Jet boating

By

Dennis Marguet

October 30, 2020

Please be aware this book is designed to supplement the 3 day jet boating school held in Hells Canyon and does not take the place of on the river white water instruction.

Everyone is free to copy and pass on the material contained here to others, in fact I encourage it.

13th edition

Jet boating class-Table of contents

Jet boating class intro By Dennis Marguet Feel free to copy-4-13-20

Email the class book prior to class and the below and read at opening.

Students to bring with them, boat ready to go (see Snake River run checklist in book, page 21); solidly secured shoes for all on boat- no flip flops, life jackets for river running for all (Class V is best which keeps an unconscious persons head out of the water), very important, have a CB radio on Channel 12 this is how we communicate while on the river so warnings and instruction can be relayed to you, 75 foot bow line, 100 feet is better. (have it connected at all times in water to bow at d ring where you connect trailer strap.), sand stake, throw bag(rescue bag) with gloves, pole to pull person in out of water, person in water flag (orange or blue and white, first aid kit, fire extinguisher, sealable portable-a-potty with toilet paper (plastic bags alone will not work and fire pan- forest service requires you to have one while on water, hat, sunscreen, polarized sunglasses, reading glasses, there will be many handouts, highlighter, pen and paper to take notes.

Now is a good time to weigh your boats tongue weight and adjust it. My new boat tongue weight was out of whack having way too much weight on the trucks hitch. This was the first time the boat manufacturer ever measured tongue weight. They had to make changes to the way the boat sat on the trailer to get it properly proportioned. I also needed to add an air lift system to level truck and trailer. The boat manufacture was not aware of this. Too much weight on the tongue and it takes weight off the front tires, affecting front wheel braking , making steering less effective, the ability to maneuver curves and corners is adversely affected making it easier to spin out and your headlights will not properly light the road ahead of you. Too little tongue weight can cause your trailer to easily sway side to side when underway. Braking is effected either way lessening your braking distance. (See Email trailering driving and towing weight instruction pages)

Coming into Pittsburg landing, you will go down a steep dirt road up to 16% grades. If you have surge brakes, you will need to disable it at top of hill with a bolt otherwise you will ride your trailer brakes all the way down the hill, I did that once and it burned the brakes completely and destroyed the drums. Use four wheel drive if you have it and keep in first gear. Go slow especially on the very sharp turns. There are blind turns and some sections are single lane.

Classroom- at camp site

Opening- A critique from past students was they wanted a different place and time where it was not so crowded. We are doing it here because it is the time when new jet boaters are encouraged to come and learn and there are no reservations required to run the river.

Introduce yourself and get others to introduce themselves.

I know you primarily want to learn how to read water and we will get to that. But I believe what you really want is to enjoy your whitewater adventure and not hitting rocks is a big part of that, but other things can ruin your adventure as well. So the object of the next two days is to make the entire jet boating experience enjoyable.

This class is a first attempt of its kind, there is no doubt some things may need to be updated even over time as things improve. I don't know everything and don't present myself as an expert. I am still learning. In jet boating there are sometimes different ways to do things to get the same result and different boats require different methods. This is not everything you need to know, always keep learning by driving your boat, observing others with more experience and asking questions. I am sharing what I believe to be the best practices based upon my actual experience or the experience of others, which I have found is the best way to get experience. So often I've heard" you just need to go experience it to learn it". I don't believe that to be entirely true. It cost me many trips to the repair shop and many tens of thousands of dollars in repairs and many days ruined by "learning by experience". Jet boating can be dangerous, even when you do everything right, you can hit hidden rocks and mechanical failures can leave you with no power and more. I will attempt to give you the benefit of mine and others experience to help make your jet boating experience a fun one. Much of the material is gotten from the internet and discussions on www.Mean Chicken.org. I have copied exactly from these sites information I believe is good information. Very experienced boat captains still hit rocks, just not as often; it is part of our chosen sport. You are doing this at your own risk understanding things happen and you need to be able to self-rescue.

I will be covering many hundreds of things, which makes it impossible to remember it all. I will not cover everything in the book. You should have read the entire book. This book is designed to be reference material to be reviewed for many years. Take notes and use highlighter to remind you later on. With that in mind I prepared detailed handouts and checklists for you to use to remind you down the road. It is important for you to personalize them for your boat and your needs. You may learn another way you like better to accomplish the same goal, so change it. Air plane pilots use checklists before they take off and so do I. Not knowing all of this should not overwhelm you from going out and jet boating on a lake or on the river following an experienced driver who will help you along. These things are printed out for you to review many times over. Just review things you are about to attempt. Get out and have fun as soon as you can and many times over.

If you received only the class book, note this book does not take the place of the two days on the river, nor attending the class. Reading the water takes hands on experience.

This is a participation class everyone is expected to speak up. We are all learning here. The only stupid question is the one not asked; if you don't understand ask now, not when you made a mistake on the river. Since you have had a chance to read the book, I will ask questions of you and even ask you to apply it.

Throughout your jet boating adventures with family and friends, it cannot be understated enough the role you play as captain of the boat and the safety of others. If you don't wear a life jacket, others won't either. If you don't take safety serious, why will others. Your actions or non-actions play a major role in the enjoyment as well as the safety of your trip. People will mirror what and how you do things. Establishing your position as the leader of the trip and following rules is no game, cannot be overstated.

Class agenda: We will not cover everything in the book. In class we will only cover part of the material as written in the book. This does not mean it is not important if we don't cover it; we just only have so much time. Take the time to read the entire book prior to attending the class. Bring your un-answered questions to the class.

1. Introductions
2. Release, indemnity and hold harmless
3. Review boat trailering tips, and tongue weight and weight distribution. Manufacturers do not check this.
4. Proper weight distribution and being on plane.
5. Checklists prior to leaving home and arriving, for each river.
6. Boat tour to include boat safety check list, where things go on a boat, i.e. fire extinguisher, quick access to tools, life jackets, man over board captains and crew duties, throw bag technique with demonstration, removing stick from pump, passenger orientation, towing and being towed by another boat, how river anchor works.
7. Lunch time
8. My engine has stopped what to do
9. I hit a rock and put a hole in boat/ stuck on sandbar
10. Truckers knot and tying to shore.
11. Launching a boat from trailer then to a dock and onto shore, in wind and current and leaving the shore. Mark bow strap with black magic marker.
12. Go to launch ramp with my boat, class prepares my boat using checklist. They back up my truck and prepare to launch it. Everyone sign permits for their stay. Check water flows. Show them current lines around ramp and eddy. Launch boat.
13. Take passengers on ride. Run rapid above launch ramp; explain the "V", explain reading the water and geography. Instruct on how to see rocks going up and down river. Demo and instruct how to make a quick stop and U-turn in place, low speed maneuvering and how to hit shore softly for picking up passengers.
14. Upon return cover loading a boat onto trailer, including in a current and going sideways.
15. Dinner
16. 7pm Recognizing river patterns and tips
17. Tomorrow bring your life jackets and lunch to have on the river.
    9:00 am next morning prior to launching my boat have them prepare my boat for launch then do run to learn reading the river, tying to shore, unloading passengers to shore and launching from shore as well as loading onto a trailer in current.
18. River hazard terms
19. Reading water
20. Critique sheet- request that it be completed after class is over.
21. Launch two instructor boats and head for the confluence heavy emphasis on reading the river, passengers switch boats at confluence.
22. Next day- Everyone drives their boat down to confluence and back.

Release, indemnity and assumption of risk (2-13-19)

I have requested to attend a jet boating class put on by Dennis Marguet and Peter Jensen who are not professional jet boating instructors. I understand they are not representing themselves as experts and they are only sharing their knowledge from their experiences, which is limited, and may not be perfect or include everything there is to know. This is being provided at no charge and is simply a sharing of ideas._____Initials

I am fit for this activity and know how to swim and provide a self-rescue should I end up in the river with rapids and a fast moving current. I will ask questions if I don't understand a concept. . I understand it is my responsibility to wear a life jacket designed for the conditions and properly fitted at all times in and near the water. It is my responsibility to wear the proper shoes and take the extra effort to walk carefully. The hazards can be hidden and are ever changing while moving on the river and it is my responsibly to take notice and respond accordingly. _____Initials

There are many known and unknown risks and hazards. Some hazards include, but are not limited to, operating in a remote rural area without medical facilities or any other facilities nearby, reading the water for hazards is not an exact science and I may still damage or sink the boat or cause injuries to myself and others on a river with rapids and a fast moving current, rocks, trees and other obstacles both hidden and showing, misreading the river, falling into the cold river with rapids and a high current, a boat mechanical failure which causes the boat to lose control while floating on the river, trees , vegetation and rocks near or in the river bed can be slippery or unstable causing a slip and fall hazard._____Initials

In consideration of the right to participate in the class, I hereby assume all the risk for anything that occurs surrounding this class, known and unknown, even things that occur after the class because I followed the advice given at the class or misunderstood it. I hereby release Dennis Marguet and Peter Jensen and all participants in the class, for all liability for losses. damages or injuries suffered by me of any nature and indemnity and hold harmless Dennis Marguet, Peter Jensen and all others participating in the class for any causes of actions, debts, claims and demands of every kind and nature whatsoever, which I now have or which may arise in connections with the class. This release, indemnity and assumption of risk is given even though there may be things I don't know or understand that may have had an effect on my decision to initiate this release, indemnity and assumption of risk. This release, indemnity and assumption of risk shall bind my heirs, executors and administrator _____Initials

The loser of any legal action pays all the reasonable legal fees for the prevailing party. _____Initials

If any one part of this agreement is nullified, the rest of the agreement will remain in full effect. _____Initials

I understand there is no insurance provided for the class and it is my own responsibility to provide insurance for myself, passengers and what I own. _____Initials

The Laws of Idaho apply to this agreement. Any legal actions taken shall be in the state of Idaho. _____Initials

I have read and agreed to the terms and conditions contained in this release, indemnity and assumption of risk and agree thereto. _____ Initials

Date_____ Signature_____

Printed name_____

If a minor child is accompanying you at the class, please complete the section below in addition to the above.

I hereby certify that I am the parent of _____ and_____, all of whom are underage of majority (collectively minors). I have requested Dennis Marguet and Peter Jensen to allow the minors to participate in the class and all its activities. I certify they are mentally and physically fit for the activity, including the ability to swim and self-rescue in the event they get thrown into the river. If I find they are not fit for the activity, or are not following all safety concerns, I will remove them from the activity. I am solely responsible to make sure they follow all safety issues and to watch over their activity. I accept that Dennis Marguet or Peter Jennings are not responsible for the minors actions, however they may remove them from the activities at any time for any reason. On behalf of the minors I hereby execute the foregoing Release, Indemnity and assumption of risk and further do hereby indemnify and hold harmless Dennis Marguet, Peter Jensen and all other participants against all claims, causes of action liabilities and demands of any kind and nature whatsoever which such minors may now have or in the future against Dennis Marguet and Peter Jensen and all participants in the class._____Initials

Date_____ Signature_____

Printed name_____ relationship to minor_____

Trailering tips and how to get trailer's tongue weight- You want 10-15% of the boat and trailers weight on hitch ball. By Dennis Marguet-Feel free to copy-5-1-20

Trailering tips: see video: https://www.youtube.com/watch?v=4jk9H5AB4lM- visual of one reason why weight needs to be properly adjusted on a trailer.

1. Before towing: Get proper tongue weight with gear and gas in boat that is evenly distributed. (see below on how to determine tongue weight)
2. Check wheel bearings for grease.
3. Check air pressure of tires on both the trailer and towing vehicle, including any spare, which you should have on a trailer.
4. Once hooked up check to see that trailer is level to the surface. If nose is too high trailer can come off the ball, if too low it can put too much weight on towing hitch negatively affects vehicle handling and braking.
5. Check tires for wear, including any uneven wear. If it is not even, you probably have a bent axel or an out of alignment wheel.
6. Test your lights for all 3 duties, brake, turning and night lights
7. Cress-cross the chains that connect from trailer to vehicle. This creates a cradle for hitch to land upon instead of the road.
8. Attach brake safety wire to tow vehicle.
9. Be sure trailer is latched to the ball with some sort of locking pin.
10. Check that boat is level and in middle of trailer. Have safety chain attached to bow and bow and transom straps are on tight.
11. Check all things are secured inside the boat.
12. Check vehicle engine and transmission coolant, towing puts more stress on the engine and transmission so they are more susceptible to overheating.
13. See that boat trailer and towing vehicle are level with the ground.
14. If have an air lift system check for proper amount of air.

While towing:

1. First thing you do once on the road is test your trailer brakes and that the electric brake is adjusted to break the trailer wheels just a moment before the vehicle brakes. This helps prevent swaying and jack knifing at a stop. Too much brake too soon and you will burn up your tires. You want the trailer to brake just before the vehicle.
2. After a short drive perhaps a few miles or so, stop and check to see that boat and contents are secured tightly as things move once under way. Straps stretch, it is not uncommon for transom strap to be loose and same for strap attached to the bow to loosen.
3. After some distance, stop and check tire and wheel temps both by placing your hand next to tire and wheel drum, if too hot, then brakes are hitting too often. If too hot you will need to adjust brake pad distance to drum or electric brake is set to engage too early.
4. Keep more space between cars than you are used to, it takes considerably more space to brake when you are towing.
5. If trailer is swaying behind you, you are traveling too fast, slow down by removing foot from throttle. Use electric brake on dash to stop the swaying; do not use the vehicle brakes. This can cause the trailer to jack knife. Keep steering straight ahead; don't turn, especially a sharp turn which can cause you to roll over.

