lower in the water. This type of engine is obviously not well suited for large cruising boats or Yachts, which really require inboard engines.

Outboard engines do quite well on smaller power boats, such as speed boats and ski boats (which could be one and the same thing according to some boaters). One real advantage of outboard motors is that most of them can be detached from the boat for winter storage, or to take to a shop for repairs, whereas boats that have inboard engines require winterization, and they also require a repairman to come to them – which can be costly.

## Inboard/Outboard Engines

The Inboard/Outboard engine, which is also called an I/O or a stern drive is a system that combines both inboard and outboard engine systems. The engine itself is placed inboard, in the stern of the boat, and the engine sends power to the outboard drive unit, which is obviously located on the outside of the boat.

Many people prefer I/O engines because they get the size and low center of gravity that is commonly found in an inboard engine, with the maneuverability that is commonly found in an outboard engine. This type of engine also allows for more room in the interior of the boat, as outboard engines do.

The main disadvantage of I/O engines is that they are less efficient than either inboard or outboard engines. This is due to the fact that power passes through two 90 degree gears before it reaches the propeller. I/O engines, which are also more complicated in design than inboard or outboard engines are also more apt to have problems.

I/O engines are typically four-stroke automotive engines that have been modified for marine use, and steering is controlled by a drive unit that swivels, like that of an outboard engine.

Another type of power that is becoming more popular does not include either inboard or outboard designs. Instead, it is a jet drive system, which is a very powerful system of engine driven water pumps. These water pumps suck in large quantities of water which pass through the bottom of the boat, shooting the water out through a nozzle in the stern of the boat.

This large intake and output of water is what is used to propel the boat forward, and steering is accomplished by changing the direction of the nozzle. There is no rudder, propeller, strut, or shaft. Many people like these boats because they are safer, and there is less chance of engine failure.

While this type of system is becoming popular, there are drawbacks and problems that have not been corrected by designers. Even though the boats are propelled by the water itself, these boats are not very efficient. The pumps still rely on engines. Another major drawback is that if debris is sucked in by the pump, the system literally gets blocked, which means that you will need repairs that are not easy to make.

Now that you have an understanding about inboard, outboard, inboard/outboard, and jet drives, you will be better able to determine which engine is best suited to your needs, based on the type of boat you want, and how you will be using your boat.

Remember that not all engine types are suitable for all powerboat types. Not all engine types are suitable for all boating/water activities either. When selecting an engine type, there is quite a bit to consider.

Based on the type of boat you want, you should choose the engine type that will be the most efficient, as well as the one that will offer the best performance for the type of boat that you have chosen.

Even though there are few choices in engine types, it takes four basic things to move a powerboat. These include the engine, a propeller or pump, a way to connect the engine to the propeller or pump, and a way to control the propeller or thrust of the boat. Again, there are few engine type choices, but the choices that you have concerning these four things, and how they all work together, are actually numerous.

Take the time to consider what you want, and what you need, in terms of how your powerboat will be powered. Talk to other boaters to find out what their preferences are – and why they prefer a certain type of engine. You can find avid boaters participating in boating forums all over the Internet, and these are usually very good sources of information concerning anything that is boating related.

Read customer reviews on various brands of engines as well. You should note, however, that certain brands of boats only use certain brands of engines. When you settle on the type and brand of engine that you prefer, this may determine the brand or brands of boats that you have to choose from as well.

Next, we will cover the various types of hulls that are available, as well as the advantages and disadvantages of each type.

## Different Types of Hulls

Before you can purchase your powerboat, you need to know a thing or three about the different types of hulls, how they affect the bottom shape of the boat, and how all of this affects the performance and maneuverability of the boat. There are basically only two types of hulls: displacement hulls or planing hulls.

Displacement hulls essentially push water away (displace), and the amount of water it pushes is equal to its total weight. If the water being pushed away is equal to the total weight, then the boat floats. If the weight is more than the weight that is being displaced, the boat sinks. Displacement hulls move *through* the water – not on *top* of the water.

As the hull moves through the water, it creates small waves that grow larger as the speed of the boat increases. The distance between the waves also increases, until the boat is literally moving between two waves – one in front of the boat, and one behind the boat. When this occurs, the hull has reached the maximum hull speed.

To determine the maximum hull speed of any hull, use the following formula:

**1.34 x the boat's waterline length squared**

If the waterline length of the boat is 32 feet, you would find the square root of 32, which is 5.66, and multiply that number by 1.34, which is 7.58. The maximum hull speed of the boat would be 7.58 knots. Displacement hulls move much slower than planing hulls.

Furthermore, when more horsepower is added after the hull has reached its maximum hull speed in a displacement hull boat, the boat will not move faster – it will only create bigger waves. However, when more horsepower is added in a boat with a planing hull, the speed of the boat does actually increase.

The type of hull essentially refers to the shape of the bottom of the boat. For instance, round bottom boats have displacement hulls, while flat bottomed boats and v-shaped boats have planing hulls. Multi-hulled boats are displacement hulls.

Any time a planing hull is not moving or when it is going slow, it actually becomes a displacement hull. However, as the boat starts moving faster, the planing hull lifts itself out of the water to sit on top of the surface, creating its own bow wave. Planing hulls displace a lot less water than displacement hulls, instead moving along the surface of the water, and almost in the air. This also creates less friction and improves efficiency.

Displacement hulls have many advantages. They can be easily driven with small engines, they can travel over long distances, and the ride is very smooth. The disadvantage, again, is that they move slower.

Planing hulls on the other hand, such as v-bottom boats and flat bottom boats, go faster than displacement hulls. That's where the advantage ends. With planing hulls, the boat moves on top of the water – or on top of the waves actually. What this means is that the ride is anything but smooth. As the waves get bigger, the ride gets bumpier, and this can cause serious injury to passengers, as well as damage to the hull and other equipment in the boat.

Another type of hull is the semi-displacement hull. This type of hull is generally used on large cruisers, and it does have the ability to lift the boat to a certain degree. Semi-displacement hulls, however, need much larger engines to run, and they do consume more fuel.

There are many combinations of hull shapes available as well. Some are both v shaped and flat, while others are v shaped and round. When choosing a hull type for you boat, it is important to know what each hull shape is best used for. The chart below will help you out.

| Shape of Hull | Type of Hull | Advantages | Disadvantages | Best Use |
|---|---|---|---|---|
| **Flat Bottom** | Planing | Has a shallow draft | Rides very rough | Rivers and lakes |
| **V-Shaped** | Planing | Smoother ride | Requires more power. Easy to rollover. | Rivers, lakes, ocean |
| **Round Bottom** | Displacement | Moves smoothly | May roll without stabilizers. Moves slower | Rivers, lakes, oceans |
| **Multi-Hull** | Displacement | Greater stability | Requires a large area for turning | Rivers, lakes, oceans |

Again, the type of hull that you choose may be greatly determined by the type of boat that you want, where you will be using the boat, and what you want to do with the boat in terms of maneuverability.

## Different Types of Hull Materials

Just as there are different types of hulls, there are many different types of hull materials. In fact, there are far more hull materials than there are types of hulls. Fiberglass is the most common type of hull material that is used for powerboats, but there are alternatives.

