



ROCKY MOUNTAIN RAFTS

FRAME GUIDE



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WELCOME

I'll never forget my first experience rowing. I sat in the back of a 16-foot raft full of coolers and dry bags. The two oars felt foreign in my hands, and I struggled to keep up with the rest of the trip, bumping into every rock on the river. Fortunately, those first few trips helped set me up for an expedition down the Grand Canyon a few months later. I was able to row thousands of pounds of gear through challenging rapids, something a paddle could only dream of.

Looking back, I'm glad I was able to make the jump to rowing, and I believe that rowing opened up an entirely new way to experience the river. However, it wasn't a smooth transition, and for many paddlers, the world of oars and frames can be confusing.

At Rocky Mountain Rafts, we want to help you find the right frame for your needs, and we want to give you the tools to make the best decision. While this is by no means an exhaustive list, we created this guide as a list of factors that we think are most important to know and examine before you purchase your frame.



MOUNTING SYSTEMS

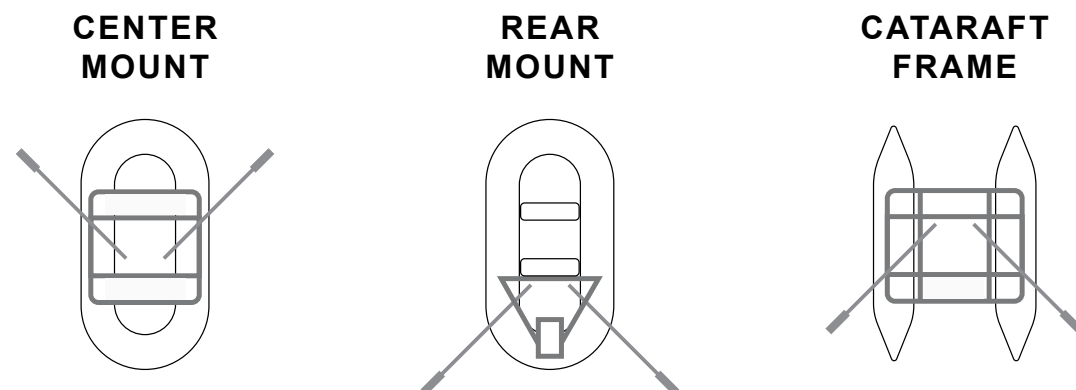
Center-mount frames are by far the most common for private boaters. Because the rower sits in the middle of the raft, they are closest to the pivot point of the boat, making it much easier to quickly turn.

Stern-mount frames place the rower at the very back of the boat. While this does make it more difficult to change directions, it opens up A LOT of space for paddlers in the front of the boat. If you plan to have a boat full of paddlers, but still want the benefits of guiding with oars, a stern-mount is the frame for you.

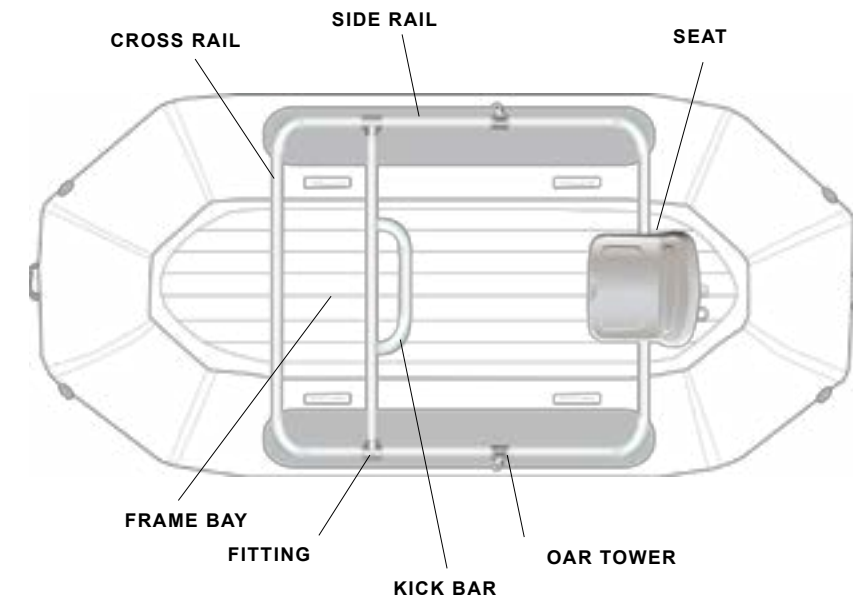
Raft frames vs Cataract frames

It's also important to make the distinction between raft frames and cataract frames. The primary difference is the presence of an extra set of rails. Raft frames typically are flat and are designed to sit on top of the raft. Cat tubes need extra support, and will have a pair of rails (one per cat tube) that drop down from the raft frame to give more support to the cat tubes.