6. If a wheel goes off the road, take your foot off the throttle to slow down to 25mph if there is enough room to continue going forward, there is no need to stop. While under control pull trailer back onto the road, gradually steering your vehicle and trailer back onto the road. No sudden braking or any major turns. Stop soon afterwards in a safe manner to check for any damage to tires or wheel camber plus check that boat and contents are still secured tightly to trailer, it may have shifted.
7. When going downhill keep your speed down, well below the speed limit if a steep decline. Slow down prior to going downhill. Drop down in gear to help keep vehicle under control and to not burn up brakes, only use the brakes sparingly. Remember it takes even longer to brake to a stop going downhill. Sudden braking can cause the trailer to jackknife especially if it is not following straight behind the vehicle.
8. Going uphill watch your engine and transmission temp so that they are not overheating.
9. During your trip keep an eye on engine and transmission temps. Your tow vehicle is working much harder than without a heavy boat behind it.
10. Whenever you stop and pull over for any reason always check the trailer hook up, wheel temp and that boat is securely attached to trailer and everything inside the boat has not shifted and that straps are tight.
11. When slowing down, say to a signal, tap your brakes to alert person behind you; don't just lift your foot off the throttle to slow down. With no brake light there is no warning to the person behind you.
12. Do not use cruise control or overdrive while towing a trailer. Use towing mode if you have it, this reduces downshifting and keeps the transmission in a lower gear longer and it may not go into the highest gear.
13. Avoid sharp turns; make wide turns, even getting into the second lane from the curb when you start your turn. Your trailer is long and you don't want to run over a curb or hit something, the trailer does not follow exactly your trucks tire tracks. Care needs to be given when entering a gas station or shopping center, drive ways can be narrow and steep. Hitting a curb can knock wheels out of alignment or dent a wheel.
14. High speed is hard on trailer tires, the smaller they are the worse it is for them. California has a speed limit of 55MPH on all trailers which is saying something about risks posed by higher speeds. Idaho speed limit is up to the limit of the road you are on, up to 80MPH. There is no way I would recommend you doing so.
15. Avoid hitting pot holes and curbs. If you hit one, keep checking tire wear for bent out of alignment wheels. It may not show for hundreds of miles of towing. If you hit hard, get alignment checked. Once tires start to wear wrong, you can't cure it, it will continue to wear unevenly, even after getting wheel realigned.

Surge brakes vs electric:

1. Electric brakes are much safer to use, especially when the trailer sways when underway and when going downhill and it starts to sway. Hitting the brakes on your dash is the safest way to stop the swaying. You have no way of doing that with surge brakes.
2. With surge brakes, when going downhill you can burn your brakes up as the brakes can be on the entire time going downhill. If going down a long hill with a steep grade, disengage the surge brakes prior to going downhill. See a trailer mechanic on how to disengage your brakes, many times this can be done with a large diameter bolt.
3. With surge brakes there is little you can do when the trailer sways except slow down by removing foot from throttle and not hitting the vehicle brakes.

A 4 wheel drive vehicle is good at ramps, especially when ramp is steep, has dirt on it or is very wet or you have to put your rear tires into the water to be able to release your boat from the trailer. Use 4 wheel low when backing down, it helps keep you going in a straight line.

Carry a spare wheel hub.

How to determine tongue weight: goal is 10-15% of towed vehicle and trailer weight on the hitch.

Too much weight on the tongue and it takes weight off the front tires, thus making steering less effective, the ability to maneuver curves and corners is adversely affected, making it more difficult to make the turn and even spin out. Your headlights will not properly light the road ahead of you as the lights will be pointing up off the road. If people coming towards you are flashing their high beams at you and you don't have your high beams on, you are not level and your rear end in being pushed down. You need to raise your rear end and level the tow vehicle, with an air lift system if your tongue weight is correct. Too little tongue weight can cause your trailer to easily sway side to side when underway. Braking is effected with too much tongue weight as most of your braking is done by your front brakes and weight is being taken off the front end.

It is best to first get the maximum vehicle tongue weight and the towing capacity of the boats trailer. Many boat manufactures push the limits on the trailer, getting a trailer that maxes out with the boat unloaded and no fuel. Contact trailer manufacturer for trailers weight, absent that you will need to weight just the trailer with nothing on it. See vehicle owner's manual or specifications for maximum towing tongue weight. Many stock pickup trucks are only 500 lbs. If a trailer towing package is added, it will be more than 500lbs. You may have to contact a dealer or the vehicle manufacturer for this number if sold with the package, have your vehicles VIN ready when you call. This only works if there is no aftermarket hitches installed. Per GM web site, "Sierra 1500 pickup truck models towing trailers with tongue weights greater than 700-800 pounds should move from a weight-carrying hitch to a weight-distributing hitch". You may find similar specs on your truck.

Have your tow vehicle and boat fully loaded as if you were taking a camping trip, including a full tank of fuel in both boat and tow vehicle or at least as close as you can. It's important to have your boat loaded to where 60% of load should be in the front half of the trailer.

Find a Commercial Scale to get your vehicle and trailer weights.

A scale can be found at a truck stop, Hwy weight stations (they are sometimes out of service but the scale is on all the time, if busy they will not allow you to get weighed), even a quarry or material supply center. For a small fee, you can weigh your tow vehicle and trailer at these places, a Hwy station is done at no charge.

A. Determine Weight of Vehicle with Tongue Weight

Your vehicle and trailer must be fully loaded and boat fueled just as they will be when you are leaving for a trip. You may find out in this procedure you cannot carry a full load of fuel while trailering.

First, with trailer attached, drive onto the scale with only all 4 wheels of the tow vehicle on the scale. Record the weight of the truck with the trailer attached.

B. Determine Weight of Vehicle without Tongue Weight

Truck only on scale - trailer not hooked up

Next, unhook the trailer and jack up the trailer tongue so there is no weight on the hitch ball or the scale. Make sure that the trailer jack is not on the scale. Record the weight of only the truck on the scale. This is your gross vehicle weight (GVW). Now, subtract the GVW from the weight of the truck with the trailer attached. This will give you the tongue weight of your trailer and boat. A - B = Tongue Weight-

Move the boats position on the trailer to get to the proper weight of 10 -15% on ball hitch, if too low move boat forward, too much weight move the boat back on the trailer. You will have to play with it to get the proper amount. A little movement goes a long way.

This is a good time to see that you are not overloading the trailer.

Put just the boat on the scale fully loaded and fueled. Unhook trailer from vehicle and move vehicle off the scale so only boat and trailer are on the scale. Record the weight. Subtract the trailers weight. The resulting number is the amount loaded on the trailer. You may need to call trailer manufacturer or boat manufacturer for trailer weight and maximum carrying capacity.

Determine Tongue Weight for Weight Distribution System

Truck only on scale - trailer not hooked up

If you want to use a weight distribution system, remember to include the weight of any gear you might load behind the rear axle of the tow vehicle. You should add the weight of this gear to your tongue weight to select a weight distribution system of the proper size. To get the weight of the gear behind the rear axle, weigh your vehicle with this gear and without. Then subtract the weight without the gear from the weight with the gear. This difference is the weight of your gear. In the formula below, C represents the weight of your gear. A represents the weight of your tow vehicle including the tongue weight. B represents the weight of your tow vehicle without the tongue weight.

Weight of Vehicle with Gear Behind Rear Axle - Weight of Vehicle without Gear Behind Rear Axle = C (Weight of Your Gear)

A - B + C = Tongue Weight for Weight Distribution System

Trailer tires:

Tire wear and what it indicates- This applies to both trailer tires and vehicle tire wear. Info on tire wear from a safe driving course.

Both sides evenly worn more than center tread- underinflated tires

Center tread worn more than edges-over inflated tires

One side worn more heavily-poor alignment

Treads worn unevenly with bald spots-wheel imbalance or alignment

Erratically spaced bald spots-wheel imbalance or worn shocks

Edges of front tires worn heavily-cause taking turns to fast

Saw toothed wear pattern-poor alignment

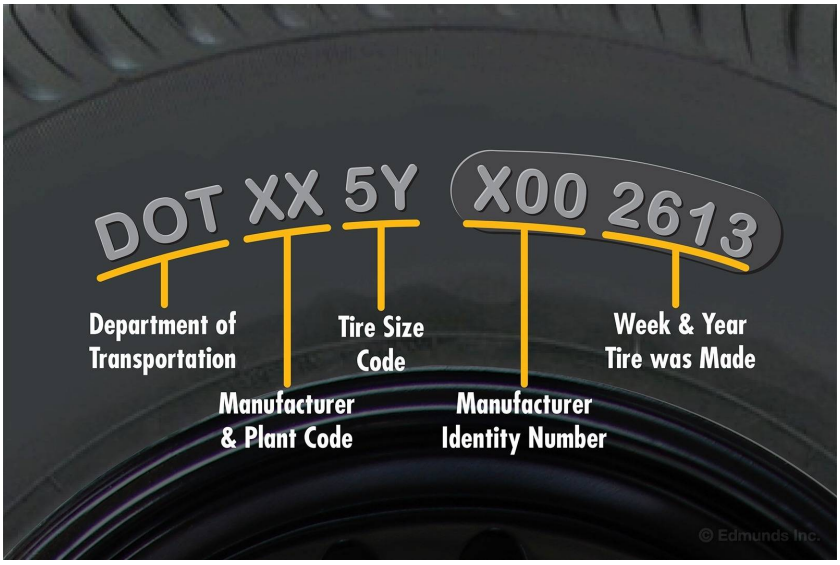
Whining, thumping and other abnormal noises- poor alignment, bad shocks or worn tires

Squealing on turns- underinflated tires or poor alignment- check wear on tires and act accordingly

Once a wear pattern starts you cannot undue it. So if a wear pattern shows underinflated tires and you cure the problem, those tires will always show as underinflated. So it is best to identify bad wear issues early. If you cure the under inflation issue and a year later you look at the tires and tread wear indicates low tire pressure, and you ignore it because you think it is related to last year, that could be a mistake as they could once again be underinflated.

Boat trailer tires more often than not age out before they wear out.

These usually do not wear out but they do age out. It is why you so often see trailers on the side of the road with a blown tire. Per BRMA, as of July 2016, unused tires over six years old should never be put in service, and all tires should be replaced after 10 years from their date of manufacture. The photo below explains how to determine the age of your tires. In the example below, the tire was manufactured in the 26th week of 2013. That is the date you use to determine age, not when you bought it. Tire dealers have tried to sell me four year old trailer tires. Always check the age of your tires that you purchase prior to paying for them.



WEIGHT DISTRIBUTION-By Dennis Marguet: free to copy, 4-11-20

To improve the handling and ride of your boat simply, it is important to learn how to load and trim your boat. See proper planning of your boat article after getting weight distribution correct.

Spread your load evenly

Before even moving away from the launch ramp, experienced boaters will automatically check that everything onboard is stowed correctly, and that the boat is sitting evenly in the water with the passengers in place.

Loose items should be tied down or stowed in lockers where they can't move. Heavy items like tackle boxes, big ice boxes filled with drink, etc., should be positioned evenly around the boat, side to side or bow to stern. If only you are on the boat and you sit on right side put the cooler on left side. Extra gas cans should be spread evenly about the boat. These can really affect boat handling if too many cans are in the stern, it can cause proposing or difficulty getting up on plane. If too many on one side it can cause listing (leaning) to one side or plowing if too much in front of the boat. Keep them tied down in their proper position. Quick movements, bouncing or running the rapids will move those cans. Keep in mind weight distribution when replacing a full can of gas with a now empty can.

Essentially it all comes down to ensuring that all of the weight carried in the boat is distributed evenly. The boat should not list to one side because this will be amplified once the boat rises up onto plane.

On a fore-and-aft basis, most experts would agree that you should place slightly more weight in the stern of the boat, rather than up the front.

Having heavy items stowed in the cabin or under the windshield can make the boat plough through the water. Of course, every boat is different. Some experimentation will be required to get your boat set up perfectly.

On those occasions when you are taking family or friends out boating with you, adjusting their positions in the boat will be necessary. Make sure you assert your authority as the captain of the boat. Remember the skipper is responsible for the people onboard and everything that happens during the trip.

With people you don't know too well, you may feel a little awkward ordering them about on the boat, but it has to be done. If you find there are three people sitting over on one side of the boat, and it is listing severely, or you are plowing due to too much weight up front or having difficulty getting on plane due to too much weight in the rear, don't just ignore it. Explain and ask them to move to a different seating position so that the boat remains evenly balanced and performs at its best.

Proper planning of your boat or being on proper step (on step and on plane is same thing) - how to set your boats trim-By Dennis Marguet free to copy 4-11-20

For a simple way to improve the fuel economy, handling and ride of your boat, it is important to learn how to load and trim your boat. See weight distribution article first to be sure your weight is proper as it also affects handling. Your goal is to find your “sweet spot”, this is where you will be able to use lower rpms to stay on plane or hold a cruising speed, this will get you better fuel mileage and handling. Planeing at a low speed is not your goal, the goal is a cruising speed at the lowest rmp’s which means better fuel mileage. Starting from a stand still, the more throttle you give the faster you will get on plane, once there pull back on throttle until it remains on plane. **Do very small** trim adjustments on the transom tab with a good size adjustable wrench until you reach the sweet spot and proper boat plane position.

Does your boat not continue to go straight when you take your hand off of steering? This could be a weight distribution problem or your trim setting is not set at its best positon.

Does your boat lose a lot of speed in a turn with the water spray line progressively moving forward? You can see this effect by watching the spray line-the point where the water starts coming off your boat. Does it hold and not jump? If it does not hold, this could be what’s called chine walking.

Does your boat rise smoothly when applying power?

A well-tuned boat will have the spray line continually moving to the stern as speed increases from a stop. This results in a boat that requires less water to run in (a good thing in shallow water); less hull drag equals better fuel mileage. As well you get a boat that is more responsive and turns easily. If it is tuned right, it feels like the boat “dances” when you turn.

In evaluating a boat, start with the boat occupied as you use it; look at the spray line, where the water is coming off the boat at speed. Is it in the middle or nearer the transom? Is it a clean or jagged line? Does it move backward as you accelerate or does it move forward? Generally speaking, the farther back the spray line, the more efficient the hull. See photos below for proper spray line position. The spray coming off the boat should be relatively clean with little turbulence. Turbulence means drag which means decreased performance and fuel economy.

The photos illustrate the proper planning position. Notice the bow is up and the water line begins at about where the bow v of the hull stops and then goes straight.

Many things can affect the performance of your boat, but one that's consistently underutilized is proper trim. Running at the right attitude will increase your speed, reduce your fuel consumption and greatly improve the comfort of your ride. The angle at which your bow meets the water and waves has a direct correlation to how efficiently you operate your vessel. In many situations, improper trim can be a safety concern as well. Getting the running surface of your hull to have the least amount of wetted surface (drag) will increase your efficiency and should be your goal most of the time. But, in some cases, it's actually better to have more of the hull in the water to allow your bow to knife through the waves. Its dialing in the "sweet spot" that is so important. Understand that it's a moving target as conditions change, so trim it for what is most important, running rapids or running on smooth lake water.

Proposing on flat water can be one's goal if you just use your boat for whitewater running; it assists in getting a smoother ride down river. As you can see, you trim your boat for its different uses. If you most often run lakes you would trim one way, if mostly running rivers another way. Since white water running is most important to me, I trim for white water running and deal with the proposing on the lake.

Transom or trim tabs can help you to fine tune your running attitude by creating lift at the stern, allowing the boat to run higher and reducing its foot print. The trim tab is located along the bottom of the transom and sticks out beyond the transom. Before adjusting your trim, have everything stored as you run your boat including the number of passengers you normally run at in the boat.