Since fiberglass is the most widely used hull material, we will take an in depth look at this option first. First, you should note that most 'fiberglass' hulls are not made from pure fiberglass at all. They are in fact Fiber Reinforced Plastic (FRP) hulls. This type of material became popular in the 1960's, and it is still used today. Solid fiberglass hulls consist of woven fiberglass mats, fiberglass cloth, and polyester resin, which is the glue that holds all the materials together.

This obviously makes a boat very heavy, which in turn makes it slower. Furthermore, fiberglass and resin are quite expensive. Manufacturers first tried to make the hulls thinner, but this reduced the overall strength and created problems. Eventually, cored hulls were created. Cored hulls consist of balsa wood, foam and other high tech materials between two thin layers of fiberglass.

Cored hulls are cheaper to build, which makes them cheaper for consumers. They also allow boats to move faster, because they are lighter, and this of course makes boats with cored hulls more fuel efficient. However, if water penetrates the skin of the hull – the fiberglass layers – and gets inside the core, the inner core will start to degrade and the boat may actually fall apart.

When you are shopping for a boat, if you want a fiberglass hull, you need to ask the salesman if the hull of the boat you are interested in is in fact fiberglass. You should ask to see a cross-section of the hull construction to verify this.

Fiberglass, while common, is not the only choice when it comes to hulls. There are also aluminum hulls, inflatable hulls, rigid inflatable hulls, roplene hulls, carbon fiber hulls, Kevlar hulls, and wooden hulls.

Wooden hulls are common on older boats – such as classics that were built prior to the 1960's. Because it is solid, wood is good flotation material, but it has poor resistance to rot. If your hull contains *any* wood at all, it is important to know where that wood is located so that you can keep an eye on it. It will eventually have to be replaced, but there are many products that can be applied to the wood to keep it in shape for a long time to come. Today, most people prefer hulls that contain no wood construction.

Aluminum hulls are almost as popular as fiberglass hulls, but this material is commonly found in smaller boats – not larger ones. Flat bottomed boats that are used in fresh water lakes and rivers are commonly made from aluminum. Aluminum hulled boats are generally fishing or utility boats. Aluminum is almost

never used on larger luxury boats. While aluminum is rot resistant, it does corrode over time, and since aluminum boats often have rivets where the construction was put together, leaks often occur.

Inflatable hulls and rigid inflatable hulls handle very well in the ocean, even though they are more apt to pitch and roll. They are quite rugged, and are often used by military, coast guard, police, and rescue workers. This type of hull is best suited to smaller water crafts – and these types of hulls are very expensive. Just because this type of hull is usually found on small boats doesn't mean that it isn't useable for large boats. The expense is the most common reason that it isn't. But if you can afford it, this type of hull should be considered.

Roplene, which is a type of plastic, is becoming popular for boat hull material. It's not much to look at – so if the look of your boat is important this isn't the right hull material for you – but this type of hull will not crack or fade, and the price is right. The only disadvantage of this type of material is that it does not hold hardware well. Screws and such come loose and have to be checked often. One of the major advantages, however, is that the material is very tough, so beaching your boat won't be a problem at all, and rot and corrosion are two things you won't have to worry about.

Hulls made from carbon fiber and Kevlar are also popular. These types of materials increase the overall speed of the boat, because they are lighter materials, and this reduces fuel consumption. The material is very strong, but expensive, which means that you won't see a lot of these out on the water. This is, however, great material for boats that are often used in more shallow water.

Many hulls are made out of a combination of different hull materials. Again, before you purchase a boat, you need to know exactly what material was used for the hull. Without this information, you cannot properly maintain your boat. You may also end up with a boat that doesn't work very well for your purposes. For instance, if speed is important to you, heavy hull material should be avoided.

## The Electrical System

Now that you have already made so many decisions concerning what you want for your powerboat, it is time to think about the various systems that will be installed on the boat, starting with the electrical system. Obviously, you are not expected to be an electrician, and you could probably care less about the electrical system on a boat, as long as it works like it is supposed to. But as a person in the market for a powerboat, you do need to learn a few things.

First, you need to realize that corrosion is a problem. This is especially true if you use your boat in salt water. If you are purchasing a new boat, the wiring will probably use marine grade tinned wires and cables. However, it is a good idea to *ask* if this is the case before making a purchase. Because corrosion will occur over time, eventually, wires and cables will need to be replaced.

Now, will your boat have AC or DC power, or a combination of the two? In many cases, it will be a combination of the two, because AC power only works on shore. In other words, there may be items in your boat that run on AC or DC power, but you can only connect to an AC power source when the boat is docked. When you are out in open water, with no dock insight, you will be running on DC power. DC power is provided by batteries.

The next question is what electrical appliances or devices will you have in the boat? Stereo systems, air conditioners, refrigerators, alarm systems, navigation systems, lights, and ship to shore radios will all need to be powered. One little battery isn't going to do all that. Depending on your electrical needs, your boat may need more than one battery, or you may need a generator on board.

It is very important that you discuss all of this with your powerboat dealer before making a purchase. If you will be adding electrical dependant accessories after your purchase, you will need a qualified marine electrician. Someone who does electrical work on houses won't do. Again, you need a qualified marine electrician, and you should ask your powerboat dealer to recommend one.

Not having marine electrical work done by someone who knows what they are doing can lead to disaster and tragedy out on the water, so don't take any shortcuts in this department! Try to picture lightening hitting water, or your hair dryer falling into the bathtub while you're in it. Your boat will be surrounded by water, and electricity and water do *not* mix very well!

As electrical accessories are added to your boat, it is vitally important that all electrical equipment have a breaker or fuse of its very own. This will protect your wiring system and the equipment. You or the person installing such electrical equipment should never tap into other wires. All electrical equipment must be wired to a positive terminal block and circuit breaker, and should also be wired directly to a grounding buss.

Again, you don't have to be an electrician, but you do need to check up on your marine electrician and have a basic knowledge of what needs to be done. Go ahead and be a nuisance! Be in the way! Watch the work as it is being done in order to make sure that it is done right.

You should never use non-marine electrical equipment on a boat! It was not designed or meant for use on a boat, and it should be avoided. You can buy almost any type of electrical equipment or appliance that one would want on a boat at a boating supply store – and that equipment will be designed for use on a boat.

Many types of electrical equipment can be installed on your boat at the time of your purchase, and included in your purchase price. Stereo systems, lighting systems, and air conditioners are prime examples of this. If a generator will be needed to run a lot of electrical equipment, again, you should have that installed at the dealership before you pick up your new powerboat.

You will also need to purchase shore power cords with your boat. These are the power cords that are used to plug into an electrical outlet located on shore to run certain electrical equipment onboard the boat for a period of time. For instance, charging the boats batteries will most likely require electricity from shore.

Ground fault current interrupter service outlets (GFCI's) are required on boats in wet areas, such as the galley or the head. While this is only required in *wet* areas, it is a good idea to have all of the power outlets on the boat outfitted with GFCI's. Don't opt for low-cost GFCI's either. Go with a good brand, like GE. You should request these changes at the dealership, before purchasing the boat.

