



## CHOICES for your CANOE

We have put together the following information to help you in your canoe choice. Hopefully, it will provide some assistance. Please let us know if we need to improve by emailing us: [design@mistercanoehead.com](mailto:design@mistercanoehead.com).

Canoes have been a major part of the Canadian experience for hundred of years. Without the canoe, great stretches of Canada would not have been explored and developed. A thousand years ago, the natives acknowledged the supremacy of the canoe as a means of travel. Their designs have been copied and modified over the past hundred or so years.

When you are ready to get involved in canoeing, you will have to make some fairly major decisions in terms of the kind of canoe that you want to use.

Using a canoe involves several basic factors:

1. The type of water that you will be paddling on - flat or whitewater.
2. What cargo, including people, it will need to carry.
3. The number of portages will determine the weight of the canoe itself.
4. Who will use the canoe - the same partners, or a more diverse group?

It's important to find a hull shape that gives you the kind of performance you want for the type of paddling you like to do. Generally, most canoes hull shapes are optimized for one of three things:

**Speed** - long, narrow canoes with little rocker and sharp entry lines

**Carrying capacity** - wider canoes with flatter bottoms that are able to carry a lot of gear

**Maneuverability** - shorter canoes with a lot of rocker that feel at home in moving water

Many canoes do all of these things reasonably well, but shine more in one of the three areas. People intent on canoeing with a family will probably prefer a hull shape designed for tripping because it is most suitable for their needs. Tripping canoes are the pick-up trucks for paddlers. They have the capacity to carry a lot of gear and are usually 16 to 18 feet long. Two adults, two infants and enough gear for a couple of weeks can be squeezed into a 16-foot canoe, but it gets a bit crowded. Adding an extra foot to the length of the canoe doesn't seem like it would make a lot of difference, but the longer canoe also becomes wider so it will handle a surprising amount of extra gear. An 18-foot canoe will handle a lot more gear, but they tend to be a little too heavy to handle comfortably on portages and more difficult to maneuver on the water because of the extra length. A longer canoe makes it easier to travel as a family, but children are not like other loads that remain a constant size and weight. Every year they grow a little and eventually, even an 18-foot canoe will be too small for a family of four. By the time our children were eight or nine years old, they were contributing enough with their paddling that we felt comfortable heading out in two 16-foot canoes. As long as both adults are comfortable controlling a canoe, each adult can take a stern seat while a youngster can occupy the bow.

Your own skill level will affect the comfort you will feel with various canoe designs. Selecting the right canoe can take away some of the stress if you've got young, squirming children in the boat. Since the characteristics of canoes change when they are loaded with packs and equipment, it is important to try out canoes when they are both empty and loaded. Borrow or rent several different kinds and use them on trips to find out what canoe designs suit your needs best. If you go out on a trip with a group, ask to try out some of the other boats and ask their owners what they like and don't like about them.

**Always remember that a canoe handles differently when loaded.** When you try one out, put some weight in it! (Besides the paddlers)

No canoe will perfectly fit all of your needs. You will have to compromise some aspects of your canoe selection at some point. The more carefully you prepare a list of what you want from a canoe, the more likely you'll choose the right one for your needs. When you consider your priorities, make sure that you don't compromise on the things that are a high priority.

When you choose a canoe, you should know a bit about the various parts of it and what their functions are. Parts of the canoe have names that are derived from older English terms used in wooden boat building. You should really be versed in most of these terms in order to convince people that you are not a complete idiot!

For Canoe Part Names etc., check further on in this document.

Overall canoe shapes are usually symmetrical. Those that are asymmetrical have been built for speed and may not work for the average paddler.

In either type of canoe, the stern (back) has a seat closer to it.

A fairly recent concept in canoe designs are asymmetrical hull shapes (the front of the canoe is a different shape than the back). Traditional canoes were identical in both ends and the only way you

could tell which was front and which was back was by looking at the seat placement. The asymmetrical hull is quite different at either end. This type of design presents some problems for families that want to involve young children in paddling. The asymmetrical shape gives some speed advantage, but we found it hard to adjust the trim of the canoe properly. Trim is the distribution of weight in a canoe. The goal is usually to have the bow of the canoe just a bit higher out of the water than the stern of the canoe. When the weight of the stern paddler is so much greater than the bow paddler, no matter how the packs were arranged, the bow was always far out of the water while the stern was buried deep.