Adjusting the attitude of your hull requires adjusting the trim angle of the trim tab located on the bottom of your transom. What you'll soon find is that small adjustments can have a big effect. Something as simple as a passenger moving from one side to another or up to the bow may be enough to counter bad handling. The most common issue after a boats trim is set, is the boat proposing, which can be caused by too much weight in the stern of boat. First change the weight distribution with less weight on the stern. Simply moving a passenger forward may very will cure this.

To start off, look at the spray as it exits to either side of the hull while on plane. If it's too far forward that tells you the bow is plowing through the water, which can cause the boat to bow steer and have poor fuel economy. If the spray is too far back towards the transom, unless you are running a bass boat, your bow is too high and a percentage of your thrust is being wasted along with exposing the bottom of the hull to impact waves for a rougher ride. Once you have established what you feel is a good trim attitude, you can fine tune it or "dial it in" by using your RPM gauge plus GPS and fuel flow gauge—three pieces of electronics once considered luxuries but now installed as standard equipment on most boats. Once you have reached your desired speed, whether it's cruise or wide open throttle, and feel you have the proper attitude, adjust your trim angle while watching your RPMs, speed and fuel consumption to get the best performance.

Trim tabs can be added to your boat allowing trim adjustment for varying conditions on the run. It is normally controlled by a rocker switch(s) built into the throttle control or dash. Trim the boat up and the bow rises—too much, and the hull can porpoise and the props aerate or cavitate. Down trim can lower

the V entry of the hull into waves to soften the ride— here again, too much and you will plow through the water.

These rules apply to the permanent trim tabs on the stern of boat, but that tab cannot be adjusted while on the run, so set it at what is most important to you. You can have it set for best cruising and handling and fuel consumption and adjust entering waves with your throttle control.

This is how a properly trimmed boat can eliminate pounding, proposing, wandering and sluggish speeds.

Problem: My boat pounds into the waves, often taking water over the bow.

Cause: You could just be going too fast in rough water, or the boat might be trimmed too low, driving the stern up and the bow down.

Solution: If slowing down does not cure the problem and it happens all the time, then your trim is out of adjustment. Start by adjusting your trim tabs up. Do it a little at a time until the ride improves.

Problem: My friend, with an identical boat as mine gets 2 more miles per gallon in his boat than I do in mine.

Cause: Assuming your engine is running correctly, you need to remember that boats get different miles per gallon depending on the speeds, trim settings and loads.

Solution: Set your boat's RPM at your friend's cruising RPM and see if your speed is the same as his. If your speed is lower, adjust the trim upward until your speed improves. Adding a fuel-flow meter will give you surprising information on the most economical speed (cruising speed). He might have found the sweet spot and you have not.

Problem: My boat leaps up and down on the water like a porpoise.

Cause: You could have too much weight in the stern of the boat. You could be taking on water. Which requires immediate attention or your boat's trim could simply be set too high, causing the bow to lift, and then fall.

Solution: Trim the boat tab down to get proper trim, the boat glides over the water without proposing — which is what the bouncing effect is called.

Problem: My boat pulls hard to the side when on plane.

Cause: Too much weight on one side or boat not trimmed evenly on both sides of transom. Check each and adjust.

A big dent on the bottom can also affect boat handling. Get it repaired quickly if it is affecting the handling of the boat. Things get exaggerated at higher speeds

Dennis' Boat preparation to go for Riddle boat checklist includes front and back copy 9-16-19

This is my personal boat preparation checklist. I use it every time I take the boat out. Use it as guide to personalize one for your own checklist. I have checklists for trips in addition to this one which I use on a daily basis. Every item is here because I forgot it one time or another.

Days before review fish finder instructions and River running tips

Leaving house for boat have trailer hitch with 2 5/16" ball. Air compressor for filling air bags

1. Black bag with boat manuals Keys to boat
2. Water bottles Ice to keep worms cool
3. Worms and lures (bait freezer) Lunch in cooler, to keep worms in as well
4. Sun block on Hand Held GPS and 12v connector.
5. Air vented hat Rubber boots or neoprene boots if cold
6. Fishing license Idaho state card for free parking
7. Sunglasses Cell Phone-Sat Phone and 12 volt chargers
8. Fishing tackle Ice Chest for caught fish
9. Binoculars Air pressure sensors when towed by MH
10. Back brace Chum
11. Tools in pickup truck Trailer hitch on top notch largest ball.

Day before leaving hanger- No glass on boat

1. Tighten transom tie downs Camper cover and windshield cover
2. Coolant level between ¾ to 1 ½ inches from top and in reservoir and expansion tank.
3. Oil level okay **both** engine-Mobile 1 5w-30 and outboard motor 5-30
4. Sand trap closed? Cap on hose below engine?
5. Batteries charged?
6. Tire pressures okay, 80 pounds Spotter lights pointed backwards
7. Wheel bearing covers on P/u lift 99 lbs.
8. Enough life jackets within arm's reach Red flag if water skiing or tubing
9. Gear stored and secure no dry gear in rear storage Water bottles full
   Turn on key, listen for fuel pump working. Do not start engine, never let it run while not in water
   Live well plug not in do so at ramp
10. Fuel level okay, 91 octane non-ethanol Prime Outboard Motor fuel line
11. Outboard in down and locked position. Two Drain Plugs in boat
12. Tire riser and tire wench Room enclosure if rain possible
13. Rainex slider windows-If cold or chance of rain Anti-fog inside,- not Lexan front windshield
14. Fishing gear, down riggers Autopilot bracket on O/B tight
15. Out-door thermometer work
16. Battery wing nuts on tight? Starter nut tight screws in tight. Transducers tight
17. Drain plugs in Reset trip b to zero to determine fuel usage
18. Anchor line tight Safety net attached at stern railing
19. Lock down hatches rear deck and roof Water bottles full
20. Rear step ladder up and locked

Leaving hanger- my boat storage

21. Battery charger unplugged-Batteries off ladder in PU Floor running lights on
22. Trailer is latched to hitch ball, chains crisscrossed and electric hooked up and lights working, truck level with boat
23. Test trailer brakes when first on the road
24. When fueling boat, turn off battery so no spark possible, run blower and open Engine cover to let fumes out, check for gas spilled in boat bottom.

Getting ready to go into the water at ramp- heater ducts open

1. Turn battery switch to both
2. Put engine cover up Turn engine compartment blower on
3. CB and vhf radio antenna up? Low bridge on run? Dash speaker up
4. Put key into ignition, check to see if fuel pump turns on. Be sure bilge pump works
5. Lift outboard motor and lock Turn on tri 1 gold put on auto remote around neck
6. VHF and CB turned on? Channel 12 for river runners, VHF 10 for Idaho, 13 for locks, 14 dams, 69 for Columbia River, mic attached to CB?
7. Have bow line ready to hold boat to pier and in stern.
8. Put on rubber bumpers, 3 or both sides? Throw rope on railing?
9. Put in down riggers Trailer brake drums are not hot.
10. Sun glasses in boat. Put Idaho state card on dash, for free parking
11. Turn Rino GSP and Lowrance on, clear trails to start fresh today- Reset dash gauge trip B
12. Put plug in live fish well and boat
13. Anchor has zip ties and rope in good condition. Pull lock pin and lift anchor bar and lift it and place pin back in so bar rests on pin. Bow anchor ready to release
14. Ask passengers any medical condition I should be made aware.
15. Train passengers on their duties and life jackets.
16. Get trailer completely wet then pull forward to drop boat.

When first in water

1. Cold start, turn key on for 5 seconds to prime fuel pump, do not have any throttle, then turn starter. Once starter turns on release key and let smart start take over, it runs at higher rpm to warm up engine to 120 degree water temp, 200 degrees is max, turn off.
2. If engine stalls or falters (water in fuel?), wait 4 seconds before trying again to protect starter. The starter should not be used for over 30 seconds. Wait at least 2 minutes to protect starter.
3. Lower and Run outboard motor to be sure it runs (let it run for 3 minutes) Look for water stream from top side of outboard motor. Once done raise outboard in locked position
4. Check black manifolds that they are not running too hot
5. Check for water leaks, sand trap and cap on water hose.
6. Put cover back over engine Turn blower off.
7. Turn fish well on
8. Test stomp grate
9. Practice braking boat by getting into reverse after lowering throttle. Practice backing up, push forward for nose to go right and pull for nose to go left.
10. Train someone to drive boat.

Loading boat at ramp

1. Sand trap empty
2. Bumpers out 3? TR1off, Out board up and locked
3. Turn fish well tank off. Water pump to hose off hose drained

4. Approach dock into wind or current whichever is stronger.
5. Yellow trailer strap up until black line at strap on spool

After getting boat out of water near ramp:-

1. Pull plug to drain fish well.
2. Turn TR1 off first- Then turn battery switch to off
1. Turn off CB, vhf and fish finder, roof antennas down and latched
3. Fishing poles secured Take boat keys
2. Light on roof down Sand trap empty
3. Drain water from boat. Chain attached to bow of boat?
4. Remove any weeds caught in intake grate under rear of boat.
5. Lower outboard motor. Tighten outboard motor so it will not move side to side.
6. Turn fish well tank off.
7. Un-attach bow line from bow, Bow and stern step pinned up
8. spot lights to rear?
9. Hook on transom straps windshield cover on
10. After short drive check to see boat is secure on trailer.

Return boat to hanger- my boat storage location

1. Plug in battery chargers. Boat drain plugs put in.
2. Release boat transom tie downs.
3. Don't store ropes wet.
4. Lower trailer so it will hit hitch at proper level for re hook-up.
5. Save/ trails on Lowrance- page to waypoints, routes, trails:
6. Drain hose under sand trap if temp to get below 32 degree and wash down pump and remove hose

1. Don't run over moss

2. Best fuel economy is 3200-3400 RPM

3. If engine gets hot, put into neutral, turn off engine, if engine continues to run, turn key back on immediately to allow engine to idle until cooled down.

4. If run over sand bar, keep going, make turns to get off, you don't want to get stuck there. Remove sand from sand trap immediately after passing over sand- check for water flow into heat exchanger.

5. After running awhile check that boat anchor is tight in place.

Things to have on boat at all times

1. Flash light and head lamp
2. Lug wrench and jack and boards to put jack onto in tow rig.
3. First aid kit

4. Engine oil, Mobile One 5w-30
5. Fire extinguisher 1-B-1 or b-11, marine type USCG
6. Port-a-Potty with toilet paper if with kids or on river
7. Cotton ball soaked in Vaseline in film canister, with matches
8. Camping- room enclosure
9. 50/50 mix of coolant
10. Tools and spare parts
11. Stay afloat

Snake River run checklist 9-14-20 this is my personal preparation checklist. It is used in addition to the boat preparation checklist. Use it as a place to begin planning and packing for your trip. Feel free to copy, I encourage you to use it and personalize it for your situation and boat. Everything on here is there due to past bad experience where not following it got me or someone else in some difficulty
This is checklist for Snake River runs from Pittsburg Landing to confluence of Salmon River and to Hells Canyon dam which you need to use for the class to be properly prepared to go boating.

Snake River run checklist 9-14- 20

This checklist for river runs on Snake River to confluence of Salmon River and Hells Canyon Dam
If want to spend extra day, come on Wednesday, can run down river on Thursday, up river on Friday where most people go. Time to Whitebird is leave from Pittsburg launch ramp, 1 hour each way. If go between Memorial day and Sept 10th you will need to make a reservation.
Snake River help and powerboat reservations questions Carmin or Robin (509) 758-0616 Permits needed and Reservations made at recreation.gov during primary season. Print out permit day before leaving so can cancel with no charge if can't make it. Thursday before Memorial day can get permit at Pittsburg without going on line for 12 days
Pittsburg landing Ranger questions (509) 758-0601- call to see if water at camp sites.
134 miles one way from boat storage to Pittsburg landing

Get in shape and be rested

Practice truckers hitch

Preparation before leaving
1. Check tire pressures(65 lbs) on trailer, valves stem caps?, check spare as well, pickup 35lbs tires, air lift 99 lbs
2. Check for grease on wheels, covered?
3. Check brake linings and adjustments
4. Check oil levels outboard and inboard-TR1 Pickup 1 quart Mobil one 5-30wt and 4 stroke outboard- Outboard in down and locked position.
5. Check coolant level inboard Extra coolant 50/50 mix
6. Check hoses and fan belts Spotter lights pointed backwards
7. Air filter clean, sand trap closed, manifold cap on.
8. Batteries charged and tied down wing nuts tight
9. Satellite phone fully charged with 12 volt power cord. Cell phone power cords
10. Go pro action camera fully charged and chips empty
11. River anchor, zip tie attached to chain and d ring. Check line still in good shape
12. Two plugs in transom live well unplugged tighten transom tie-downs
13. Way points on Lowrance up to date. Reset trip etc.(waypoints, trails)
14. Reset dash gauges to zero on trip B, see that it is zero
15. Piss bottles/ cups on board
16. Baggies and trash bags for trash can on boat
17. Grill with remote thermometer and propane cans water bottle, tongs, grill brush
18. Fill boat 91 octane and 10 gas cans non ethanol if lots of boating
19. Siphon for gas cans
20. Bring sta-bil for gas if last run of the year
21. Dive mask and snorkel

22. 2 milk bottles full of local water for drinking on boat. Water bottles full, filter on board
23. First aid kit / solar blanket on board, dish washing soap for poison ivy review what it looks like
24. 100 foot rope , connected at all times to lower bow ring
25. Wheel ramp and lug wrench, wheel stop
26. Tighten bolts on screws all around boat, including autopilot on outboard, starter motor wires, wheels and transducer. Tighten transom tie downs. Lock down hatches rear deck and roof
27. Rear step ladder up and locked
28. Shovel , grate rake, crow bar, sand stake with 2lb hammer
29. Rubber boots
30. Tools, oil filter and wrench, spare starter and parts
31. Flashlight on board with extra batteries, include head lamp & small lantern,
32. Windshield wipers work. Blades in good order, Brillianize for front windows, aerosol for side window/paper towels on board. Rainex side windows, Brillianiz front windows, anti fog side windows only inside if it will be cold window squeegee.
33. Clean visor with Brillianize
34. Rags on board including microfiber for side windows Hand towels on rails
35. Kleenex box, paper towels, toilet paper on board and for tent
36. Life jackets for all within arms reach, fire extinguisher both up to date
37. CB radio work? Put on channel 12, mic attached to CB? Antenna wire attached? Rag to cover it and protect from water splashes.
38. Rope throw bag attached to railing
39. Sealable Portable toilet (plastic bags will not work) with toilet paper. Name address and phone # on side of container with magic marker. No peeing in river.
40. Black bag with manuals and keys
41. Water proof note pad and pen
42. File boxes to keep things dry
43. Folding table behind bench seats
44. Vacuum pack for caught fish.
45. Cordless drill
46. Are waypoints marking rapids and track on Lowrance unit?
47. Fishing gear bass and sturgeon, worms, yellow and red grubs squid assassins (bass max is 6 per day minimum, above granite is 12” minimum)
48. Fill 2- 5 gallon water jugs at home, 3 for 2 people or for 3 days
49. Day before get water flows from Hells Canyon dam, below 5000cfs, can’t launch from Pittsburg Landing ramp. Ran 8000 to 15,000 Sept 09-See forecast water flow forecast Hells Canyon dam nwrfc.noaa.gov
50. See weather forecast Riggins or Grangeville.
51. If want to run river before primary season ends Sept 10th, need to make reservations with recreation. Gov. Wild river is above Pittsburg landing (Kirkwood), scenic river is below.
52. For general information call 509.758-0616
53. See www.fs.fed.us/hellscanyon for latest info

Gear to have on board- storage doors closed- so gear can’t fall out- four boat bumpers
1. Snake river boaters guide in snake river folder
2. Fishing gear and license Bass and sturgeon. To fish on Oregon side of river need to be in floating boat, unless have Oregon fishing license. Worms
3. River rapid run instructions and river map book.
4. Trash bags 10 gallon and leaf bags.