You want good batteries in your boat, no matter how expensive they are. Paying the price for quality batteries now will save you money – and aggravation – down the road. Don't settle for the cheap brands, and make sure your dealer knows that you want the best. You batteries should also be located in a well ventilated area on the boat.

You may be thinking that it doesn't matter if your electrical devices in your boat are exposed to weather, but you would be wrong. It is true that these types of devices are already exposed to water when you are out in the boat, but they should still be well protected from bad weather – and from water if that is possible. Wet devices, including switches and such, lead to corrosion.

Again, you probably won't have to worry much about the electrical system when buying a new boat unless you intend to add electrical equipment. But if you are buying a used boat – especially an older one – the electrical system should be a very big concern to you. Don't assume that just because the boat is old and hasn't had any electrical problems (according to the person trying to sell it to you) that the whole thing won't catch on fire when you hit the water for the first time!

Bring a screwdriver with you. Remove a few screws and look behind the instrument panel. It's a good bet that you will find corrosion!

Because boat fires do happen, and insurance companies pay for those fires, you can actually use this to your advantage. There is a possibility that you could have a marine electrician look at a used boat that you are planning to purchase, and he may tell you what needs to be changed to bring the electrical system up to date and make it safe. The chances are also good that he may see a way to make a lot of money from someone who doesn't know much about the electrical systems on boats.

Don't call the electrician first. Call your insurance company first. Tell them that you are seriously considering purchasing a used powerboat and that you not only want an insurance rate quote, but because the boat is older, you would also like it to be inspected to see what you will have to do to bring it up to code. Insurance companies won't insure boats that can't pass their inspection until repairs are made and re-inspected. The insurance company will provide you with a list of changes that must be made before they will insure the boat.

Now, with that list, you can contact a marine electrician and get an estimate. He or she cannot tell you other things need to be done just to pad the estimate, because your list from the insurance company already tells you what needs to be done – and you can bet that list will be extremely thorough and accurate!

So there you have it. If you are purchasing a new boat from a dealership, don't worry too much about the electrical system. Just try to have all of the electrical add-ons you want installed through the dealership, before you pick the boat up. Make sure, of course, that they do use a qualified marine electrician for this work. If you are considering a used powerboat, call your insurance company to have them check out the boat. They will definitely give you more information than the owner of the boat will!

## The Fresh Water System

If you are purchasing a smaller boat that will just be used for day trips, a fresh water system isn't necessary at all. But, you should carry jugs of fresh drinking water with you for safety's sake. However, if you are in the market for a larger boat that will be used for weekends or extended periods out on the open sea, a fresh water system is an absolute *must*!

Humans survive less than two weeks without pure drinking water – and the ocean is a very, very large place. You will also need fresh water for cooking and showers. Not only do you need a fresh water system, you also need a water purification system on your boat. Even if you have a fresh water system, you will also need to store jugs of fresh water on your boat in order to refill fresh water system tanks should that become necessary before reaching your next port.

Pumping water can become very tiresome. You need a pressurized system that allows you to turn a faucet handle to produce fresh water – just like you have at home. If you need hot water, you will either need a way to heat it, such as a stove, or you will also need a hot water heater installed on the boat. Obviously, this is usually reserved for larger boats that have showers and sleeping quarters.

Water is heavy, and therefore, water tanks should be mounted low in the boat. However, due to plumbing issues, the places where water is used – and drained – should be well above the water line in the boat when possible.

When it comes to the toilet, or the head as it is called, there are legal requirements that your boat must meet. A boat with a head must have a containment system. This containment system must be used anytime you are within three miles of shore. However, once you are past the three mile mark, sewage may be pumped off board, and this requires a pumping system.

Both methods of getting rid of sewage from the head are possible with the use of a Y-valve. The Y-valve can be turned to either direct sewage to the holding tank, if you are within three miles of shore, or out to open waters if you are past the three mile mark. Furthermore, the head needs to be mounted above the waterline to prevent sea water from coming back through the discharge line and flooding – possibly sinking – the boat.

You may have the option of having a treatment system added to the head on your boat. This will add to the cost of the boat, and it really isn't necessary. The ocean is more than capable of handling and breaking down human excrement without a problem, and without any danger to the ozone layer. No pollution occurs as long as the paper products that you use are biodegradable.

You do not have to use fresh water for the head, so a connection to the fresh water system is not necessary. You can use sea water. The thing here, however,

is that saltwater builds up deposits in the head, and in the hoses that are used to pump sewage out. You should keep these deposits held at bay by pouring white vinegar in the head and through the lines on a regular basis.

Again, the head needs to be well ventilated. This is *not* for the reason that you think! The ventilation is to prevent a build up of methane gases which can cause an onboard explosion. The ventilation is usually provided for by a vent line that leads to an actual vent that will always be above the water line.

For drinking water, the supply hose must be non-toxic and non-contaminating. It should be taste-free and approved by the FDA for drinking water. For systems that will carry hot water, you need hose that is reinforced.

Water pumps on the boat may be either manual pumps or electrical pumps. Again, pumping water yourself can get very old, very fast. Electrical pumps are more expensive, but they are generally well worth the price. However, your fresh water consumption will increase with an electrical pump. If saving fresh water is in your best interest, a manual pump may be the way to go.

One way to cut down on fresh water usage with an electric pump is to have an accumulator installed, if there isn't one already. These are essentially just empty tanks that are connected to the water line downstream from the pump. When the pump is running, the air inside the accumulator tank is compressed, and the pressure lets small amounts of water to be drawn without the pump running.

A hot water heater, if required for your system, should be installed downstream of the pump. Hot water heaters for boats are very small, insulated tanks, and they do require a pressurized water system in order to operate properly.

Again, drains should be located above the water line in the boat to drain properly. Drains are usually connected to a through-hull fitting with reinforced rubber hoses. Your system may even drain sinks located in or near the head to drain into the bowl of the head. Showers usually drain into the bilge to be pumped overboard, but if possible, you should have shower pans that have their own discharge pump to prevent clogging the bilge pump and hoses with hair or other debris.

## Marine Navigation System

The ocean covers the biggest percentage of the world. Most of us know that it is big, but we really have no idea just *how* big it actually is – until we are out in the middle of it. Because of the vastness of the ocean, a marine navigation system is necessary. Not only is the marine navigation system necessary, you also need to make sure that you fully understand it before you set off on your first ocean adventure in your new boat!

The marine navigation system in your boat will tell you several important things. First, it tells you where *you* are – which will almost seem funny when you are in the middle of the ocean. But knowing where you are is the first step to getting where you want to be! Second, it will help you plot a course to where you want to be. It will also help you to avoid colliding with land masses and such by including nautical charts that you can view.

Your navigation system should include GPS, or Global Positioning System abilities. Many people mistakenly think that GPS will tell authorities where to find you in case of an emergency. This isn't so. GPS only tells *you* where you are. GPS can also be used to help you navigate to the latitude and longitude location that you specify. However, GPS systems do not account for things that you must go around.

While the navigation system, which should include charts, can help you locate where you are, and help you plot a course to where you want to go, you should also consider a marine radar system. A marine radar system will help pinpoint other vessels in the water long before you have the ability to see them. You will also be able to see masses of land and other objects. Such a system will also show you various weather systems that are within your range.