While it is possible that a cataract frame could fit on your boat, it might not be worth the risk. There is no reason to have extra drop rails, and they may present challenges later.



ANATOMY OF A RAFT FRAME



SIDE RAIL

The side rails are going to run along the sides of your boat. These rails are going to be the main rigging point for the boat. This is where you will attach your oar tower.

CROSS RAIL

Just as their name suggests, the cross rails run perpendicular to the side rails. These cross rails provide the structural support to the frame and are the base to attach seats, coolers, storage bags, dry boxes and anything else that you will add to your frame.

SEATS

Seat choices consist of poly decking, coolers, camping tables, or an actual frame seat. Fishing frames will have two or three seats, and may swivel. The seat you choose should reflect the trip that you are running and should take into account available space, storage, and comfort. Generally, you as the captain will want to have a seat that is comfortable and does not interfere with your ability to row. Whitewater frames tend to have more minimalistic seating options while fishing frames will prioritize comfort.



FITTINGS

The side rails, cross rails, and seats will all need to attach to each other in some way. For some frames, these pieces may be welded together, others may be bolted, and still others may have an adjustable attachment system. Generally, the stronger the fittings, the stronger and more durable the frame will be.

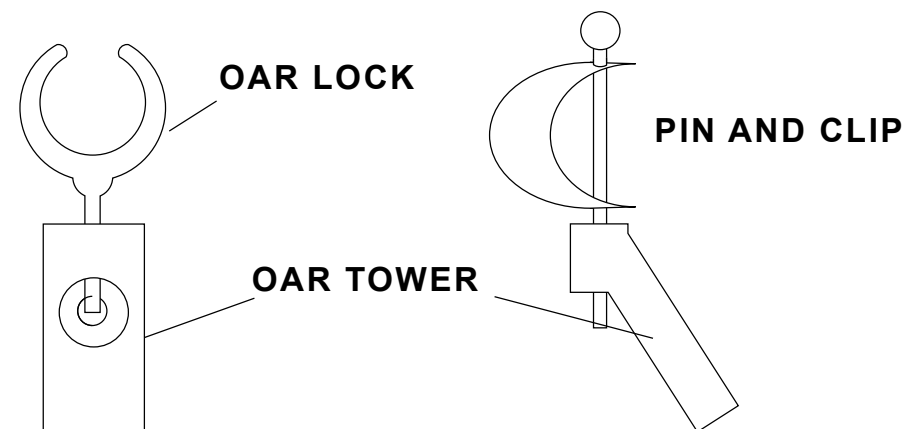
OAR TOWER

Oar towers provide the basic point of contact for the frame and oars. These should also correspond to the height of the rower and the size of the raft and frames. You will want to make sure that your oar towers are tightly secured to your frame, as there is potential that they could come loose in the middle of a rapid. Always have an Allen wrench on hand to make adjustments and keep fittings tightened.

OAR LOCKS

Oar locks are a Y shaped device that keeps the oar attached to the tower and allow the oars to swivel while you row. These sturdy pieces will fit through a hole in the oar tower and will have a ring to keep them in place.