5. Drop down curtain-close it and camper cover if needed.

Pick up truck

1. 99 pounds air in lift shocks.
2. Adjustable hitch 2 5/16 on top, hitch on top hole
3. Tire pressure 35 psi
4. Spare tools from jeep
5. Tools for changing tires truck and trailer, wheel stop, air compressor.
6. Ladder for getting into boat.
7. All gear packed
8. Cell phone 12 volt chargers
9. Water bottle full
10. Boat preparation to go list
11. Sunglasses
12. Handicap placard

Gear to pack

1. Snake river folder
3. Reading material.
4. Check book and golden access pass (9733853) for camping discount
5. Back brace
6. Sat phone fully charged -12volt connector
7. Cell phone, no service on river and chargers in truck

8 Step ladder in truck

Camping gear

1. Sleeping bag,, cot, ground pad plus green wool blanket if using warm sleeping bag in case it gets hot. Wool cap if cold at night.
2. Pillow, 2 towels to lift pillow
3. Camping stove, regulator and own propane, lighter.
4. Tent, stakes, ground cloth, door way carpet, small dust pan and brush
5. Pots and pans, frying pan, plate, coffee cup, silver ware, steak knife, can opener.
6. Camping soap, clothes pins, line and mirror,
7. Chair with table
8. Bag to carry food etc to BBQ
9. Engel cooler with extra insulation for food, ice pick, carving board, silver ware, bowls to store stuff, 6 cooler shock if hot and staying 4 or more days otherwise smaller ice chest and 5 ice packs
10. NRA lunch cooler with baggies to hold ice
11. Small lantern with extra batteries in boat.
12. Lantern and propane, mantels, lighter
13. Table cloth and clips to hold to table.
14. Broom to sweep ground where tent will go.
15. Kleenex for tent
16. Collapsible trash can with trash bag, stake and clothes pins to hold bag.
17. Urinal.
18. Binoculars
19. Stainless steel coffee jug
20. Golden access pass number 97-33853 and check book
21. Fill three 5 gallon water containers-4 if arrive Wednesday

22. Wishy washy with three 5 gallon buckets, dish soap, sponge & bowl-filter clean?
23. Propane fire ring and propane tank
24. Dog stuff- 2 bowls, food, brush, medicine, leaches, 2 vests, blanket to lay on, bed for tent, treats and treat bag, poop bags
25. Shower

Food/ dishes

1. Extra dish for Saturday BBQ
2. Butter for fish caught
3. Paper plates to eat steak and bowls.
4. Bread, lunch meat, mustard, mayo in small jar, baggies for sandwiches and ice (5)
5. Brats for lunch with mustard, relish and catsup
6. Tuna with mayo and relish in container 2 cans =3 sandwiches.
7. Fruit cups, pudding cups tarts for desert.
8. Freeze water bottles, and pre cool cooler night ahead
9. Several water bottles, large bottle to hold extra water at camping site
10. Break fasts, oatmeal, tea and sugar, cappuccino (4/5 days), dried fruit for oatmeal, blackberries. Yogurt for granola, pancakes and syrup.
11. Salt for steak
12. Teriyaki sauce for chicken
13. Cookies & snacks deserts (cherry turnovers, blueberry muffins.
14. Frozen water bottles or ice packs for lunches
15. Dinners except Saturday night, Thursday, Friday, Sunday (3)- fish caught, flat iron steak, ham and apple sauce. Chicken legs and thighs and teriyaki sauce
16. Salad (carrots raisins pineapple and mayo) premade in own container
17. Canned cream corn ,beans
18. Canned/bottled drink, wine, juice, Gatorade
19. Paper towels/ sponge, dish washing soap
20. Pre cool cooler night before. Morning use 6 cooler shock, small cold packs for lunch. Or frozen water bottles for lunches. Only get block of ice if hot and staying 4 days.
21. Worms for fishing in cooler,

Cloths

1. TEVA's
2. Sun block, insect repellant
3. Medicine, toiletries
4. Extra jeans
5. Shorts to wear on boat, zip off pants
6. Short sleeve shirts, WWW polo shirt and jacket, IBA t-shirt
7. Hats, IBJA hat, Riddle, Tilley hat, if hot sun hat
8. Jacket/rain coat
9. Pajamas light/heavy weight
10. Towels to wash with and raise pillow
11. Soap to wash body with, bio degradable camp safe
12. Sanitizer hand wash, bring with lunches
13. Cell phone and charger
14. Alarm clock, check battery
15. Back brace

16. Leatherman
17. Western white water assoc belt buckle

Along the way to Pittsburg landing. 30 miles north of Riggins turn off to Pittsburg landing 4 hours total to campsite with stop for gas in Riggins from Gold Dust

1. Leave early 9 am to get camp site on Thursday
2. Fill boat, 10 gas cans for Wed arrival, 91 octane fill Stinker, plus PU..
3. Fill truck in Riggins, minimum ½ full
4. Turn west on old 95 just south of Whitebird, road marker 222, next left, cross Salmon (steel bridge off to left) river bridge , left at end of bridge, to get to Pittsburg road also called Deer creek road.
5. Use low 4 wheel drive on down hill run into Pittsburg landing, max 15 mph down hill, keep in first gear, brake in straight prior to turns and check brakes on trailer at top of hill.
6. Turn cell phone to airplane mode

Camping

1. 28 sites available, first come first serve, $8 per night, $4 with golden access card (97-33853). Site 10 has view and water. 24, 19 and 7 good sites, 15 is double site
2. 6 tent sites in upper Pittsburg Landing
3. Can camp in parking lot and stay in boat
4. Can camp along river, be aware of water level changes, it goes down in morning, have boat bow towards bank with stretch rope attached to stern to allow to move out off bank.

Before in water- boat prep to go list

1. Permit in boat
2. Prime gas out board motor turn on tri gold

While there Use Mountain Time.

1. Friday night is drivers meeting?

Sign in early with group leader to let them know of skill level

1. Clean windshield at end of day, before launching boat each day.
2. Need to sign up for self issue permit early morning of trip down river, before launch boat.
3. Get into water 8:30am Saturday for run. Meet group at Fish trap bar 1 mile up the river to begin run by 9AM
4. Wear shorts and put sun block on top of feet and legs.
5. Have life jacket on when ever running boat, leave on driver seat.
6. Secure items that bounce out
7. Plan 10 gallons per hour on motor, 40 gallons down river and back.
8. Front windshield latched closed.
9. 26 river miles from Pittsburg landing to confluence
10. Saturday night at 6:00PM no host cocktail party and 7PM BBQ dinner, bring own steak knife and drink, flash light, jacket and chair and dish to share
11. Drain sand trap at end of day or after hitting a lot of sand.
12. Have boat ready to go at end of each day.
13. Fish china rapid for steelhead and salmon- 15-20 feet from shore

notes

1. Clean windshield before launching boat each day. Enter hours on boat on note pad, new trail on lowrance and Rino? Each day drain sand trap
2. Wear warm cloths, layered.

3. Have life jacket on when ever running boat, leave on driver seat.
4. Secure flood light and other items that bounce out
5. Plan 1.7 miles per gallon 107 gallons in tank.
6. Front windshield and roof hatches latched closed.
7. Bow line attached to bow and wrapped around windshield stops
8. Drain sand trap at end of day or after hitting a lot of sand.
9. Have boat ready to go at end of each day.
10. Start dinner by 6PM to get done before dark
11. CB and VHF antenna up at ramp down when returning.

Return- turn air plane mode off on cell phone
Fill boat with gas with Sta-bil added.
1. Drain sand trap after each trip

At Hanger-Return to home
1. GPS, binoculars, boots, cloths, black bag, note pad, food, pillow, action camera, filet knife to charge it, sat phone and extra battery, spare glasses

Hells Canyon permits system By Dennis Marguet Feel free to copy-Aug 30, 18

There are two seasons, primary season with limited permits and unlimited season. On line reservations required during the primary season only, the unlimited season permits can be made online or can be picked up at the Pittsburg Landing launch ramp on the day you begin. You will always need a permit carried on the boat.

Primary season is the Friday prior to Memorial Day to Sept 10th. Reservations are first come first serve and opens March 1st, 7:00AM pacific time. If you want to go Memorial Day weekend, go online and get a reservation beginning Thursday and ask for up to 7 days, you will bypass the limited # of permits.

Go online to recreation.gov and search for Hells Canyon Snake river powerboat. https://www.recreation.gov/entranceSearch.do?mode=submit. Once you get to the page, first select overnight or day use. If you select day use you only get one day, so if you want to stay at Pittsburg for several days or camp on the river select overnight. Then you need to select what entrance. Options are any entrance, wild or scenic. Wild is south of Pittsburg landing to the dam (up river); scenic is North or below Pittsburg landing (down river toward the confluence). If you want to go both south and north of Pittsburg Landing get a wild permit. Now during primary season there are windows of non-motorized boats only on the wild section. It is every other week Mon. thru Wed. If you select Wild and it shows none available, try Wild River limited north or south. You may get a permit to limited sections such as to Kirkwood ranch on the limited south. There is map showing the limited boundaries.

Then choose a date of entry and the number of days to see if there is a permit available. You can only hold three permit reservations at once. If you need to cancel a permit reservation, make sure you do so.

If you are a no show and don't cancel you will be restricted next year for being a no show. Call (509) 758-0616. If no one there leave a message.

Print out two copies day prior to leaving, one for boat and one for box at ramp.

Read back of permit for rules to follow.

Water flow monitors are at Pittsburg landing next to permit station where you leave a copy.

Salmon River out of Riggins run checklist 2-5-19. My personal checklist. Use it as a beginning to make your own personal checklist.

GET IN SHAPE get rested

Call to see if water turned on bathrooms working for Spring Bar other questions (208) 839 2211 or 208. 879-4102 for upper river permit, www.Recreation. Gov for running river permit or call 1.877.444-6777. My boat # is ID4831AW

Preparation before leaving- Go on line day before and get water flows, ran river at as low as 9800 CFS. Cutoffs for the water flows are 6,000 mini and max 25,000cfs, with best flows at 12-14000 cfs according the Salmon River gauge located at White Bird, Idaho. To check the river flow use the following web site: http://waterdata.usgs.gov/id/nwis/uv/?site_no=13317000&PARAmeter_cd=00065,00060,00010

From home bring air compressor in pick-up

Put stuff in rear of boat to minimize tongue weight if not in pickup

1. Check tire pressures (80 lbs.) on trailer, valves stem caps? ,Pickup air bags 99lbs
2. Check for grease on wheels, covered?
3. Check brake linings and adjustments
4. Check oil levels outboard, TR1 and inboard- Truck 1 quart oil mobile one 5-30wt 5-30wt outboard
5. Outboard in down and locked position.
6. Check coolant level inboard Extra coolant 50/50 mix
7. Check hoses and fan belts Spotter lights pointed backwards
8. Air filter clean. Sand trap closed and manifold hose cap on
9. Batteries charged and tied down and wing nuts tight
10. Satellite phone fully charged with 12 volt power cord. Cell phone power cords
11. Go pro action camera fully charged and chips empty
12. River anchor, zip tie attached to chain and d ring. Check line still in good shape and tight
13. Two plugs in transom live well unplugged tighten transom tie-downs
14. Way points on Lowrance up to date. Reset trip etc.
15. Reset dash gauges trip B to zero- see that it reads zero
16. Grill with remote thermometer and propane cans, water spray, tongs grill brush
17. Fill boat 91 octane and 10 gas cans non ethanol if lots of boating
18. Dive mask and snorkel
19. 2 milk bottles full of local water for drinking on boat. Water bottles full, filter on board
20. First aid kit / solar blanket on board review what poison ivy looks like. Dish washing soap will help take off oils from poison ivy.
21. 100 foot rope , connected at all times to lower bow ring
22. Trailer jack and lug wrench, wheel stop
23. Tighten bolts on screws all around boat, including autopilot on outboard, starter motor wires, transducers, wheels, Tighten transom tie downs, Lock down hatches rear deck and roof

24. Rear step ladder up and locked
25. Shovel- crow bar grate rake Sand stake with 2 pound hammer
26. Tools, oil filter and wrench, spare starter and parts
27. Rubber boots
28. Flashlight on board, with extra batteries including head lamp- check small lantern
29. Oil filter and filter wrench
30. Windshield wipers work. Blades in good order, Brillianize for front windows, Aerosol window cleaner for side windows/ anti-fog inside windows not windshield if it will be cold outside, Rainex side windows, paper towels, window squeegee
31. Clean visor with Brillianize
32. Rags on board and rails microfiber rags for cleaning windows
33. Kleenex box, paper towels, toilet paper on board and for tent.
34. Life jackets within arm's reach, fire extinguisher both up to date
35. CB Put on channel 12, mic attached to CB? Antenna wire attached, vhf channel 69. Rag to cover it and protect from water splashes.
36. Rope throw bag attached to railing
37. Sealable Portable toilet (plastic bags will not work) with toilet paper. Name address and phone # on side of container with magic marker. No peeing in river.
38. Black bag with manuals and keys trash bag to keep dry
39. Water proof note pad and pen
40. File boxes to keep things dry
41. Are waypoints marking rapids and track on Lowrance unit?
42. Trash bags both 10 gallon and large leaf bags
43. Drop down curtain needed for rain sleeping on board, sleep water tight each night.
44. Steelhead fishing may be out of season.
45. See weather forecast Riggins.
46. Bring chair with table another for passenger
47. Two hand towels on railing if will fish.
48. Full tank of gas P/U, fill boat 91 octane and 5 gas cans (if run 2 days) in town or stinker non ethanol (average less than 50 gallons per day)
49. Railing grill on board with tongs, thermostat 2 propane bottles, brush, tongs water sprayer
50. Folding table behind bench seats
51. de winterize boat, sand trap, cap in hose, wash down pump
52. Cold or Rain possible, back enclosure, camper cover, room heater and propane tank full
53. Piss bottles/ cups on board
54. Tarp for raised deck if someone sleeping there
55. Go pro action camera batteries charged and chips clear
56. De winterize boat.