Adding a marine radar system to your boat can be expensive, but if you plan to be traveling through the ocean, it is highly recommended. A radar system in foggy weather, or even just at night, can mean the difference between life and death! A good marine radar system will have a guard alarm that will alert you when another object enters a designated area, or when you are approaching a dangerous area. Radars can also be used for navigational purposes.

Your navigation system should also include required navigation lights, such as lights for night use and fog lights. If you will be out on the water anytime after sunset, these lights *are* required!

Because electronic marine navigation systems can fail, it is vital that you learn to use a hand-held compass and navigation charts as well. This is not something that you should 'do someday.' This is something you need to start learning now – even before you buy your powerboat! Charts of the waters that you plan to travel through can be purchased online and at many marine stores. Don't assume that your navigation and radar system *won't* fail! It very well might, and you need to

know how to do things ‘manually’ if that happens. Your life, as well as the lives of your passengers, may very well depend on your knowledge.


You should also always file a float plan before going out in your boat – even if it is just for the day. For day trips, leave the following information with a close friend or relative, with instructions as to what they should do or whom they should contact if you do not return by a specified time.

- The phone number of the authorities that should be notified
- The time you expect to return
- A description of your boat, including its number, size, make, engine type, and horsepower. Include a description and the tag number of your boat trailer, if any.
- The waters that you plan to be in
- The number of people that will be on board, along with their names and emergency contacts.

For longer trips, you should include all of the above information as well as an itinerary that includes what ports you plan to dock in, when you expect to arrive at those ports, and when you plan to leave those ports. If your plans change after you reach a port, make sure you notify the friend or relative about the changes, and make sure that you check in regularly. You can also file a report with a marine office.

You may want to have more freedom and just travel where your whims take you, when they take you there, but in the open sea, freedom can be a very dangerous thing.

There are also navigation rules that must be followed as set forth by the United States Coast Guard. These rules are available online, and you can view them at: http://www.navcen.uscg.gov/mwv/navrules/navrules.htm

It cannot be stressed enough how important the navigation and radar system is, as well as the ability to read charts and use a compass along with a working knowledge of the navigation rules. When you visit a dealer, you should be full of questions concerning the navigational tools that are available – and the salesman needs to be full of correct answers. While cost is a factor for most people, the added cost of these navigational tools is necessary.

The time that you take to read and learn the navigational rules will be time well spent. The rules were designed to protect everyone who is on the water – whether that water is a lake, a river, or an ocean. Taking the time to fully understand how to operate navigational tools – both electronic and manual - and understand the information that your navigational devices provide is also time well spent.

There are also other systems that you should strongly consider which are covered in the next chapter.

## Other Systems to Consider

Along with the electrical system, the fresh water system, and the navigational system, there are other systems to consider. These include the steering system, alarms, communications, and fire extinguishing systems, just to name a few. These are things that few people think about when they first start contemplate buying a powerboat – but they are important!

Let's start with the steering system. No matter which type of engine you choose for your power boat, you will most likely have options when it comes to the steering system. First, let's think about the steering wheel itself or the helm as it is called. There are different types of steering wheels – made from different types of materials – for different types of boats. Each type has a purpose of its own, and it's important to choose the right steering wheel for your boat and your purposes. Since you are in the market for a powerboat, you will also be in the market for a powerboat steering wheel.

The steering wheel should be made of water-resistant materials. It should be easy to get a good grip on it – even when it is wet. The available materials usually consist of plastic, polyurethane, stainless steel, and wood. Since the steering wheel is usually located near navigational devices, it is important that it has a non-magnetic surface.

The steering system itself may be a hydraulic system, a digital system, or a manual system that is called a cable system. The steering system connects the steering wheel to the boat motor using control cables made of poly coated wire, as well as plastic roller bearings. While you may opt for a manual steering system, the chances are good that you will be more comfortable with a 'power' steering system, like those found in automobiles. In this case, you should go with a hydraulic system or a digital system.

The engine power, type of hull, and top speed of the boat will have an impact on selecting the correct steering system for your boat. As boat speed and engine power increase, the demands on the steering system will increase as well. Due to the dangers of exertion out on open waters, the steering system that requires the least effort from the captain or helmsman is recommended.

Steering a boat is not anything like steering a car. Wind, waves, currents, and the overall speed of the boat have a huge impact on the steering and control of the boat. Talk with your dealer and other experienced boaters to determine what type of steering wheel and steering system will work best for your boat and your purposes.

While alarm systems are optional, and they are not generally needed to keep you safe on open waters, you may find that you do, in fact, want an alarm system installed on the boat. This is true whether your boat will be docked in a marina or

parked in your driveway. Unless you use a trailer lock, there is nothing to prevent someone from hooking up to your boat and driving away with it! Furthermore, trailer locks aren't really that great. A determined thief can get around one in short order.

You can have an alarm system installed at the dealership in most cases. You should note that alarm systems on boats can become a nuisance to other boat owner's in the marina – especially boat owners who sleep on their boats in the dock. Even gentle waves can set off the alarm. For this reason, just any alarm won't really do for a boat.

Your alarm system should include – and start with – a proximity sensor. This sensor works essentially like security lights that sense motion. When someone gets within proximity of your boat, the lights will automatically come on. Of course, this doesn't work if the boat is parked in your driveway – you need external proximity sensors for that. But most thieves prefer the dark, and the proximity sensor will scare the majority away, without sounding an alarm that wakes up your boating neighbors.

Again, for more determined thieves, a proximity sensor won't do. In fact, they are probably quite prepared for it. If your boat is covered for winter storage, this definitely won't deter a thief. They will simply use your efforts to winterize your boat to conceal their presence. They will hide under the boats cover to hot wire the boat. Also, remember it may not necessarily be the boat a thief is after. It may be equipment and items that are stored on the boat.

For boats, there are really just two options: Closed Loop Sensors and Open Circuit Sensors – neither of which detects motion or touch. The closed loop sensors are placed on hatches, equipment, and other areas. If a hatch is opened or equipment is moved, the circuit is broken and the alarm will sound. Open circuit sensors work much the same way, using micro-relay magnets. Both types of systems will even sound the alarm if the power to the alarm system is cutoff, but using a backup battery system.

Your boat alarm system should sound an alarm if voltage is removed from the system. It should have terminals that allow you to control the system outside of the boat. There should be a time delay that allows you to enter the boat and shut off the system without it sounding. Alarms exist that can even warn you if the bilge water gets too high. The alarm system should definitely automatically turn on lights when the need arises, and of course, they system should be able to call the boat owner's home or cell phone when it is tripped.

While the alarm system is optional, the fire extinguishing system is not. First, you should note that all boats are required to have Type B fire extinguishers on board if they have closed compartments under seats where fuel tanks may be stored, if they have closed storage compartments where flammable or combustible

material may be stored, if they have permanently installed fuel tanks, or closed living spaces. This rule applies even if you have a separate fire extinguishing system.

Other fire extinguishing systems are available. For instance, powder systems are available to help protect against water or chemical damage. You should definitely have battery operated smoke detectors installed if your boat has living quarters. The batteries should be checked and/or replaced monthly.