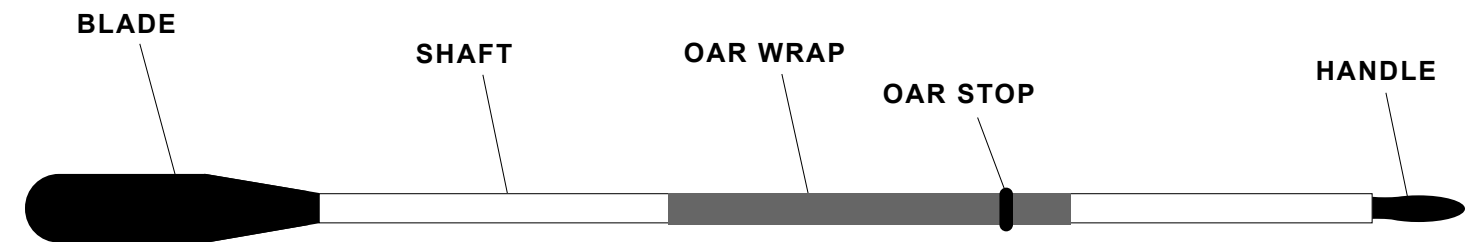
Alternately, oars can use a pin and clip system to keep them in place. This system looks more like a stirrup that the oar will go through to clip to a vertical pin that prevents the oar from rotating. This system offers less flexibility for the rower, but is designed to make sure that the oar doesn't rotate and stays in a position to have each oar stroke be as effective as possible.



OAR

Oars are comprised of several parts

- The handle is the first few inches where the rower will grip the oar.
- The shaft is the main section that provides the strength and length to the oar.
- The blade is the flat part at the end pushes against the water to move the boat.
- The wrap is designed to protect the shaft from wear and tear as it moves around in the oar lock. Sometimes the wrap is made out of rope or plastic wrap.
- The oar stop is a donut shaped piece of rubber that keeps the oar in position and prevents the oar from sliding through the oar lock.



RIGGING

Cam straps

Cam straps provide a quick way to secure your frame to your raft. While rafters have 1,001 ways to use cam straps, this might be one of the most tried and true uses. Generally, 4 shorter cam straps are used to wrap around the side rail and secure the frame to the D-rings on the raft. To find more information about how to use cam straps to attach your frame, visit rockymountainrafts.com/pages/learn to watch our video demonstrating the correct technique.

D-Rings

D-rings provide the point of attachment on a raft. The primary D-rings that you should use are located on the outside of the raft close to each of the corners of the frame. Each Rocky Mountain Raft has multiple D-rings to attach a frame. We also offer D-ring patches so you can customize your rigging to your specific needs.



Decking

Decking provides a platform on top of the frame to sit or move around and may act as a lid for storage slings beneath the frame. The larger the frame, the more useful decking is likely to be. Heavy-duty commercial frames may have diamond plate steel or aluminum welded to the frames, while lighter frames may use polyethylene or other plastics.

Drop Floors/Mats and Casting Platform

Common on cataraft frames, floor systems can either provide a stable place to stand or a net to keep things from getting lost in the bottom of the boat. These can be especially useful for larger boats where the floor has less rigidity. For fishing frames, anglers often appreciate having a firm platform to cast from.

Coolers

Coolers are a must have for any overnight camping expedition. For extended trips, larger coolers are needed, and they often become an integral part of the frame, taking up an entire bay. Cooler manufacturers like Canyon Coolers have specially designed their larger coolers with a lip to attach easily to raft frames.

SIZING A FRAME AND OARS

SIZING YOUR FRAME

A raft frame is designed to sit flat on top of your boat. The first measurement you will need is the length of the flat section of your side tubes. You will need your side rail to be shorter than the length of this flat section. Diminishing tube boats tend to have a shorter flat section and cannot carry as long of a frame.

The next measurement that you need will be the width of the tubes from center to center. You can find this measurement by laying a plank across the boat, perpendicular to the side tubes. The highest part of each tube is the center point, and will be touching the plank. Each of your cross rails will need to be at least as long as that center-to-center distance. Our preference is to choose frames that are 3-4 inches wider than that center-to-center distance.

The final distance to measure is the depth from the frame to the floor of the raft. When you are carrying gear, it is important to make sure that the frame and the side tubes are carrying the weight of the gear. You do not want the gear to be pressing on the floor as it can cause poor boat performance in the short term and potential damage to the floor in the long term. Any dry boxes, coolers, or other storage systems should be setup so that they are not pressing or dragging on the floor.



SIZING YOUR RAFT

If you don't yet have a raft to match a frame to, then you are in luck. We believe our rafts are the perfect match to our frames. We would love to help you find the right package for your needs.