Gear to have on board- storage doors closed- so gear can't fall out- No glass items on board

1. River rapid run instructions and river map book.

2. Check book and golden access pass (09312163) for camping discount.
3. Snake river aerial view map book
4. Trash bags 10 gallon and leaf bags.
5. Drop down curtain and camper cover if needed.

Pick-up truck

1. 99 pounds air in lift shocks.
2. Adjustable hitch 2 5/16 on top, hitch on top hole
3. Tire pressure 35 psi
4. Spare tools from jeep
5. Tools for changing tires truck and trailer, wheel stop, air compressor.
6. Ladder for getting into boat.
7. All gear packed
8. Cell phone 12 volt chargers
9. Water bottles full
10. Boat preparation to go list
11. Sunglasses
12. Handicap placard

Gear to pack

1. Salmon River folder
2. River rapid run instructions and Salmon River tee shirt.
3. Reading material.
4. Check book and golden access pass for camping discount
5. Back brace
6. Sat phone fully charged -12volt connector
7. Cell phone, no service on river and chargers.

Camping gear

1. Sleeping bag, sleep on boat or tent with cot, with ground pad, extra heavy wool blanket for cold wool cap
2. Pillow, 2 towels to raise pillow
3. Camping stove and its own propane tank, lighter
4. Roll up travel table – e-z up and stakes.
5. Pots and pans, frying pan if going to fish, plate, coffee cup, silver ware, steak knife, can opener. Cutting board.
6. Camping soap, clothes pins and line, mirror
7. Fabric bag to carry food
8. Plastic file holder and lid for dry goods
9. Dry bags blue for cloths and red bag for sleeping bag, purple for pillow and 2 towels.

10. Large cooler for food, with tray and ice pick, divider, rope to tie to railing-3 ice shock if cool weather
11. NRA lunch cooler with baggies to hold ice.
12. Small Lantern, battery operated, check battery, lantern, mantels, own propane and lighter.
13. Table cloth and clips to hold to table.
14. Broom to sweep ground where tent will go.
15. Kleenex for tent
16. Filter water bottles on board boat
17. Table cloth and clips to hold on table.
18. Flashlight, extra batteries
19. Piss bottles
20. 5 gallon water can- if water is not on bring more cans
21. Collapsible trash can with trash bag, stake and clothes pins to hold bag.
22. Binoculars
23. No Fishing gear, worms, bass don't start the bite until end of April
24. Stainless steel coffee jug
25. Golden access pass number 97-33853 and check book
26. Wishy washy with two 5 gallon buckets, soap, sponge and bowl to put them in.

Food/ dishes- Large cooler precooled the night ahead of trip

1. Dinners -flat iron steak, Salt for steak, ham and apple sauce, chicken legs and thighs with teriyaki sauce,
2. Lunches tuna salad for sandwich 2 cans =3 sandwiches in own container pre made.
3. Bread, Brats, lunch meat, mustard, mayo in small jar, baggies for sandwiches (6)
4. Cherry turnovers- blueberry muffins, fruit cups
5. Canned cream corn, beans,
6. Break fasts, oatmeal, tea and honey cappuccino, dried fruit for oatmeal, blackberries. Yogurt for granola, pancakes and syrup.
7. Juice drinks, several water bottles for cooler
8. Cookies & snacks, deserts
9. Frozen water bottles or ice packs for lunches
10. Salad and dressing, carrot, raisin and Mayo and closed bowl to hold it?
11. Paper towels/ sponge, dish washing soap and towel
12. Paper plates to eat steak and bowls
13. Crushed ice bag for drinks?
14. Wine, it is cold- water bottles, juice
15. Baggies and trash bags for trash can on boat
16. Salad (carrots raisins pineapple and mayo) pre made in own container

Cloths- It gets cold at least at night April and can rain.

1. Rubber boots, warm boots and warm poly liner socks if cold
2. Sun block
3. Medicine, toiletries
4. Extra jeans ones with flannel lining
5. Warm zip off leg bottom pants if hot
6. Long johns top & bottom if cold, fleece gloves, Green wool caps light & heavy, gloves, fleece lined rubber gloves
7. Polyester underwear.
8. Whitewater assoc. jacket and warm short sleeve shirt and rain coat and pants, Polaris jacket if cold, rain jacket and pants, vest, Tilley hat if rain, wool hat if cold.
9. Pajamas heavy weight
10. Slipper so can take boots off in boat
11. Towels to wash with
12. Soap to wash body and hair with
13. Sanitizer hand wash, bring with lunches
14. Alarm clock, check battery and that alarm works and is loud
15. Leatherman
16. Western White Water Assoc. belt buckle

Driving information- Turn right on Salmon river road bridge off US Hwy 95, before downtown Riggins, drive about 10 miles to camp ground.

Arrival

1. Select site and sign in and pay and set up camp
2. Prepare boat for next day. CB channel 12 VHF 10, bow rope attached, throw rope,
3. Put life jacket on driver seat
4. New trail set on lowrance reset rino
5. Reset dash trip B to zero so can tell fuel used
6. Engine hours written down with note pad

While there Use Mountain Time.

notes

1. Clean windshield before launching boat each day. Enter hours on boat on note pad, new trail on lowrance and Rino? Each day drain sand trap
2. Wear warm cloths, layered.

3. Have life jacket on whenever running boat, leave on driver seat.
4. Secure flood light and other items that bounce out
5. Plan 1.7 miles per gallon 107 gallons in tank.
6. Front windshield and roof hatches latched closed.
7. Bow line attached to bow and wrapped around windshield stops
8. Drain sand trap at end of day or after hitting a lot of sand.
9. Have boat ready to go at end of each day.
10. Start dinner by 6PM to get done before dark
11. CB and VHF antenna up at ramp down when returning.

Return

1. Drain manifold hose, sand trap and wash down pump to winterize.
2. Spot lights turned forward for river, back for return home

At Hanger-Return to home

1. GPS, binoculars, boots, cloths, black bag, note pad, food, pillow, action camera

Anchor selection and use-mostly taken from a web site on river anchoring by Dennis Marguet free to copy 4-11-2020

There are many style anchors each with its own special purpose. For this discussion I will focus on light weight anchors that bury themselves to hold the boat. The weight and size of the anchor depend upon your boat length and weight. Use a sizing chart to determine your proper size for your type of anchor.

All anchors need chain to attach the anchor rope to the anchor. The chain adds more weight to the anchor and the chain will absorb much of the abrasions the bottom creates from dragging, hitting on sharp rocks, etc. which will cut your anchor line. Even a little cut will weaken your anchor rope. In addition the chain acts to lower the angle of the anchor tongs and holds the top of the anchor down near the bottom allowing the anchor to more easily set up, especially in sand. 8 feet is a minimum. 3/8" line is plenty strong enough for our purposes. Most people recommend 300 feet of rope, especially if you are going out in the ocean. If in a 100 ft. deep lake, you may need all of the 300 ft. to sit.

I do not put out a lot of rope when anchoring in the river like you would in the ocean or deep water lake where you will anchor for a long period of time, maybe 2 times the depth vs 3. You want to have enough line out to create some slack room to allow the boat to move up and down in the current/wind and not pull the anchor out. Many times I have to place an anchor from my stern to help keep the boat in place due wind and current forces pushing it around. <u>This can be dangerous if water comes over the stern and into the boat due to being pulled down by a stuck anchor. This will happen quickly, without warning and will sink your boat.</u>

To set an anchor:

To set an anchor drop it to the bottom, (be sure chain does not sit on top of anchor but beside it. The chain wrapped around the stem of the anchor can prevent it from working). Once on the bottom then the boat is allowed to slowly drift or slowly be powered downwind or down current feeding out line. Once the line is out a distance that is shorter than where you want to be, the boat is allowed to drag the anchor to set it. Once it is set you can fed out the line enough to get you in your wanted position.

You want to be sure the anchor is set tight. Once you think it is set, determined once the boat is not moving. Now that you are where you want to be, turn off your engine. Sit and wait and see if it sets well, if it does not you will need to start all over again by moving the boat and dropping your anchor again. Once the boat is set, you will still need to keep an eye out while sitting to watch for the anchor slipping, thus allowing your boat to drift. If the anchor completely comes released from the bottom, depending upon the current or wind, your boat can move quickly and for a good distance.

At this point you may need to put out a stern anchor to keep it from drifting side to side which will be caused by the current or wind. Remember the amount of boat above the water line acts as sail. Remember warning above.

To retrieve your anchor you may need to drive your boat in circle around it to get pulling action from a different angle, usually a 180 degree turn will work. Keep the anchor line tight when circling to allow it

to release itself. Sometimes taking all pressure off the anchor and reapplying power can help it rock the anchor loose in position allowing the anchor to break loose.

Columbia River anchor-(see u-tube on its use. https://www.youtube.com/watch?v=CVIySeB8LXs)

This is by far the most used anchor by river boaters. Due to the rivers current and rocks, an anchor can really get dug in against a rock, if you don't have this system you may find yourself cutting your anchor line to be able to move the boat. Before this anchor came out, it was not uncommon to cut your line.

If you look closely you can see in the picture but that chain is attached to the top by a black zip tie. When your anchor sets in it can become lodged next to a rock making it extremely difficult to retrieve. The function of the zip tie is to break when the anchor will not release. When enough power is applied the zip tie breaks creating a "tripping" line. This is called a break free system. This allows the chain to move from the top of anchor to the bottom giving a different angle from where the pulling action occurs. This should allow it to dislodge from the rock.

The zip ties I have on my anchor are two 250 lb zip ties, this is required due to having a power winch with only one powerful speed. I want the zip tie to hold enough to allow the winch to do its work in the original position before breaking the zip tie. If you are stuck you will need to use the boat to break the zip tie. A good place to start for your boat is a 200LB zip tie. Try it out and be prepared to add more if you find it breaks too easily. You can add more or double loop it. You will always want extra zip ties up front in your boat with something to cut the zip tie handy for easy replacement.

Don't be afraid to use lots of power if necessary to release the anchor. I have bent the tongs in an effort to release the anchor.

These zip ties, anchor line and links are something you want to inspect prior to each time you use the boat. I use a wire to keep the screw from becoming loose on the d ring.

A 25-35 lb. anchor seems to be the most often used in this style anchor. The set is what holds the boat not the weight of the anchor, so you don't need a very heavy anchor.

Mushroom river anchor

The river anchor is designed specifically for areas of river current where there is a heavy drift condition. The 3 blades act with a grappling action. The cut outs allow for easier pull out than the solid mushroom.

I use this for temporary anchoring and for the stern anchor to keep boat from swaying in the wind or current.

They do not hold very well until they are imbedded in the bottom. After imbedding they can have a holding power of as much as ten times its weight. Be careful doing this as both the bow and stern anchor can become stuck forcing you to cut one line and lose one anchor in order to get free. Again if the stern is pulled down by a stuck anchor, water can rush in quickly without notice and sink the boat. If tied to the boat in the wrong place it can become impossible to cut the rope.

Danford style fluke anchor

Best for sand clay or mud but not on a river. It needs sand or such to dig into to work. You can also use a plow style for same conditions.

If the bottom does not allow for digging in such as hard or rocky, or weedy, then the flukes can't bury and the anchor will not set.

Anchor line storage:

You want a system that allows you to store your anchor line so it does not tangle itself. If you don't have a storage place for it in the design of your boat, you will need an anchor line bag or bucket. The best way to prevent tangles is to tie the tag end of the rope to the container. When pulling in the line, drop it straight into the storage on top of the rope already there. Do not drop the line on your deck and pick it all up and drop it into the container as that is an almost guaranteed tangle about to happen.

Be sure to tie the tag end of the line to your boat so the rope does not accidentally get completely pull out of the boat.

Controlling boat in wind while anchored by Dennis Marguet free to copy 4-11-20

Wind conditions vary tremendously while anchored and rarely are they steady in speed and direction. So you will more than likely need to make many changes while at anchor. Your boat can move pretty far in a short time and it can be difficult to monitor its changing location. Stronger winds demand more action. Beware in high winds swells can swamp a boat that is anchored to tightly and sink it.

In lighter winds, if you have a kicker motor, dropping it while on anchor helps since you will now have a rudder in the water which will help control direction of sway even when not running. You may be able to use your kicker with a TR1 autopilot to hold you in place.

Dropping an anchor off of the stern of the boat can be dangerous if it gets stuck and could quickly sink a boat in high winds and swells. So do this in lower wind conditions cautiously with an easy to lift anchor and a knife nearby to cut it in an emergency. Only tie off to a cleat, not to railings.

If fishing and you need to break away from an anchor to run with a fish, release your anchor line and have an anchor buoy attached to the line to mark the anchors location so you can return to retrieve it. I use a rope sack and buoy marker combination.

From another fisherman, “I do a lot of anchor fishing and either use drift socks or my kicker in reverse and rarely ever have much problem with my boat swinging back and forth and my boat has a very large hardtop that acts as a big sail”.

Rope selection Polyester vs nylon vs cotton By Dennis Marguet 4-11-20

1. There is no one choice in rope material for all situations. Ropes will stretch and the line (rope) tying you to shore will have the most pressure on it. Nylon rope stretches 22-24%, Polyester stretches 15%, Nylon loses 5% of its strength when wet, polyester has no loss in strength when wet, and polyester is much more abrasion resistant compared to nylon. Some say nylon is better for anchor line as it stretches more and allows more “give” thus being less likely to pull the anchor loose, however it lacks the abrasive resistance which is important to use due to the rocky conditions we have, making unsuitable for an anchor line for us in my opinion. A chain attached to anchor and then the rope can reduce a lot of the abrasion that occurs. Double braided nylon line is considered best for tying to a dock because of its “give” it is better equipped to absorb shocks. It is best to have designated dock lines with eyes braided on one end. Nylon rope would be best suited as a tow line due to the “give” which means less jolting on the lines, but not critical. Polyester is considered by many to be the best all-around choice for boating. Never use polypropylene, it floats and is used for water skiing rope, the sun destroys it. Each spring just before new boating season check your entire anchor line for fraying, especially where tied to the chain.