You could have a sprinkler system installed that is for the specific purposes of extinguishing fires. However, you should note before you spend that money, that most fires onboard boats are chemical fires, and they can't be extinguished with water. It stands to reason that if these fires could be put out with water, there wouldn't be a problem since boats are usually surrounded by a steady supply of this substance. But boat fires are the leading cause of insurance payouts for boats that are insured.

So, before you invest money is a fancy sprinkler system that probably won't do a bit of good aboard your boat, consider investing in two or three fire extinguishers, placed and mounted in strategic locations throughout your boat.

Communication systems are vital. A ship to shore radio may not be included with your powerboat, and if it isn't, it is the very first purchase you will want to make. If your boat is less than 65 feet long, you are not required to have a VHF marine radio – but not having one can lead to tragedy. At the very least, you should have an emergency position indicating radio beacon.

Don't assume that having a cell phone will take care of anything out in the middle of the ocean. Look around – do you see any towers that a cellular signal can bounce off of when you are in the middle of the ocean, with no land in sight? You probably won't. Don't count on the satellites in space either – it takes towers to work with those, not just a cell phone. You need a VHF marine radio!

Channels 9 and 16 are the channels to use and monitor on your marine VHF radio. Channel 9 is used only for hailing, while channel 16 is only used for emergencies. The Coast Guard monitors these two channels constantly. Furthermore, emergency coast guard announcements, such as those concerning bad weather, are announced on these channels.

You do not need a radio license to own or use a marine VHF radio – unless you are in fact required to have the radio in the first place. You may be required to have a permit, however, if you have an HF radiotelephone, if you have a VHF transceiver and you are traveling in foreign waters, or if you are required to have the VHF radio in the first place.

If you do carry a VHF marine radio, you are required to monitor channel 9 or 16 at all times – even if you aren't required to have the radio in the first place.

There is a very good reason for this. First, again, the Coast Guard issues warnings on these channels. Second, having your VHF marine radio tuned to these channels can mean the difference between life and death for another boater or boating party. Third, this is how you will communicate with other vessels in the area should the need arise. You initiate the conversation on Channel 16, and then move the conversation to one of the other available channels.

Once again, the ocean is a very large place. Communications are vital, and this should be something that is added to your powerboat at the very first opportunity, before you even put it in the water.

Again, when considering the various systems that are available for your powerboat, take your safety and the safety of your passengers into account first – before price. Some systems, such as a sprinkler system, just aren't necessary and won't do anything to protect you, but other systems, such as the steering system, alarm system, communication systems, and fire extinguishers, will have a great impact on safety and well-being.

## Power Boat Accessories

Powerboat accessories may not be a consideration until after you have purchased your boat. But, if you decide ahead of time what accessories you may want to add, you may be able to work a good deal at the dealership and have several accessories thrown in as part of the package – without raising the cost.

Heaters and air conditioners are expensive accessories that you may want included in your package. You may also want a propane system installed for the galley. Other accessories are not necessarily expensive, when bought individually, but the overall cost can add up quickly. Here is a list of accessories you may want to think about for your powerboat.

| | | |
|---|---|---|
| Seat cushions | Shower Curtain | Bed Linens |
| Gull Deterrents | Drink Holders | Tool Organizers |
| A hammock | Magazine Rack | Portable Hair Dryer |
| Outboard Motor Lock | Wet/Dry Vacuum | Coffee Pot |
| Refrigerator | Cooking Utensils/Dishes | Floor Mats |
| Cinch Straps | Laundry Appliances | Ash Trays |
| Windshield Defroster | Storage Cabinets/Bins | Trash Compactor |
| Captain's Chairs | Lounge Chairs | Linens |
| Towel Racks | Fans | Trash Containers |
| Shift Knobs | Deck Cleats | Trolling Line Blocks |
| Lift Rings | Clocks | Barometers |
| Bumpers | Clips/Hangers | Flag Hardware |
| Ladders | Lifeboat | Anchor and cable |
| Buoys | Windlass | Shore power cables |
| Antennas and Mounts | Audio Equipment | Depth Instruments |
| Binoculars | Gloves | Light Kits |
| Ropes | Air Horns | Safety Accessories |

This list is in no way conclusive. The list of possible accessories available for powerboats goes on and on. There are accessories for every budget. Some are necessary accessories, such as ropes and safety equipment, others are designed to make life more comfortable and pleasant while onboard, and still others are pretty much useless.

Before you start pumping a year's salary into accessories, stop and really thing about what your needs are, how long you will be on the boat, and how much room is on the boat. Always purchase the necessities, such as safety equipment before you make any other purchases!

Powerboat accessories can often be found online at great prices. You do not have to depend on your local marine shop, which may be expensive, for these items.

In most cases, your powerboat will not be fully outfitted with all of the accessories that you want at first. Boaters often spend years outfitting their boats with many accessories, depending on the cost and need or perceived need of the accessories.

Don't believe for a minute that you must have all the latest and greatest toys and accessories that are available for powerboats. Also, don't think that you have to pay top dollar for the brand names. Many off brand accessories work just as well for your purposes and last just as long as top brands, at a much lower price.

At the same time, when it comes to certain items, brand quality counts, and it is worth it to pay the higher price. Examples may be cushions and certain appliances. But, once more, before you pay the high prices at the marine shop near you, look around at the marine supply shops online. You may be surprised at the deals that you can find.

Also consider used accessories. eBay is a wonderful source for used items that are in excellent shape. Save every penny that you possibly can and put that towards the expense of buying or operating the boat, or towards more expensive accessories that you want.

## New vs. Used Powerboats

If the prices of new powerboats make you back away from purchasing one, you are not alone. These are very expensive toys! Most people do not buy powerboats – large or small – outright. They have them financed. However, if that option also does not suit you, you should consider a used powerboat.

Used powerboats are not always worn out. Owner's sell boats for a myriad of reasons. There is a good chance that the boat they are selling is in perfect condition, and they are just upgrading to a larger boat. It could be that the owner has gotten on in years and can no longer enjoy boating. Boats are often sold when couples divorce or when someone dies. The reasons why someone is selling a boat aren't always happy or nice – but it can mean good deals for those who are in the market to buy a boat.

There are, however, advantages to buying a brand new boat. For instance, you will be protected by a warranty with a new boat, and with a used boat, the warranties will no longer exist in most cases. The major disadvantage of buying a new boat is the price, and the quick depreciation. Boaters have a saying: Drive the boat around the lake once and the thing is no longer worth what you still owe on it.

An advantage of a used boat is that most used boats come with lots of expensive equipment already installed on them, whereas with new boats, that same equipment will need to be purchased and installed. When determining whether to go with a used boat or a new boat, there are a number of things to take into consideration. Unless you are in a position where money is no object to you, you need to seriously think about your options.

If you are exploring the option of purchasing a used powerboat, there are several questions that you should arm yourself with in advance. First, you want to know who built the boat. This is important information because you want to buy a brand that was made by a manufacturer that is still in business today. You also want to be able to get parts for the boat if and when they are needed.

The next thing you want to check – not ask – is if the boat has been well cared for. You can pretty much look around the boat and answer this question yourself. Are things in good repair? Take a cursory look at the engine. Is it filthy? Does it look like it has been cared for? Needless to say a boat owner will try to tidy the boat up before putting it up for sale, but if you look, you can tell if the boat has been cared for.