The size of the raft and frame will depend on what rivers you plan to run most often and how you intend to use it. Extended trips or higher-volume rivers will need a larger boat, while small boats are ideal for day trips or lower-volume rivers.

If you want something that is better for shorter trips or lower volume rivers (and easier to transport and store,) then our 12-foot or 10.5-foot Storm may be the right boat for you.

If you are looking at fishing, our general rule of thumb is that a 10.5 or 12-foot boat can accommodate one angler and the rower, while boats 13 feet and up can accommodate 2 anglers and the rower.

SIZING YOUR OARS

More art than science, as you get used to rowing, you will learn what your preferences are for the length of your oars. The best place to start is the width of the frame. Simply take the width and multiply it by 1.5, then round up to the nearest oar size.

For larger volume rivers, heavier gearboats, or boats with larger tubes, you may want even longer oars, so that you can reach the water easily and utilize the leverage.

For whitewater rowing or smaller technical rivers, you may want smaller oars that are easier to manage.



MATERIALS

Most raft frames are made of aluminum, as it provides the strength a frame needs without making it too heavy. The types of aluminum vary, and we use a 6063 T6 Schedule 40 anodized aluminum, also known as architectural aluminum.

- Schedule 40 refers to the thickness of the material in the pipe. The thicker it is, the stronger (and heavier) it is.
- 6063 is the alloy number. It refers to the magnesium and silicon, along with trace amounts of iron, copper, manganese, chromium and zinc that have been added to strengthen the metal. We choose 6063 because of the workability of the material, as it allows us to bend and weld it as needed.
- T6 indicates that the material was heat treated. This process makes the metal harder and less likely to warp under load.
- Anodized aluminum has a hard outer layer that is created by submerging the metal in an electrolytic solution. This outer layer is resistant to rust and corrosion.



DIAMETER

We use two different sizes of pipe, depending on the size of the frame. Our larger frames have pipe with an internal diameter of 1 1/2 inches while our smaller frames use pipe with an internal diameter of 1 1/4 inches.

FITTINGS

Our raft frames are accompanied by Speed-Rail Fittings by Hollaender. These fittings are high-strength and corrosion resistant, and allow for quick adjustments so your gear can be properly secured for each and every trip.

BENDING

When building our frames, we bend the outside corners. This process is more time consuming than simply using fittings on the corner, but it results in a stronger, more rigid frame.

WELDING

Some frame manufacturers choose to weld and we do it better than anyone. Our state-of-the-art inverter power supply allows us to ensure the consistent, high-quality welds. All of our processes meet the requirements of the AWS D1.2 structural welding code.



CAMPING

After my first extended raft trip, I was convinced that river camping was far superior to any other form of camping. We were able to reach remote campsites without having to haul all our gear on our backs. While it is still far from glamping, certain aspects of river camping certainly qualify as simple luxuries.

Our frames and 18-foot boats were specially designed to be able to haul thousands of pounds of gear each, which translated to coolers packed with ice and fresh ingredients, a full kitchen set up, extra kayaks and paddle boards, tents, games, chairs, and any other camping accessory you could imagine. Our river camping trip took us well beyond cell service, for an escape that I will never forget.

To set yourself up for success when looking at frames, you will need enough storage to carry your gear. A cooler and a dry box tend to be essentials, and there are plenty of other ways to store extra gear. You should also have a plan for how you intend to transport and store your frame and boat. A boat trailer is ideal, but if you need to break down your frame for transport, there are frame options that make it easy.



WHITEWATER ROWING

For day trips, only a simple frame is needed. Generally, these frames will be one or two bays, and will be fairly light weight. You will want to pay close attention to the fit and any potential entrapment or other safety hazards.

FISHING

Fishing frames often blur the lines between metalwork and art. They can feature a host of amenities, from stripping baskets and rod holders, to casting platforms and leaning bars. Your frame should reflect your transportation method and the rivers that you plan to fish most often.

CONTACT

In spite of all the information you just read, the decision of which frame to get might not be apparent. We want to help you make the best decision. Feel free to give us a call. Ask to speak to Bobby, and he will make sure that you find the right frame, whatever your next adventure entails.

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