2. Chafe protection: Dock line failures are almost always a result of chafe. Unfortunately, it is nearly impossible to rig dock lines so that they never rub against the dock or the boat. Protect your investment — the dock lines and the boat — by sliding a foot or two of heavy-duty hose over each line and tying it in position to take the abrasion.

3. Cotton rope mildews and is heavy when wet. It is the worst with chafing. Not often used.

4 Braided rope is the strongest

From a web page on rope differences, I copied it directly:

I called Bevis ropes and the very nice lady said she didn't know the answer so she had me talk to the President of the company (I've never had that happen before!). He said they started using mainly polyester rope about 15 years ago (they still make 3 strand nylon if you want it).

Here is his reasoning for using polyester:

Strength:

Nylon loses 5% of its strength when wet.

Polyester has no loss in strength when wet.

Strength ends up being comparable when wet.

Abrasion:

He emphasized this as one of the big positives for polyester.

Stretch:

Nylon stretches 22-24%

Polyester stretches 15%

He said that the amount of stretch in polyester is sufficient for an anchor rode (rope). The stretch doesn't become a factor until you reach 80-90% of the breaking strength and by then the cleat will have ripped out anyway.

I thought these were some interesting observations from him. I choose the braided line because as someone commented earlier, I find it easier on my hands than 3 strand.

Thanks, Doug

Polypropylene; Polypro is the stuff that floats, pulls toys, and dies is a few weeks left out in the sun. Polyester is actually a superior strength and durability rope than nylon. This is common on sailboats for rigging.

Boat safety check By Dennis Marguet Feel free to copy-6-13-20

1. Prior to launching boat check that brake drums are cool, plug in boat, engine compartment opened to air out gas fumes, blower on.
2. *Life jackets for everyone and are up to date if inflatable and proper size, everyone wears one. Class V(special purpose) is best which keeps an unconscious persons head out of the water; many consider this is the minimum, even though class III is seen on the river. A must for weak or non-swimmers. These jackets come in inflatable types which completely eliminates any excuses not to wear one. Remember the inflatable one have cartridges that dissolve in the water almost instantly and have an expiration date which will be checked by law enforcement at a boat check. Rafting stores sell these as well as Amazon.com.
3. *Throw pad or ring.
4. *Engine compartment blower works?
5. *Horn works
6. Things tied down or put away
7. Bowline attached to bow of boat of sufficient length and strength. Line brought into cabin so can't fall into water. Passenger knows how to use it. Strong knife to cut line nearby.
8. Strong knife to cut anchor line nearby
9. Sand trap drained each day.
10. Check engine compartment for water before taking off once launched.
11. Kicker motor started each day before run.
12. *Fire extinguisher available to passengers and they know how to use it-stored away from fire sources.
13. CB radio check with every boat on the run, on proper channel 12, passengers know how to use it.
14. Man overboard plans and all passengers know what to do. Throw rope and how to throw it? Throw float? Hook to grab? People know where to get back on boat and not to be concerned about a prop.
15. Passengers know to obey captain first then ask questions later.
16. First aid kit on board.
17. Tools on board to fix about anything. Spare starter, fuses and relays on board
18. Signal device in case of emergency or person in water (orange flag)
19. Have a plan in place for boat rescue of another boat or yourself. Passengers know what to do including how to throw rope to stranded boat and how to attach it to boat, don't tie it off, but wrap around cleat and hold tag end so can release quickly.
20. Bailout plan in case of boat sinking, including how people are to float down river with feet pointed down river (nose and toes up) and how to be rescued via throw rope, float, hook or swim towards shore.
21. At least two people know how to drive the boat, especially with stick steer boat so if something happens to the captain, someone can get the boat back.
22. Lexan front windows if doing bigger rapids which can break glass windows

23. People know how to use river anchor

24. People know how to enter exit boat from shore and dock

25.

*Required by law

Beyond basic white water safety equipment per Western White Water Assoc. Web Site
Level 1
Ropes, tools, 5 gallon bucket, hatchet, flashlight, towels, food and water, another boat with other people.
Level 2
Dry cloths, blanket, diving mask, tarp, duct tape and electrical tape, aluminum foil, plastic trash bags
Level 3
Satellite phone, cordless drill, cordless grinder, sheet of rubber, plumbers tape, aluminum strips, self-tapping screws.

Boat passenger orientation to be given by captain prior to arriving at launch ramp- By Dennis Marguet
Feel free to copy-9-17-19

No glass items on board, plastic and metal bottles okay.

If I give a command, do it and ask questions later- don't talk to captain while he is approaching or is in a rapid.

Life jackets on at all times; somewhat uncomfortably tight. If thrown into the water it will be too late to tighten it, you don't want it slipping off of you and you will be pulled up by the shoulder straps.

Explain: getting on and off boat, onto shore, dangers of rocks that are unstable, slippery when wet and those covered with moss. No flip flops, secure shoes only, even if not going on shore. NO running on rocks.

Before putting boat into water- put bumpers on- attach bow line and stern line if docking release transom straps, plugs in boat.

Launching from trailer: Stop at water's edge release transom straps, release safety chain, loosen yellow strap, upon my signal drive boat trailer into water until trailer fenders just reach underwater, put truck in park and set emergency brake, I start boat, upon my signal unhook yellow strap from boat. I back out of trailer, go park truck and trailer, lock truck and camper shell, return to boat and put keys in glove box.

If leaving a dock- untie and unhook bow line- then stern line, hold boat until I say to get on boat with the bow line in your hand if getting on board the bow. When you are ready to jump onto boat, give a push to the boat away from dock.

Docking the boat- preparation- bumpers out- bow line and stern line attached if staying at dock. Stay in boat until I say to get onto the dock- I will tell you if to get off at stern or bow and tie to dock.

Bow line and sand stake usage. Stay in passenger area until told to move to bow. I will be stopped and holding the boat in position. Unwrap rope from bow. Take line to a tree, rock or sand stake- Pull rope tight- wrap rope over itself, bring tie tag line to the boat and tie to incoming stream side of boat.

When leaving shore- wait until I start boat and tell you to release rope from cleat on boat. Take rope and untie from tree, rock or sand stake. Leave line on the ground and return to bow and wrap rope around two bars on bow. Bring bow step up and latch into place.

Anchor usage including zip ties- pin under bar at beginning of trip through hole end of trip

Step ladder use bow and stern- always up and locked by the pin when done

Try to keep sand out of the boat. Use bucket on deck to clean off your feet before entering cabin area.

When getting into and out of passenger seat- avoid hitting throttle and trim button on tower next to captain.

Trash lid use round tab to lift, not the flooring

Rescue things to do, both being rescued and rescuing others where to tie lines and throw lines, see those pages.

Know “throw bag” and pad usage for man overboard, see those instruction pages

Paddle and person grabber instructions covered

If get into the water let the life jacket hold you up, lie on your back and place feet in front of you raised up and float down river, nose and toes up, try for shore or another boat.

Show passengers where to get back on boat, explain the jet boat has no prop to hurt them.

Show how to use the push pole to keep away from rocks and pick up people in water

Fire extinguisher location and usage

Explain stick steer usage- push to turn right-pull to go left both going forward and in reverse, how to stop.

Show where Forward and reverse buttons, throttle are.

Explain how to use passenger windshield wipers-location of on off switch.

Boat hook up to trailer (to black line on trailer strap)

Trailer hook up to boat, safety chain

Everyone keep a look out for rocks, logs, sticks, weeds, sand and alert the captain, don’t assume he sees it.

Things can happen suddenly without warning, one must always be prepared to hold on. If thrown to floor, stay there until boat is under control.

Go over man overboard drill and getting rescued.

What to do if engine stops procedures.

Man over board water rescue Captain's preparation prior to launch - By Dennis Marguet Feel free to copy- 4-13-20

Perform the following prior to launch. Have a plan in place and prepare each person for his duties. Creating a plan now and giving instructions for the first time to those on board to assist in the rescue at time of rescue is not the most effective or safe way to perform the rescue. It is extremely difficult for you to pilot the boat and give instructions to the man overboard and the other passenger helpers all at the same time. Before launching, go over the plan with all on board. Remember they may need to rescue you.

It is not a bad idea to have your fellow boaters know and practice this same procedure, it might be you they are rescuing. For example do they have a throw bag and know how to use it? Don't assume they do.

1. Have the necessary equipment on board and everyone knows where it is and how to use it. Equipment should include a throw bag with rope, a pole to pull the person in the water back to the boat and push the boat away from rocks and a man overboard flag orange like water skiers use or a blue with white stripe.

2. Do a radio check prior to leaving onto the river.

3. Everyone needs to have a life jacket worn at all times and properly sized and worn ; the captain needs to do the inspection.

4. All passengers should wear shoes that tie or strap on like Tevas, no flip flops they come off in the water and are not safe to walk upon wet rocks or wet decks.

5. Have someone trained to operate the boat in case the captain cannot operate the boat, especially if you have a stick steer. Let him drive the boat to get the feel of it. It is like riding a bike with just your right hand, push forward to turn left and pull to turn right weather going forward or reverse.

6. Prepare all passengers on their duties prior to launch of boat. Have a run through and have people trained in multiple duties as one of the people will be in the water and won't be there to perform his appointed duties. See next section.

7. Decide which jobs for the people on board for man overboard. Doing it while it is happening is making a bad situation worse. Have each person trained for two jobs, remember someone will be in the water and that job will go unfulfilled.

Man over board! Passenger preparation- By Dennis Marguet Feel free to copy-4-11-20

People will feel safer if you do these steps. They will have more confidence in you as a captain because you take their safety seriously. Reassure them it is only a precaution. Even if passengers have been on your boat in the past, go through the complete drill. It should take no more than 10 mins. People forget after even a couple months of not hearing it or performing it. This includes your regular passengers and for yourself.

The person who has fallen into the water have actions they need to take, this can be another person from another boat.

1. Life jacket has to be somewhat uncomfortably tight; it may come off when first hitting the water and you will be picked up by your shoulder straps, if not tight enough the life jacket will come off when pulled up.
2. Instruct them to let the life jacket do the work and not fight it, don't try to swim to stay afloat, float.
3. Stay as calm as you can, the life jacket will keep you afloat, believe and trust it. Even if you are momentarily underwater, the jacket will lift you to the surface and place your head in the best possible position, even if unconscious. Staying calm will help you get to the water surface. Flailing your arms around you may be fighting against the life jacket and you do not want to do that.
4. Get yourself turned so your feet are facing down river, "nose and toes up", so your shoes will hit any rock and not your head. You can kick yourself off the rock when you first hit it. Plus you will be able to easily see where you are going and plan a route and action.
5. Get both hands free of <u>everything</u>; you want both free hands to aid in your rescue. Things can be replaced, people can't.
6. If you find yourself in a rapid, the safest thing is for you to float out of it toes up and out in front of you and get picked up at the bottom of the rapid. It is more dangerous for you and others for a boat to get into the middle of a rapid and try to rescue you, it is extremely difficult to maneuver a boat in a rapid which may cause the boat to sink or run over you.
7. If you can get to a quiet place on shore do so, but be careful of sharp and slippery rocks on the shore. Grabbing limbs or bushes can cut your hands. Don't exhaust yourself doing so unless the boat can't reach you, tired is okay. You will need your strength to hold onto the bags handle.

Jobs for people on board.

<u>Everyone</u> call out to the captain that someone is overboard and where they are in the water.

Have one person assigned to keep an eye on the person in the water while holding the orange flag or blue with white stripe flag high in the air. It will be that person's job to keep the captain informed of where the man overboard is at all times. The captain simply will have a hard time piloting the boat around obstacles, keeping an eye on the person's whereabouts, plus managing the rescue. This may be the person throwing the throw rope if only one passenger left on board, see below.

The captain will first radio to other boats of the man overboard situation with both the man over board and boats location, so all can be alerted to the situation and offer aid in the rescue and not run over the person in the water. Especially if they are below or ahead of the rapid the man overboard is headed to, as they may very well be able to reach them sooner. During the rescue the captain should update boats of the situation and ask for help if needed. Generally it is best if only one boat gets close to the man overboard; otherwise they just get in each other's way. Of the closest boats to the man overboard, generally the boat with sufficient people to help in the rescue is the best one to do the rescue, especially if only the captain is left on board and in or near fast moving water.

The captain will try to move the boat close to the person ending with the stern of the boat close to the person in the water. Explain to everyone this is a jet boat and they do not have to be concerned with a prop hurting them and this is safest place to be. The person in the water should do their best to get to the step ladder in the rear of boat. The steps need to be pointed out to everyone as some steps are in the middle or on either side of the swim deck.

Train everyone how to lower the step, but assign the task ahead of time. The captain will signal when it is time to lower the steps, we don't want two people in the water so be safe and controlled!

Someone on board gets the pole ready to aid the man over board to the swim deck of the boat or push the boat away from rocks etc., while the captain is moving the boat slowly and under control close to person in water. The person with the pole should be stationed near the stern of the boat, not the swim deck, if the boat is headed that way so he can alert the captain of any rocks near the surface and where the man overboard is in relation to the boat. The captain will want to position the stern deck close to the man over board so they can easily reach the steps and walk up the steps on their own power is best. Leave the swim deck clear for him to maneuver and get into the boat unassisted unless you know he cannot, we don't want anyone else to fall into the water. The person on the swim deck will at some point have the best chance with the pole to reach and aid in pulling the person close to the boat and holding him there. If they are unconscious, someone will need to be on the on the swim deck to pull them in by grabbing the shoulder straps of the life jacket with the face of the person facing away from the boat.

If the Captain cannot get close to the person safely, a throw rope may be necessary.

The captain will position so the stern of the boat is facing the man over board and keep it as steadily there without the use of an anchor, the boat needs to be free to maneuver quickly The bag thrower will position himself near the stern of the boat, he will want the area behind him clear so he can reach back and throw the bag as hard as he can into the air, throwing it like a baseball thrown from the outfield to the catcher at home plate with some arch to it, aiming past and over the persons head.

Throw bag.

1. Someone is appointed to man the throw bag, but train everyone. Be sure they know to put the rope loop over their hand and place it on their wrist to aid in holding onto the rope, (this method be a risky. If the rope gets caught on a heavy object, or the person being pulled in gets

caught in the current and is pulled away, so if you are smaller in statue, do not put the rope around your wrist you could be pulled into the water. Be prepared to quickly release the rope). It is the bag that is thrown and the handle on the bag is for the person in the water to grab. Make sure you're securely braced with feet secure before you throw. The bag needs to be thrown over the persons head. Do not put it in front of them. You need to allow the person to reach the floating rope. If it is thrown in front, the bag and rope will float way from them and they will end up chasing it which does not often work. It best that the person in the water does not chase the rope or bag too far. It is almost always a losing situation and it will lead to exhaustion. Because of their drag they almost certainly will not reach it, especially if there is any current. If it is thrown over their head it can float down to the person. It is best to aim the throw to have the rope drape over his face; the rope is light weight and won't hurt them. It gives them the best chance to retrieve the rope. Don't be concerned about throwing it too far, unless it will hit some bushes or rocks or the like and the bag get stuck there. The man overboard must reach for the rope and hold onto the bag handle only once he pulls it to him.