Ask to see maintenance records, if they exist. Just the existence of such records will tell you that this owner took his responsibility to his boat seriously. Those who don't take good care of the boat often don't keep maintenance records at all.

Look at these records carefully to see how often the oil was changed or the boat was tuned-up. Also look at repair notations to see what problems the boat has had in the past. Are there recurring repairs for a specific problem?

Talk to the owner. Have general conversation and find out what the boat was used for. This will give you a good indication as to how hard the boat has been pushed. Again, make this just part of general conversation. The owner won't open up if he feels like he is being interrogated. If the boat was used for fishing, ask what kind of fishing the owner did, and get into a discussion about that. What you are trying to determine is if the motor was often used from trawling at slow speeds. This is very hard on a boat motor.

The age of the boat, which should be considered, is not as important as how well the boat was made, and how well it was cared for. Often, very old boats make great boats for new boat owners. In fact, construction of older boats are often more durable than what you find today.

Look at the equipment installed on the boat. Find out if the equipment goes with the boat. Make sure you clarify this! Also, check to make sure that the equipment works. If the boat does not have all of the equipment that you desire, is there room to add equipment?

Get the boat appraised by a professional. Your insurance company can recommend someone for this. Test drive the boat – whether it is new or used! You would never buy an automobile without test driving it. A boat purchase should not be any different. Does the boat handle in the way that you expect it to? Does it afford the room that you need? How does it handle in rough waters? You need to know these things before making a purchase.

Many people believe that when you buy used, you are simply buying someone else's problem. Again, this is not necessarily the case. But finding out why the boat is for sale is important. Just asking the question, however, does not guarantee that the owner will tell you the truth. You just have to decide if he is telling you the truth or not.

Even though you are buying a used boat, financing may still be required. You need to bring the details of the boat to your lender to make sure that it does in fact qualify for financing. Some financial institutions will not finance boats that are over a certain age.

## Common Safety Equipment

Remember Murphy's Law: Anything that can go wrong probably will.

Along with a VHF radio and navigational tools, don't leave shore without having the proper safety equipment! Not only can not having the equipment get you fined, but it can mean the difference between life and death for you, your crew, and your passengers! Do not take this lightly! Even if you are just tooling around the lake, you *must* have the required safety equipment, and there is additional equipment, which is not required, that you should also strongly consider.

Safety starts by looking at the capacity of the boat. This is not equipment of course, but it is vital information that should be adhered to. You should find out the capacity of the boat before you buy it, but in case you didn't, or in case you forget what the answer is, the capacity can usually be found near the operator's seat or on the transom of the boat.

There should be a small metal plate attached to the boat that tells you either the total weight capacity or the total number of passengers that the boat can safely transport. It may tell you both things. Just knowing these numbers, however, is not enough. You must realize that in total weight capacity, weight includes the weight of the passengers, gear, and motors. In most states, it is a violation of the law to exceed weight or number capacity.

Furthermore, federal law does not require personal water craft to have capacity plates, but vessels longer than 20 feet in length are required to have such plates – so don't remove it! If the boat is used and does not have a capacity plate, you may get away with it, but use the following formula to determine the person capacity of the boat:

$$\frac{\text{Vessel Length (ft.) x vessel width (ft.)}}{15} = \text{Number of people}$$

To determine the weight, use the same formula, and multiply the number of people by 150 pounds. With capacity out of the way, you are ready to start thinking about safety equipment.

These items have been covered before, but your navigation lights, VHF marine radio, radar system, and navigational system should all be considered part of your safety equipment – because your safety does in fact depend on these things. Other items, such as fire extinguishers and air horns are also safety equipment. You want to make sure that your boat is not only equipped with these items, but that all equipment is in good working order before each and every trip. Double check everything again when you reach a port on extended trips.

Life jackets or Personal Floatation Devices (PFD's) are mandatory! The number of life jackets and the type of life jackets required is determined by the number of people on board and the length and type of the boat. Each life jacket must be in top condition. This does not mean that they have to be the most expensive brand! It means that as life jackets wear out, they need to be replaced.

Furthermore, the lifejackets onboard the boat must be suitable for the people on board the boat. For instance, if you have a child on board, you must have a child's life jacket that fits that child on board. If you have a very large person on board, again, you must have a life jacket that fits that person.

Lifejackets must be easy to get to. This is the law! Lifejackets stored under a seat on deck that has a storage area under it is suitable. Life jackets stored below deck, where they are hard to get to is not suitable. Life jackets may not be stored in plastic bags. They should not be in locked containers, and other gear may not be stored in front or on top of them.

It is a good idea to have everyone on board wear the life jackets while they are on board. It is understandable that this isn't always comfortable, and yes, it does interfere with sun tanning. At the very least anyone who cannot swim should constantly be in a life jacket. Anytime the weather or the water gets rough, everyone should wear a life jacket.

All life jackets on board must be U.S. Coast Guard Approved. Furthermore, any boat that is longer than 16 feet in length must have one Type IV U.S. Coast Guard approved PFD on board. This is a round, donut type life preserver attached to a rope, which is attached to the boat. Children under the age of 12 must wear a Type I, II, or III U.S. Coast Guard approved life jacket at all times if they are on a boat that is less than 26 feet long.

Again, there must be one suitable life jacket for each person onboard the boat at all times! If you are short a life jacket, don't leave the dock until you either get another life jacket, or you leave someone behind on shore. Don't assume that you won't need the life jackets!

More tragedies occur because there either were not enough life jackets, the life jackets were not the right sizes for the people on board, people could not get to the life jackets, or they did not know how to put the life jacket on. Don't let your good time out on the water be ruined and forever marred by a tragedy that could have been avoided with the proper equipment!

Pay attention to the various types of life jackets and their uses. Use the chart below to determine what you need onboard your powerboat, and make sure you have what you need before you start your first voyage – no matter how short or long the voyage may be.

| | |
|---|---|
| Type I Life Jackets | Used for rough and remote waters where rescue may not come quickly. These life jackets provide good buoyancy, and they will usually turn unconscious people face up automatically. |
| Type II Life Jackets | These near shore vests are intended for calm waters where rescue will come quickly. |
| Type III Flotation Aids | These devices are more encompassing than Type I or II life jackets, but they will not turn unconscious people face up. These are typically used for water sports. |
| Type IV Throwable | These are either cushions or ring buoys. They are attached to a rope that is attached to the boat in most cases. These devices are not meant for long periods in rough waters, and they are little help to anyone who is unconscious or who can't swim. |
| Type V Special Use | Also called Windsurfing vests or deck suits, these PFD's are best used for water skiing or kayaking. These devices must be used as they are intended if they are to be effective. |

Drinking water is an essential piece of safety equipment. The sun, the heat, and the wind can dehydrate you very fast, and you must replenish lost fluids constantly. Never leave shore without having several jugs of fresh drinking water on board, and do not count on your fresh water system to fill this vital need!

