

Enjoy: To set things in the right motion, let's first enjoy this 7 min. video of a trimaran sailing around the Whitsunday Islands of Australia [the scenery is similar to parts of the Caribbean] to get a feel of sailing and the cruising lifestyle. [set your browser to view in **Full Screen**]

Click here: <http://www.youtube.com/watch?v=GiUMvOfNc1k&feature=related>

Open the following **webpage** : http://www.sailingcourse.com/keelboat/parts_of_the_boat.htm

1. Read the first section of the webpage: "Types of Hulls" [stop at "Sailboats"] Afterwards, return to these notes that discuss or add to the information you read:

- The statement "*Single hulled boats are slower, but are more stable in severe weather*" is a generalization and not necessarily true with all boat designs.
- "Planing hulls" are your typical motor boats (flat bottomed) – rarely used for sailboats except in small ones like the *Sunfish* (a surfboard-like sailboat.)
- **Displacement** is a term describing the shape of a sailboat's **hull** (bottom), either 'V-like' or more rounded depending on boat design, and having an attached **keel** or one that is formed by the shape of the hull. This term is used because you are basically asking, "When this boat is set in the water, how much water does it displace?" (what space does it take up?) But the word is also used to describe the **weight** of a boat **out of the water** (i.e. "The displacement is 20 tons")
- **Hull speed** - how fast a boat can go based on the size and shape of its hull- has to do with how the boat 'pushes' through the water. With sailboats, the statement "the bigger the engine the faster the boat" does not apply! (same with the "taller the mast" or "more the sails", etc.) Every boat design will have its 'limit' on speed.

Also, the larger or smaller a boat is will not, in itself, determine which will go faster. As a general rule: a longer hull will perform 'faster' than a shorter one. But then, some boats are also 'fatter' (**beamier**) than others, which would slow them down. Best question to ask when buying a boat is not "How fast will it go" but "What is its **hull speed**" (what is its best speed under the best conditions. But take the answer with a grain of salt - everybody exaggerates anyway). A more important question is, "How does it do in **light** wind?" Some boats are too heavy and don't go anywhere when the wind gets below 10 knots! (You don't want to have to depend on the engine and fuel any more than absolutely necessary!!)

2. Now return to the webpage and read the section: "Sailboats" [stop at "Measurements"]

- The term **shoal** means 'shallow'. When speaking of the **draft** of a boat you are referring to how **deep** the hull goes down **below** the water's **surface** (in other words, 'How much **depth** of water does it take to keep the boat **floating**?') When shopping for a boat, the term **shoal draft** most often suggests (because of the shape of the hull or type of keel, or that the keel can actually be 'retracted' up into the boat) that this boat can go into waters of a depth of about 3ft or less. This would be great for places like the Bahamas and Florida Keys, and for getting into some rivers along the way south, but is not as important throughout many other parts of the world. However, a big plus in having a **shoal draft** boat is being

able to anchor near shore. In some places the deeper draft boats have to anchor a good ways out, which may leave them exposed in bad weather. A shoal draft can also help when trying to find a ‘parking place’ in a crowded anchorage when all the ‘good’ spots have been taken! [note: nearly all multi-hulls are ‘shoal draft’]

- **Full-keeled** boats make the best long-range cruisers (among the monohull designs) because of their ease in maintaining a straight course over long periods. This greatly relieves the helmsman or any kind of self-steering device in use, such as an **autopilot** or **wind vane**. [Autopilots use electricity from your batteries to run a small motor (with a belt attached to your helm) to turn it according to its own built in compass. A wind vane is mounted on the stern, having a small sail of its own which responds to the usual slight changes in wind direction, adjusting its own ‘rudder’ and thus ‘correcting’ the boat’s heading towards your chosen direction.] Either kind is a desired feature when selecting a boat to purchase (especially if there may not be many aboard for taking turns steering.)

For this reason I encourage anyone planning to sail ‘long range’ to get a **full keeled** boat. But also because they tend to ‘survive’ a **grounding** better. [A **grounding** can be anything from hitting a sandbar to (Lord forbid) a hard reef. The former will likely happen someday without serious harm. But the latter can, under some conditions, be the end of your boat!] In either case, I would much rather have a full-keeled boat than one with a thin, attached, fin-like keel [some have actually been known to ‘fall off’ under the extreme pressure of an offshore race. Don’t worry...that shouldn’t happen to yours.]



Examples of full-keeled boats



Note the partial keel on this one, more responsive in turning but also requires more effort to hold a steady course.



- The images of various types sailboats shown in this section demonstrate the different **sail plans** or type of **rig** a boat may have (on either monohulls or multihulls). Boats with a single mast are called a **sloop** if the mast is forward of the boat’s center and has only one **head stay** (the cable that descends from the top of the **mast** to the **bow** (front of boat) on which a triangular sail called a **jib** is attached.) Most small boats are sloops, though there are larger, cruising class ones as well (usually with very high masts - not always a good idea for long, offshore cruising.) A **cutter** has its mast closer to mid-ship, shorter with two or more forward stays (the inner one usually has a jib that is **footed** - meaning attached to a **boom** along its lower side or “foot”). The Cutter design tends to be much more versatile, having more options on how sails are used in various weather or sailing conditions and are therefore preferred by many global cruisers.

A **yawl** or a **ketch** have two masts. Their only difference is whether or not the second mast (called the **mizzen**) is in front of or behind the **rudder post** (where the rudder extends down from under the hull.) The yawl has it behind the post as the boat above appears to have. Note, too, that the **mizzen sail** is quite smaller as compared to the mast on the ketch at right.



These two types are usually referred to as having a ‘**split rig**’. The advantage is in having smaller sails overall (easier to handle), shorter masts (less height, not adding to the pitching of the boat in heavy seas when motoring), and at least one more mast if



the other gets broken [not always to be counted on since one going down often brings down the other.]

The best advantage of a split rig is the ability to *balance the sails*, meaning to adjust the many sails in use so that neither the bow nor the stern is being overpowered by the strength of the wind, causing a *weather helm* [making it hard to keep control of the steering against the force of sea and wind. This can also be done by *reducing sail* - lowering or removing some of the sails on single masted boats, but usually with a loss of 'drive' (forward speed)]

One other type of boat not mentioned on this webpage is the *schooner*, which is any boat having two or more masts whereas the second mast is taller than the first or that all masts are the same height [as seen in this picture, usually referred to as a "tall ship."]



3. Learn as you go. I trust that this first lesson has introduced you to the unique (but sometimes perplexing) world of sailboating. The key is not to labor too hard on trying to get all the 'terms' right or, for that matter, getting any of it 'by the book'. Sailing is a 'natural' experience best learned by 'doing it.' You will be surprised to find that you are already 'equipped' with the basic 'instincts' for the balance and control needed to handle your boat. I have hoped that this and the following lessons will add insight and appreciation to the learning process you are embarking on. 'Catch what you can' on the first pass through. Then refer back later when you've gotten both hands and feet 'into it.' (And please let me know if there is any improvement to these pages you would like to see.)