2. If it needs to be thrown again, the bag thrower does not need to pull in the rope and stuff the rope back into the bag. Simply gather all the rope into loops being careful not to cross the rope over itself. All the rope needs to come into the boat for two reasons, one the drag on the rope while in the water will shorten the throw and the rope can end up in the pump and stop the boat. When ready to throw, fill the bag with water to give it needed weight and throw it quickly.
3. The person in the water needs to pull the rope and bag to himself, don't expect the throw to be perfect. Hold onto the handle on the bag once in hand, not the rope. Holding the rope is a good way to burn or cut your hand on the rope. Once that happens you will find it very difficult to hold onto anything to get help in being rescued. Don't wrap or tie the rope to any part of your body.
4. Once the person in the water is ready to be pulled towards the boat, they call out to the boat. They wait for an okay that both the captain and the rope puller are ready. Once the captain has the boat in as steady a position as possible, the rope puller can start the pulling of the rope.
5. First the rope puller pulls most of the slack out of the rope, not tight yet, you may pull the rope of his hands. The person in the water will need a little slack to perform his next maneuver.
6. With hand firmly holding onto the bag handle, the man overboard turns around with his back towards the boat and puts the rope over his shoulder and on the lifejacket shoulder, not next to his neck or shoulder, but on the jacket. This position will prevent neck burn and the rope falling off the shoulder and turning them around. Hold onto the handle of the bag with both hands tight, it is best not to have to re-throw the rope. You will be floating and the current will push you down river and we don't want you to have to float through another rapid while waiting to have the bag thrown once again.
7. When ready, signal the rope puller to pull you in. Steer by kicking your feet so you don't get turned around. This will aid in you being pulled in as well. If you go face forward, water will be pushed into your face and it is harder to pull you in as the life jacket front will drag in the water. You may need to stop and start a couple times until you get the hang of it, call out to the boat to stop getting pulled in if you need to reposition.

8. The rope puller should let the man overboard know how close to the boat they are getting. Alert them when it is time to turn around and face the swim deck. The man overboard should not let go of the rope bag until firmly ahold of the steps or swim deck. Before climbing the steps he needs to get rid and away from the rope. You don't want to get tangled in the rope going up the steps or on the swim deck.
9. The rope puller needs to immediately pull the rope into the boat to be sure the rope does not end up in the pump and stop the engine.

Once on board, check for injuries. The captain radios to the other boats that the person is on board now and he can let people know the condition of the man overboard.

How to properly stow rope in the rescue throw bag

Always get the deployed rope back into the bag ASAP so it's not an entanglement hazard. To properly stow the rope in your throw bag, start by having the rope stacked behind your back with the rope dangling over your shoulder with the bag in front of your stomach. Hold the bag open with your lower three fingers and feed the rope into the bag with your thumbs and index fingers. It looks awkward, but with some practice the stuffing goes pretty quickly. This technique puts the coils one on top of the other, ensuring a smooth, tangle-free release. Leave the end loop of the rope outside the bag, cinch up the draw cord with the barrel lock and secure the top strap through the rope loop. You don't want the loop end of the rope that the thrower is holding to be inside the bag or tangled in the balance of the rope, but on top.

I hit a rock and put hole in boat, taking on water, what to do? By Dennis Marguet: feel free to copy 4-12-20

After hitting a rock that puts a hole in the boat and it is taking on water-what to do.

1. Keep moving if you can and head toward a good place to land. Being on plane and moving can actually suck out water from the hull depending upon where the hole is.

2. Turn bilge pumps on.

3. The boat may start proposing, this will be due to water filling the stern of the boat. Redistribute people to counter balance water coming in. Keep enough speed to keep boat on plane.

4. Tell everyone what is happening and the plan. Make sure life jackets are on tight. If water is coming in quickly enough to sink the boat, prepare passengers to abandon the boat. (Nose and toes in the air, feet down river, head for shore). The boat can hold a lot of water before it sinks as long as bow or stern does not dip into the water.

5. If someone can put a towel and hold it over the hole to slow water intake do so. Only a passenger should do this. If alone don't spend any time doing this, get to shore if you can. Immediately head to shore and tie your boat to the shore. Best, if you have a choice is to get the bow of boat up on sand. Boat can be slid over to move hole closer to shore, but you want to be able to drive away. If there is room, leave a spot for rescue boat to park next to you.

6. Secure boat to shore.

7. Get passengers on shore if they are not helping to make any repair. You may need to reassure them, they will be rescued and that they are okay.

8. Keep bilge pumps working until all the water is out of the boat and no more water is coming in.

9. Call for help on the radio.

10. Start finding the hole, if not already found and make a plan to repair hole getting it filled.

Once on shore and tied off. Now is time to get hole repaired. Locate the hole, this may mean taking the floor off. Then get the boat into a position where water is no longer coming into the boat as fast or not at all. Use the saw to cut tree limbs to create a lever to lift the boat. Place logs to hold boat up enough to work on the hole or get it out of water. You can use wet logs as rollers and the come-along to pull boat up on shore to work on it.

If the hole is too large for "stay afloat" or steel wool mixed with epoxy due too much coming in, get a piece of metal or wood to at least partially block the hole and use the product "stay afloat" to the fill the rest. Stay afloat fills a pretty large hole. (Hopefully you have familiarized yourself with the product prior to now)

Getting stuck on a sand/rock bar things to do-By Dennis Marguet 4-11-20 free to copy

If you run onto a sandbar, keep going, make turns to get off, you don't want to get stuck there. Remove sand from sand trap immediately after passing over sand- check for water flow into heat exchanger before continuing, keep eye on engine temp.

1. Once stuck, turn off the engine immediately. You don't want to suck up sand and or rocks thru the water intake and damage your jet pump.
2. Be sure all passengers have their life jackets on tight. Many people loosen their jackets once under way.
3. Tell passengers not to jump overboard, for now safest place in on the boat, it is not sinking. The river current can be deceiving and the water can be very cold.
4. Throw out your anchor until ready to get off the sand bar with the help of rescue boat.
5. Radio for help.
6. Avoid the temptation to jump overboard and push it off the sandbar. The current can be strong on the sand bar and there is many times a sharp drop off putting you into the strong current and away you go.
7. If at all possible wait for rescue boat to pull you off.
8. Have rope prepared to give to rescue boat or receive the rope from them. DO NOT attach to railing. You risk being pulled over or under the water. Tie to back of transom or under the bow of boat to the "D" ring you use to tie the trailer strap to depending how it will be best for the rescue boat to pull you off. The rescue boat should never attempt to dislodge from downstream position, tow boat can get swamped as the rescue boat will tip towards the water once he puts power on to pull you.
9. Look over the situation and prepare possible plans and dangerous spots for the rescue boat to avoid for when rescue boat arrives.
10. Some boaters travel often on shallow rivers and many of them carry a large drift bag or parachute to use the nearby current to pull them off the sand bar. Some have a handy man jack in their boat.

Safety is most important while working under these conditions. If anyone is in the water working on the boat, he must have a life jacket on. Never get under a boat that is not securely in place, the current can work slowly to push it down. It is best to get any hole repaired from inside the boat anyway. Discuss many plans to arrive at the best one before taking major steps. Be creative if need be. Bushes along rivers have surprisingly deep root systems, if no tree or very large rock is available to pull against try a nice size bush.

Tools on the boat to have for these situations:

1. Come along cable puller
2. 50-100 feet of rope to tow boat with
3. Throw rope in bag
4. Crow bar

5. 2 pound hammer
6. Hand saw to cut tree limbs and create tree logs. Get them wet and you can roll the boat on them. With the right size limb you can use it as a lever to push the boat off the sand bar.
7. “Stay afloat” emergency leak plug and sealant-Instantly stops water leaks
8. Clump of steel wool and epoxy that works when wet to stick into hole.
9. Tools to pull up floor in boat to reach the hole.
10. Shovel
11. Handy man jack

Logs and debris are hard to see- By Dennis Marguet 4-12-20 Free to copy

Always look for things that are moving that are not water and avoid them.

Logs for the most part float with most of its body below the surface, sometimes at or just below the surface if they have been the water time enough to get water logged. There can be entire trees to more often broken off limbs. They are not brightly colored and shadows can make them even more difficult to see. This combination makes logs and sticks hard to see. Unlike rapids that are formed by rocks that show themselves with waves and the distinguishing “V” which can be seen from a long distance, floating logs and sticks can give no early warning signs. They float with the current and if the water surface is calm, they won’t be bouncing up and down enough to see from a long distance. In rough water they can be held under the water caused by the wave action.

Spring time, or after a big storm or snow melt is when logs and sticks are most prevalent in the water, but they can appear at any time of the year.

Small wood chips can accumulate in eddies. These can easily enter your jet pump. For this reason you should avoid these accumulations.

Also there can be bushes ripped from the shore that can appear suddenly in front of you.

Moss can gather and create real problems clogging up your jet intake, never idle over moss, keep moving and stay away from moss.

In the ocean there can be anything out there at any time.

Even deer crossings are difficult to see because only their heads stick out and they are crossing the river not floating towards you. A friend just missed two by a couple feet that were crossing in his path only seeing them at the very last moment. This was completely unexpected.

I once had a large piece of plastic get sucked up and covered the intake grate opening stopping all water from getting into the jet. I lost all the push from the jet, luckily I had an air activated stomp grate that cleared it enough for me to regain some power, enough to get out of the rapid.

Weeds below the surface can be sucked up into your grate and cut all power very suddenly.

Small rocks from a sand/rock bar or shore that you run over can also clog your grate.

A stomp grate and or grate rake is a must have on your boat.

Due to this challenge you must keep an eye on what is directly in front of your boats direction of travel at all times. Keep your eyes scanning your forward path near the boat to spot anything that is moving that is not water and avoid it, don't be looking only for rocks. Have your passenger be on the lookout as well. Be sure to tell them not to assume you have seen it and tell you every time they see something. Instruct them to tell you what it is, its distance and position to the object, i.e. log 20 yards at 10 o'clock. You need all three to find it quickly.

An added benefit is this keeps them involved and makes them feel as a part of the team rather just being along for the ride. You will also find they are more quickly willing to do other things as well, such as manning the radio, tying bumpers onto the boat, whatever needs to be done.

How to remove a stick/fishing line from jet pump 4-12-20: By Dennis Marguet feel free to copy.

When your boat suddenly loses power and your engine gains rpms and there is a rumbling/shaking coming from the stern of the boat, you more than likely have something stuck between jet impeller and the housing. It does not take much of a stick. This is common if you were in slack water or on high water after a rain or snow melt. You may also get fishing line wrapped around impeller at any time or place. Don't keep revving up your engine if this occurs.

A clogged grate will cause loss of power, the shaking and rumbling may not be there. Use your stomp grate or grate rake to clear the intake. If that does not do the trick try below.

First you want to try to get whatever is there to remove itself.

1. Head up river, hit reverse and back to forward several times, then try to move ahead. Doing this often will remove the stick.
2. If it does not work, turn your boat downriver. Stop your engine for 1-3 minutes. Restart engine hopefully it is clear now.
3. If that does not work you will need to remove jet pump inspection plate. It is best to first get secured to shore with the stern up on shore or in very shallow water. When you take off the inspection plate, water will rush in. If you do this in anything but shallow water there is the danger of sinking the boat.
4. Prior to leaving on your trip you should have a proper size speed ratchet wrench (speed counts here), knife (not too big, it needs to fit into inspection hole) and extra nuts in an easy to reach location. Have them with you when you remove inspection plate. It is easy to drop a nut and you don't want to be searching for it with water rushing into the hull where it can get washed away. This is a good thing to practice while boat is on the trailer.
5. Have bilge pumps turned on. Have plenty of room to work. Have a place in mind where nuts can rest safely and within your easy reach. Things happen quickly now.
6. Remove the two nuts, when the nuts are first released water will pour out very quickly. Quickly remove the nuts while holding down the inspection plate as best you can.
7. With the inspection plate off you will need to quickly stick your hand deep into the opening. Feel around until you find the stuck stick or fishing line and pull it out. You will be doing this with water rushing out through the hole. Pull out the stick and quickly reinstall inspection plate. If it is fishing line and not a stick, grab the knife and cut the line so you can pull all the line out in pieces. You won't be able to pull it off; all that does is wrap the line tighter to the impeller. Be sure to get all the pieces cleared out; reach in as deeply as you can, not just off the impeller. If left in they will wrap themselves once again.
8. After inspection plate is installed, wait for water to be removed from boat and bilge pumps have stopped before moving on.
9. Test pump, if it still does not work you will have to repeat the process. Sometimes you will have fishing line still in there wrapped tight. It's very important to remove all fishing line.

My engine has stopped and I need help! By Dennis Marguet Feel free to copy-4-12-20

What is a captain to do when he suddenly loses power? What are his passengers to do? Hopefully all of that was discussed before launching.

Equipment needed on board; kicker motor, CB and or vhf radio, tow line, bucket to hold that line, stout sharp knife, gloves and push off pole.

Captain:

Prior to launching:-It is not a bad idea to know your running partners are tuned into this.

1. At all times have a line/rope strong enough to endure the load of your boat being towed and long enough, 50 feet minimum attached to the bow of the boat where you hook your trailer strap to, not the top of bow. If you do it on top, you run the risk of the bow being pushed down and water coming in over the bow into your boat and risk sinking. The tag end of the tow line needs to be brought into the cab of the boat while under way. This provides easy access to the rope and is secured so the rope does not fall into the water when underway. Having it attached there before launching eliminates the time necessary to get the rope attached in an emergency. You will know it is in its proper place. You don't risk someone falling in trying to attach the rope or attaching it to the wrong place. This rope can also be used to tie off to shore.
2. Once the rope is attached properly and on board, it needs to be stored where it won't get tangled with things on the boat or with itself. A hard rubber bucket can be used for this purpose. Be sure to load the rope into bucket so there are no tangles and the end of the rope will flow freely out of it. You do this by stuffing the rope into the bucket starting with the end of the rope that is nearest where it is attached to the bow going in first, not the tag end. Continue to stuff the rope into the bucket one pull at a time. Don't dump the rope into the bucket; it will almost for sure tangle when pulling it out. Have the tag end of the rope hang outside the bucket, if it gets into the bucket the opportunity for creating a loop or tangle in the rope is high.
3. Have a sharp stout knife at hand to cut the tow rope in case of an emergency, you don't want to be sunk when being towed as you will never be able to unhook the rope by hand.
4. Have gloves to use when handling the rope near the rope bucket. Cut-burned hands are useless.
5. Train individual on how to operate the long pole on board to push the boat away from obstacles.
6. Perform a radio check with everyone along on your trip.
7. At launch start your kicker motor and warm it up. Be sure the gas line has the air out of it and gas fills the line.