Every person on board should have a pair of sunglasses that are suitable for them. This isn't to look cool or stylish. The purpose of the sunglasses is not only to reduce glare, but to protect the eyes from solar rays. Sun blocking cream or lotion is also needed to protect against sunburn. There is little that you can do to protect yourself against windburn, but a hat and clothing that cover the arms and chest may help.

A first-aid kit is a must have! Don't get one of those small first aid kits that only contain band-aides. Get a *real* first-aid kit that includes an assortment of bandages, ointments, cold medicine, aspirin, ammonia inhalants, antiseptic spray, burn spray, a bio waste bag, sanitary towelettes, an elastic bandage, a cold pack, a combine pad, cotton tip applicators, a CPR life mask, eye pads, eyewash, gauze pads, vinyl or latex gloves, Benedryl, hydrocortisone cream, peroxide, alcohol, a rescue space blanket, rolls of gauze and gauze tape, scissors, tweezers, a wire splint, and a first aid guide.

While it is impossible to be prepared for everything, try. A small $15 first aid kit is not going to do you a lot of good in the middle of the ocean where help is hundreds of miles away.

You should also put together an emergency 'box.' No such box exists on the market, so you will have to make one yourself, and store it near the life jackets. This box will ideally be water proof, and it will float. It should contain a flare gun, at least one jug of drinking water, and high calorie snacks. You should consider keeping your first aid kit in this box as well, if it will fit. In an emergency, grab your life jacket *and* the emergency box.

An inflatable raft is a good thing to have on a boat – especially if you will be taking on ocean voyages. These rafts typically do not take up a large amount of space, and they will automatically inflate when a cord is pulled. These rafts usually also contain life saving items inside them. Try to purchase an inflatable raft that has a cover, as opposed to an open raft.

Another vital piece of safety equipment is oars or paddles to power the boat manually in case of engine failure. While this won't do you a lot of good in a big boat, or in a big ocean, such devices will come in most handy on rivers and lakes. You may also consider an electric trawling motor that can be attached to the rear of the boat.

It isn't reasonable to think that you may need blankets on board a boat that will be used on warm sunny days – but you should have three or four blankets on board. These can be used to prevent hypothermia in colder water or in colder weather, or to warm shock victims.

You don't want to start any fires on your boat, but you may want to start a fire on a remote island. Don't think that this only happens on television or in the movies. It happens! Make sure you have lighters and matches (a good supply) in a water proof pouch. Put this near the life jackets or in the emergency box that was discussed earlier.

Along with smoke detectors, you should also install battery operated carbon monoxide detectors, which are also called CO Detectors. Carbon monoxide poisoning is a real risk on boats. This deadly gas is invisible, tasteless, and odorless. It can be produced by engines, gasoline generators, stoves, water heaters, and space heaters. For this reason, ventilation on a boat is vital – and so are CO Detectors.

Spare parts are also necessary safety equipment. Engine failure in the middle of the ocean is a bad thing – no matter how well stocked you are. It can literally take weeks to be located. Make sure you have an assortment of extra small parts, such as hoses, clamps, screws, filters, and belts. Also make sure you have all

the necessary tools that you may need to make small repairs. It doesn't take big engine problems to disable a boat!

Bring extra rope. This means don't bring just the rope that you will use, it means bring extra rope. You never know when you will need it. Rope has a wide variety of uses, some of which will amaze you – or possibly even save you.

While cell phones are virtually useless in the middle of the ocean, as discussed earlier, they do still have uses. Bring one along, and keep it in a water proof pouch that is attached to you. Even in a worst case scenario, you may drift into range of a tower, without ever seeing land. Several water proof flashlights should also be onboard, as well as a pocket knife and a hand held compass.

While you never know how deep the water will be where you are, a good anchor that could help prevent or slow down drifting is a good idea. It is true that such an anchor will add to the overall weight of the boat, but there are instances where drifting with the current is a bad thing. A manual water pump is another recommended piece of safety equipment. In the case of electrical failure, which is a good possibility if the boat is taking on water, a manual pump to help you bail the boat out will come in quite handy. A ladder is another piece of equipment you should strongly consider. It is very hard to climb back aboard a boat, especially if you are exhausted or weakened.

Radar reflectors are needed on boats that are less than 65 feet long. These small devices are positioned on the boat in such a way that even the largest of ships can detect your presence on their radar. These devices should be attached approximately 13 feet above the water line, if possible.

It is important that you understand that every single time you leave shore in your boat, you will face risks and hazards. It doesn't matter how well you handle your boat. It doesn't matter how sea worthy or safe your boat is. Those risks and hazards will exist each and every time. It is up to you to be prepared for them. The thing about being out on the open water is that you may not realize you are in trouble until long after the trouble has started. The wind, the sun, the noise, and the heat will often hide problems until it is too late to prevent them.

Just having the required life jackets, floatation devices, and other safety equipment onboard isn't enough. You need to know how to use them, and what to do in an emergency situation. You should strongly consider taking a boating safety course. Not only will such a course be very valuable to you in the event of an emergency, it will also help to reduce your insurance premiums.

The United States Coast Guard Auxiliary or the U.S Power Squadrons will perform a safety inspection of your boat, at your request, free of charge. They will check to make sure that all state and federal requirements are met, and if they are not, they will tell you what you need to do or have to be in compliance. If you

fail, you will not receive a citation and you will not be reported to any law enforcement agency. If you pass, you will be given a VSC (Vessel Safety Check) decal, which you can attach to the windshield of your boat.

We have covered a lot here, but that is because your safety and the safety of your passengers are important. It is true that some of the equipment mentioned in this section is costly. But the cost will be well worth it if and when you find yourself in a situation that calls for that costly equipment.

If you are purchasing a new boat, you may get the dealer to throw in a lot of safety equipment, without additional cost. Dealers will look at it this way: You are about to spend thousands, if not hundreds of thousands, of dollars on a boat, from which he will get a very large commission. What's a couple of hundred bucks or so for some life jackets to cinch the deal?

Dealerships will often try to sweeten the pot by throwing in additional equipment or devices. Don't be afraid to bargain and get a lot of free safety equipment thrown into the deal you are making. This will save you hundreds, and possibly thousands of dollars down the road.

If you are buying a used boat, again, see what kind of deal you can strike on the safety equipment and devices that the boat owner currently has. If they are getting out of boating, they no longer have any use for the equipment. Often, when a boater buys a new boat, they buy all new equipment as well. It certainly doesn't hurt to ask!

## The Importance of Training

As mentioned earlier, there are several different types of training courses that you should take before launching your new powerboat for the first time. In fact, your dealer can tell you where these classes are offered in your area and how much they cost. They may even be willing to foot the bill for the classes if you ask them nicely!

Some states will require you to take a boat safety training course, while others will only recommend that you do so. Do not assume that because you've driven your friends boat a few times, or just because you've been a passenger on boats countless times that you know everything there is to know. You don't!

Not knowing can mean death for you and your passengers. Learning how to properly operate a boat, and what to do in an emergency, increases your chances of survival in the event of a disaster - but survival is still not guaranteed. No matter how much time it takes, or how much it costs, there are classes that you should strongly consider.