We found it easier to use a traditionally shaped canoe and paddle it backwards. We'd use the narrower stern section as the bow seat for the child while the adult would sit in the bow seat, but facing the back of the canoe. This made it much easier to adjust the canoes trim. Our kids liked it a lot better because they found it much easier to paddle. The bow seats on most canoes are just too far away from the side of the canoe for really small children to reach the water with their paddle. They always found it much cozier when they got to sit in the small (stern) seat when it was at the front of the canoe.

### **Stem Shapes**

The graceful curves where the sides of the canoe come together at the front and back of the canoe are called the stems. The shape of the stem can be plumb (straight up and down) recurved (bends back towards the middle of the canoe) or flared (top is farther out than the bottom). Canoes with a flared stem tend to be drier in rough water because wave splashes are directed away from the canoe. Recurved stems produce gunwales that are narrower in the bow and stern, which makes it easier to paddle the canoe.

## **Entry Lines**

The front part of the canoe that slices through the water while its being paddled is called the entry line. A sharp entry line will tend to be fast to paddle, but won't be as dry in waves and will usually be a little harder to turn. A blunt entry line will be a little slower, but ride over waves rather than slicing through them and tend to be a little more maneuverable.<br>

Just behind the stems are little covers called the deck plates. The deck plates give some rigidity to the stem section of the canoe and provide a convenient place for tying ropes or handles to carry the canoe for short distances. Attached to the deck plates and running down the top edge of the canoe are long strips of wood, aluminum or vinyl called gunwales (also called gunnels or rails). The term was originally used for the place on wooden ships that carried canons. The one on the inside is called the inwale and the one on the outside is called the outwale. The line that the gunwales follow is called the sheer-line. Canoes may have a very flat sheer line with an abrupt rise at the end to meet the stem, or they may have a sheer line that rises gradually from the center thwart to the stem. Flat sheer lines make it a little easier for paddling because the sides of the canoe aren't as high but raised sheer lines help to keep the paddler drier in rough water.

## **Rocker**

The curvature of the bottom of the canoe from end to end is called rocker. Canoes with a lot of rocker turn easily because the ends are higher out of the water so there is less resistance to turning. Ones with little or no rocker are easier to paddle in a straight line but do not turn very well. Canoes with ends that drop below the middle of the canoe are referred to as hog-backed. Because they are hard to maneuver, they are considered poor designs. The easiest way to tell how much rocker a canoe has is to put it on a level surface and support it so that it stays upright or have someone hold it. Walk

back a bit and bend down to look under the canoe. It's easy to see where the rocker starts and ends by where the canoe's bottom loses contact with the ground.

## **Keel**

The centerline along the bottom of the canoe that goes from bow to stern is called the keel line. Keels are a long thin piece of wood or metal that runs the length of the canoe. Some canoes have no keel, others have one attached and some have a keel that is molded in. Keels are not really required on most canoes. Their original function was mainly to provide some protection for the bottom of canvas canoes. People often assume that keels are used to keep the canoe going in a straight line. In reality, they don't have much influence on that at all. The ability of a canoe to stay on a track has more to do with the shape of the hull than anything else. Keels will only have an effect if a canoe is being forced sideways through the water, like when its being blown by the wind or it passes over a current in a river. Some canoes were manufactured with three keels along the bottom. The extra keels will have no impact on the performance of the canoe they simply add stiffness to the bottom of the canoe.

## **Cross sectional shape**

If several different kinds of canoes were cut in half and the midsections examined, it would become apparent that there is a lot of variety in their shapes. The widest area of the canoe is called the beam. Canoes with a wider beam will be more stable and can carry more gear, but they tend to be slower. The area where the bottom of the canoe turns up to become the sides of the canoe is called the chine or the bilge. If the sides of the canoe rise straight up they're called plumb, if they get wider they are called flared and if they curve back in it's called tumblehome. This inward curving in a canoe means the canoeist doesn't have to reach out as far to put their

paddle in the water so its easier on the arms. The term "tumblehome" has its roots in the English ship building industry. The exact origins are obscure, but "home", in ship terminology implies being "drawn in" towards the centerline as in "sails are sheeted home", "the anchor is brought home". In older English cities many of the houses were often referred to as "jumbles" or "tumbles" because they were slowly leaning over and were supporting each other. It's likely that sailors put the two words together to describe the leaning of the ship's sides toward "home." Flare-sided canoes tend to be drier in rough water and are harder to tip but require a wider reach for the paddler.