Boating is fun. In all of the discussion of safety you may have lost sight of that. It really is fun, and it can be relaxing – *if* you are prepared. While boating is pleasurable and was meant to be enjoyed, a great deal of responsibility comes in owning a boat, and since it is very hard to govern huge lakes and oceans, authorities count on responsible boat owners to take the courses that are necessary for fun and safe operation of their boats.

The first course you should consider is a first aid course that includes CPR. Make sure that CPR for drowning victims is covered in the course before signing up. These courses are often offered freely in communities, but if you have to pay to take the course, please do so. These courses do not last very long, and you can generally get this out of the way long before you purchase your boat. You should, however, take refresher courses every couple of years or so.

The second course you should take is a boating safety course. This is not the same as a boat operations course. This type of course focuses on safety in and around boats, while docked and while moving. This course should cover voyage preparation, safe fueling practices, understanding weather and tide reports as well as currents, practicing safety while getting underway, and what to do in case of various emergencies.

You should then take a boat operations course. While this course will cover safety issues, it focuses primarily on the proper operation of a boat in different types of water. It should cover marine terminology, boat parts and features, legal requirements, preparation, common navigational practices, homeland security, meeting and crossing, sound signals and other distress signals, marine rules,

minor boat repairs, and security. These courses are available online, but you should look for a local course where you can get some ‘hands-on’ training instead.

Another course that may interest and aid the serious boater is a Coastal Navigation Course. These types of courses are offered online and at many colleges around the country. The course you choose should cover an introduction to navigation, latitude and longitude, how to read nautical charts, finding latitude, longitude, and distance, finding direction, distance, speed, and time calculations, how to use a magnetic compass, two and three bearing fixes, finding set and drift, finding estimated position, finding a course to steer, finding relative bearings, and tide and current calculations.

These courses will come in handy, and you will find that you become a better seaman by having the knowledge that these courses provide. You will also find that you can get cheaper insurance rates by taking courses that are approved by your insurance company. Generally, any course that is approved by the U.S. Coast Guard or your state will be approved by your insurance company.

While these courses have nothing to do with purchasing a powerboat, they have everything to do with what you will do with your boat after the purchase. Too often people rush into a boat purchase without considering the responsibility that is involved. Don’t be one of those people. Go into your purchase fully understanding that while it is fun, there is also a great responsibility attached to boat ownership.

## Super Yachts

If you are in the market for a powerboat – but not just *any ordinary* powerboat – a super yacht may be what you are looking for. Super Yachts are serious luxury boats that most people believe only the richest people in the world can afford. While they are incredibly expensive, you don't have to be super rich to own a super yacht.

A new super yacht starts in around the $3 million mark and can go up over the $20 million mark. In fact, the most expensive yachts, such as those that run up to and over $100 million are commonly used as charter yachts, meaning that groups or private parties can hire them for a specified period of time – but not own them. Anything less than 85 feet in length is not considered a super yacht. Super yachts are often referred to as mega yachts, and they are literally just one step down from a full fledged cruise ship.

Often, super yachts have more than one owner. In fact, consortiums often purchase the super yachts of the world. Sometimes the super yacht is purchased for the personal use of the consortium members, and other times it is purchased for commercial reasons. Super yachts are hired out for big money!

In most cases, super yachts will require a crew to run the boat. The crew will typically consist of a captain, a first mate, an engineer, a chef, a chief steward, and a deckhand. If the boat is leased or hired, the crew is provided as part of the cost of the lease. If the boat is privately owned, the crew is hired and managed by the owner or owners of the boat and their salaries are paid by the owner or owners as well – and super yacht crews make great salaries!

Used super yachts, however, can often be found for under a million dollars, depending on what you are in the market for, and how anxious the owner or owners are to sell. Super yachts are even auctioned off on eBay! Of course, the bigger the super yacht is, the more you will pay – and that is true whether the yacht is new or used.

Owning a super yacht is not entirely out of the question. Again, you could put together your own consortium of friends and easily buy a lower end super yacht that will make all parties in the consortium happy. You could put together even more friends – or wealthier friends – and buy a higher end yacht. You could even buy a high end super yacht and lease it out to cover the payments. All things are possible!

Some of the amenities that one might expect to find in a yacht include:

- Six or more staterooms
- Fully outfitted gyms
- Living rooms or dens
- Crew quarters
- Fully equipped galleys
- Fully equipped bathrooms
- Indoor and outdoor dining areas
- An onboard swimming pool
- An onboard Jacuzzi
- Storage for smaller powerboats
- Storage for personal water craft
- Several lounging areas
- A bar area
- A private office
- Laundry facilities

Of course, the bigger a yacht is the more amenities it will have. Of course, all super yachts have the latest technology when it comes to systems and nautical tools. Of course all super yachts have something that smaller powerboats and regular yachts lack – SPACE. You won't have to worry about feeling 'crowded' or 'trapped' aboard one of these beauties!

Whether you are in the market for the largest super yacht in existence, or a powerboat that your family can afford and just enjoy, there are certain things to check when you start shopping – whether you are buying a new or used powerboat. On the following page, you will find a checklist that will basically sum up what we have covered, and you can print this out and take it with you when you start shopping.

Happy Power Boating!

# Powerboat Buyer's Checklist

**Before you visit a dealer or owner with a boat for sale:**

□ Determine the type of powerboat that you are interested in

□ Determine the type of engine that you prefer for your purposes

□ Determine the type of hull that best suits your purposes

□ Determine what type of hull material you prefer

**Questions To Ask The Dealer or Boat Owner:**

□ Inspect the electrical system. Is there room to add additional equipment? Can this equipment be added before pickup or delivery of the boat? If the boat is used, does the electrical system show any signs of corrosion or substandard repairs?

□ Is there a freshwater system installed on the boat? Will it suit all of your needs? Are drains above the water line? Does the boat have fresh water appliances installed? If not, can they be added before pickup or delivery?

□ Is there a navigational system included? What about the steering system, the alarm system, the fire extinguishing system, and the telecommunications system? If any of these systems do not exist, can they be installed before pickup or delivery of the boat?

□ What accessories and safety equipment, if any, will be included with the purchase of the boat?

□ Is a training course for operation and/or boat safety offered through the dealership?

□ What are the warranty conditions and after-sale-service agreements?

□ What financing terms and options are available?

□ If the boat is used, are maintenance logs available?

### Things To Check on the Exterior of the Boat:

- □ Bottom Surface
- □ Deck/Cabin
- □ Hull-to-Deck Joint
- □ Hardware
- □ Hatches
- □ Windshield
- □ Hull Finish
- □ Helm Station
- □ Molding/Trim
- □ Cushions
- □ Port lights
- □ Life rail/Pulpit

### Things To Check on the Interior of the Boat:

- □ Cabin Security
- □ Upholstery
- □ Locker/Storage Space
- □ Head/Showers/Waste Containment
- □ Bilge
- □ Fresh Water System
- □ Water Tightness
- □ Molding/Trim
- □ Galley Equipment
- □ Lighting
- □ Air conditioning/Heat
- □ Galley

### Operation Check:

- □ Engine
- □ Shifting System
- □ Battery
- □ Wiring/Connections
- □ Fuel Tank
- □ Gauges
- □ Steering System
- □ Propeller
- □ Lines
- □ Bilge Pump
- □ Fuel Lines and Vents
- □ Seacock