### **Bottom Shape**

Some canoes will have quite flat bottoms while others will have a shallow arch and others will have a bit of a V shape. Flat bottom canoes are very stable, but tend to be slower to paddle. They don't perform well in rough water. Shallow arch designs are the most common bottom shape in quality canoes. They tend to be fairly quick and give a very predictable ride. They may feel a little tipsy for novices when first getting in, but that feeling goes away quickly. A canoe with a shallow arch is actually less likely to tip than a flat-bottomed canoe in many circumstances. Canoes with a V shaped bottoms are a compromise between a flat-bottomed and a shallow arch. They tend to ride a little deeper in the water and don't turn quite as easily, but are generally easier to paddle in a straight line.

### **Thwarts and Yokes**

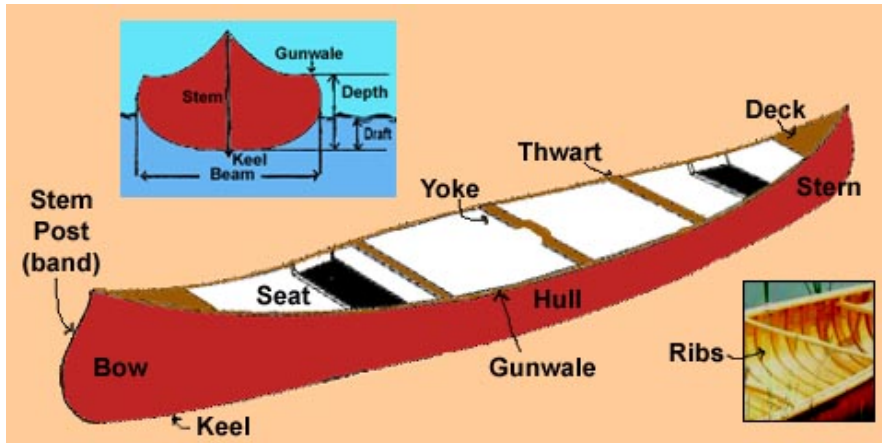
Besides the seats that are attached to the inwales, short canoes will have a single long, thin piece of wood called a thwart spanning across the middle of the canoe. Longer canoes may also have a second thwart between the stern seat and the middle thwart. Canoes that are outfitted for solo paddling will sometimes have a special thwart that is wider, tilted a bit and lowered so that paddlers

can use it to kneel against. Some canoes may have a specially sculpted thwart in the middle of the canoe called a yoke. The yoke is a wide piece of wood that is shaped to fit your shoulders with a notch in the middle for your neck. This makes it easier to carry the canoe on portages. Yokes may all look quite similar, but many of them can be very uncomfortable so it's important to try a yoke before getting one for your canoe.

### **Length**

When purchasing canoes, it's important to understand what some of the specifications in the catalogs mean. The greatest distance from the bow stem to the stern stem is the canoe's overall length. The length of canoe that is actually in the water when it is floating with a normal load is more important for canoeists to know and that may be different than the overall length depending on the shape of the stem. A plumb stem will have identical waterline and overall lengths. A flared stem will have a shorter waterline length than an overall length. A recurved stem may be shorter or longer depending on where the recurve is in relation to the waterline. A canoe with a greater overall length than the waterline length (flared stem) will tend to be more affected by the wind. It's important to know that manufacturers don't all use the same method for publishing their sizes. Some publish water line lengths, some use overall length, and some use a measurement that is a compromise between the two.

Know the parts of a canoe and avoid looking like a duffuss!



The **Bow** is the front end of the canoe. You can usually spot the bow by looking at the seat arrangement. The front seat is further from the end of the canoe to provide legroom for the bow paddler.

The **Stern** is the other end of the boat.

The **Hull** is the body of the canoe that displaces the water and provides the canoe's buoyancy.

The **Gunwale** (gunnels or rails) are the upper edges that frame the upper part of the hull. The gunwale can be one piece or can consist of 2 pieces - an inwale along the inside of the hull and an outwale along the outer edge. This supports and adds rigidity to the hull. Some two-piece gunwales are built with gaps between them to allow for drainage when the canoe is inverted.

The **Thwarts** are one or more crosspieces attached at gunwale level to provide support to the gunwales and sides of the hull.

The **Yoke** is a shaped thwart, designed to fit the shoulders, which supports the canoe's weight when carrying.

The **Decks** are triangles of wood that sit between the gunwales at either end of the canoe. They provide a grip for carrying the canoe and a place to attach a painter.

The **Seats** are set in wide crosspieces that are usually attached to the underside of the gunwales.

The **Keel** is a narrow strip running along the bottom of the hull from bow to stern which provides greater tracking capability and gets most of the wear and tear when launching and beaching a canoe