Passenger assignments and training.

Everyone should be trained on how to use the rope, but have one person assigned to man the tow rope. Have him be the person who attaches the rope to shore as well so he becomes very comfortable working with the rope and stuffing the rope back into the bucket.

Train them on how to get the rope to the rescue boat. The key is throwing the rope over and past the boats middle so someone on board has the time to get it. A trick is to tie the rescue rope to an extra life jacket, this gives needed weight to the rope and it prevents the rope from sinking should it not be received by the other boat.

If you have run out of gas and both the engine and kicker won't start, throw out your anchor line to stop the boat from drifting into rocks or into a rapid. Wait for a rescue boat and prepare to be towed. See next chapter.

Getting boat rescued in an emergency By Dennis Marguet feel free to copy 8-23-20

You should be sure your running partners know this procedure prior to launching. Not teaching them what to do in this situation could easily endanger both parties. It is difficult enough taking charge of your people let alone the rescue boat. Remember it is your boat and passengers they are rescuing. Or if you are rescuing someone and they don't know what to do, that can even be worse for everyone.

Captain duties in this order after attempting to restart your engine and your kicker motor: If both won't start throw out your anchor to stop the boat from drifting.

1. Be sure all passengers are in a safe position out of the way of people performing their jobs and have their life jackets on.
2. If damage is due to hitting a rock, check for injuries, calm the passengers, turn your bilge pump on and check to see if it is pumping water.
3. Have the person assigned to man the pole to push the boat away from rocks etc. Ideally this would be his sole job to man the pole, prepare it and he pays attention to only keeping the boat away from rocks etc.
4. Radio your position so someone can come to your rescue. Confirm that someone is coming. If you have enough people have someone assigned to the radio so you are free to do other things.
5. If possible use your kicker motor to power you out of trouble. This is now your primary priority. Get to shore if safely possible and tie up to shore. You don't want to drift into a rapid with no power or only your kicker to control your boat or if taking on water, sink your boat.
6. Once tied on shore, work on your boat then.

If rescue boat is needed to tow you due to not being able to get to shore:

The captain is in charge and directs the rescue. Alert your people to get to assigned positions and ready themselves for the rescue boat.

Put rubber bumpers out if there is time.

It will be best if you do not have to throw the rope too far to the rescue boat. If possible wait for the rescue boat to get close, even hand off the rope if safe to get this close. This is all situation dependent.

Once the rope thrower has his gloves on, he should first position himself so he can throw the rope without falling in and not getting his feet tangled in the tow line. He will need room for the rope to be in front of him on the floor. Dump the bucket upside down; the line will fall with the rope in proper position to allow the rope to pull away freely. Then lay it on the floor in front of his feet in a neat pile in such a way it will not get tangled in peoples feet or any on board equipment or loop itself. The rope is a slip and fall hazard if stepped upon and if his feet get tangled in the rope he risks being pulled off the boat by the rescue boat or wave action, so keep some clear space to move his feet. Once the rescue boat arrives and positions himself to tie up, both boat captains need to confirm they are ready for the rope. The rope thrower then estimates how much rope is needed to reach far into or beyond the rescue boat. He then pulls that amount off the floor. He then will pick up the rope on the floor and form loops

in his throwing hand until he reaches the amount of rope needed to reach far into the rescue boat. If using a life jacket for added weight should be tied on at the tag end. While holding onto the gathered loops in his throwing hand prepare to throw the rope use the non-throwing hand to hold onto the rope below the loops so it does not fly free once thrown. Once the rescue boat confirms it is ready for the rope, throw the loops with a wide side arm action, not overhead, in an arc over the head of the person to get the rope on the rescue boats stern. Do not allow the rest of the rope out the boat yet; continue to hold onto the rope to prevent it from falling into the water just now. The excess rope can get sucked up into the pump and stop everything. If that does not do it, one can tie the rope to a spare life jacket which will give it weight where needed to get a good distance throw and keep the rope from sinking in the water.

The rope thrower will give the rescue people enough rope to work with but kept away from the stern of the rescue boat. They will pull the rope as needed under control and out of the hands of the thrower. The rescue boat will attach the rope to their stern. They don't want the rope on their deck once attached and the rescue boat is underway, but in the water so they do not get pulled in the water or the rope to tangle on their boat. The thrower needs to keep enough slack out of the line to prevent it from getting under the rescue boat and into that boats intake, yet loose enough to be pulled out of his hand by the moving tow boat. Do not grasp firmly onto the rope, which is a good way to burn ones hands or worse. Neither boat ties off the rope to a cleat or ring. Towing will chinch the rope extra tight. Each should use the cleat to hold the rope and a person holds the tag end so line can be released quickly.

The rescue captain confirms with the stalled boat that it is ready to be pulled. Once the rescue boat is slowly under way and the slack is taken out of the rope, the thrower releases the rope to allow the boat to pull the rope out of the balance of the rope, yet keep out too much slack in the water. If the rope was put in the bucket properly the rope will freely come out untangled. But both the CB person and he must be prepared to alert the rescue boat to stop if a tangle does occur. It then needs to stop to clear the line of any tangles. Good clear communication between the two boats is essential.

Once the rope is all out, it is best for everyone to be out of the bow area. Someone needs to be assigned the duty of having the knife readily available and he is to cut the tow line in an emergency by orders of the captain.

The pole holder needs to be prepared to push away from obstacles.

Captain of disabled boat starts kicker motor so it can be used to steer and control the boat, even using reverse to help brake the boat. Let the tow boat tow you, you want the tow line tight, pushing with your kicker motor will create problems. Leave it running in neutral until needed to steer or brake the boat.

At this point the captain alerts the rescue boat and passengers he is ready to be towed.

The boat towing the disabled boat should be sure boat being towed is back far enough to be behind the jet wash and into the wake vee, this helps the towed boat to follow the towing boat.

Don’t allow the tow rope to get into either boats grate. The towing boat may need to turn sooner so the boat behind him can make the turn.

Once you reach your destination, the tow boat captain will confirm they are releasing the tow line when the disabled boat is ready.

Hopefully you are able to be pulled to shore or a pier or you can use your kicker to get to final resting spot. The rope thrower needs to be prepared to quickly pull the rope in all the way into the boat, completely out of the water. That rope will be needed to tie onto shore or the pier. It may be needed by people on shore who will pull you to shore. If that is the case, the rope needs to be tied to the boat and the rope thrower needs to be away from the rope. He does not want to be holding the rope when the boat is being pulled or tied to shore.

Repairs to get going: I am not a mechanic but here are some things I have learned along the way.

Normally, there are three areas that cause engines to quit: fuel, electric or overheating.

Fuel:

Common problems are being out of fuel, water in the fuel, the fuel line itself or the fuel pump quit. Prevention is the key here; learn how far your boat can go on a gallon of fuel. Figure in gallons per hour and per mile. Both are just estimates, at best. Many things contribute to fuel consumption; how fast you are going, going up or down stream, the number of rapids and their size/difficulty and boat load to name a few. Don’t let your fuel get below ¼ full.

Fill the gas tank with more than you need for the day. You may need to carry extra gas. Learn your boat’s rpm level for best fuel economy. Fuel burn rate goes way up the higher the rpms are over that sweet spot. For example, my fuel burn rate on plane runs from 10 gallons per hour and increases to 44 gallons per hour at max rpms.

Purchasing high grade non-ethanol fuel can prevent great deal of problems. The price difference is worth the trouble it will save in the long run.

1. Out of fuel. All you can do now is get some delivered to you. A few captains carry along a hose to siphon fuel from one boat to another. I never like to be below 1/8th of a tank (1/4 is better) as fuel sloshes around and the fuel can be pulled away from the fuel pump pick-up location by the boats position which is constantly changing with the ups and downs your boat does on the river.

2. If you have lots of fuel and the engine fails, many times this can be the fuel pump quitting. Check the electrical wires for a tight connection and for corrosion, especially the ground wire. Test by direct connection to battery. If no good, hopefully, you have an extra on board.

3. Check the fuel filter to sure it is clear, if clogged, a spare can save the day.

4. The engine may be starving for air, check the air filter.

Electric:

Jet boats get bounced around and that can lead to loose wires. This is why it is important to check your wiring before each outing. Also, corrosion can be a problem. In addition to the fuel pump and filter, I carry a volt meter, spare starter, fuses, relays and circuit breakers for everything that requires one. The location and what they are used for are clearly marked.

1. Use your meter to check fuses, etc.

2. Check for loose wires on your battery cables and that they are corrosion free.

3. Check the grounding wire connection at all grounding points.

4. Check for loose broken wires coming off the engine.

Overheating:

1. Turn on your heater. If the engine gets too hot, the engine computer will shut it off until it cools down. Let time pass for this to occur.

2. Check your sand trap for a free flow of water to the heat exchanger.

3. Check the coolant level for level and temperature. Let engine cool. Use gloves or a rag to prevent burns to your hands, slowly crack open the cap to allow hot air to escape.

4. There could be debris in the heat exchanger. If this is the case, pull the ends off and remove the foreign objects. I carry metal rod narrow enough to fit into the holes so it can be rammed into each pipe and clear any debris stuck there. It is not uncommon for small rocks to get stuck there and block the passage of water.

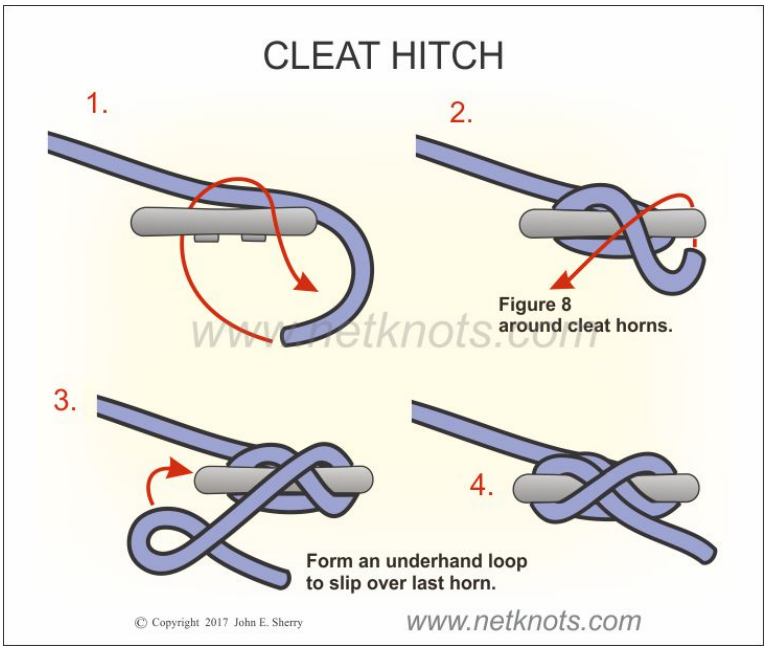
How to tie off to a boat dock cleat By Dennis Marguet 9-20-19 feel free to copy

There are two ways to accomplish this based upon the type of end of the rope (mooring line) you are using, a straight tag end or a spliced loop end.

To tie off with a straight tag end of the rope use the cleat hitch knot.

Cleat Hitch Knot Tying Instructions:

1. Take a turn around the base of the cleat, and then bring the line over the top of the cleat.



2. Wrap the line back under the arm of the cleat opposite the first turn, then back over the top of the cleat.
3. Wrap under the first arm a 2nd time and then back over the top of the cleat. You have now made a figure eight pattern over and around the cleat. Now form an under hand loop and slip that loop over the arm of the cleat, which pins the free end under the last wrap.
4. Pull the free end tight and you have the neat, tidy and secure Cleat Hitch.

This is how to tie off with the spliced loop end of the mooring line to the boats or docks cleat.

First, insert the loop through the open base of the cleat.

Next, bring each side of the loop over the cleats shank. This will provide a secure tie up to the boat cleat.

Launching a boat at a ramp and a dock: By Dennis Marguet Feel free to copy- 4-12-20

Electric brakes are best for your trailer. Surge brakes can cause many problems if going downhill a lot. Plus you can engage the trailer brakes from inside the tow vehicle without touching the vehicle brakes which is very useful if the trailer begins to sway while being towed.

Getting ready to launch done prior to getting in ramp launch lane.

1. Best to have a vehicle driver, 1st mate and a boat captain. But one person can do it.
2. First prepare boat fully before getting into launch lane. When loading a boat think about load distribution, including people in the boat. Too much weight in the stern will effect getting on plane and if too much it can cause proposing, (if you start proposing, check to see if you are taking on water). Use your checklist. Windows clean, bumpers out, bow line attached with tag end inside boat cabin area and stern line ready to attach to dock, key in ignition, battery switch turned to both batteries, engine cover up and blower on, sand trap empty and closed, life jackets with passengers or within arm's reach of passenger (it's the law), life jackets checked for fit, proper shoes on passengers (no flip flops), cb radio on channel 12, do radio check if possible prior to getting into water, turn ignition key on but do not start it, listen for fuel pump and bilge pump, lift outboard motor up out of water and in locked position, if you have tr1 power it up, throw rope on railing, power on fish finder, check for plugs in transom, live well ready to go, anchor ready to go, fishing poles and net in holders out of the way, deck clear, load food etc., transom straps released, safety chain on bow released, leave strap attached to bow, you will release it once at the water's edge. (Backing down a slopping ramp the boat can slip off the trailer, it happened to me). Passengers given orientation (use checklist) and trained in what to do in emergency and man overboard. Only need to unhook trailer lights if they are not water proof. Driver of vehicle knows how far to back into water and the signals you will give for backing up further, doing it over again, stopping, if you need to talk with him and when you are free of trailer and under control of boat and he can drive away, not until the signal, i.e. honk horn once or twice (it has to be loud enough for driver to hear, shouting usually does not work well, hand signals don't work well either). A 3rd passenger standing near the ramp and truck can relay messages to the vehicle driver as well and he can see what is behind the boat which the driver cannot see. I like the boat horn as there is no confusion. It can get loud at a crowded ramp. Everyone has their life jacket (people have fallen while attempting to get in the boat, especially loading from shore) also it is adjusted to fit and checked by captain prior to getting on boat, the captain is too busy once in the water to do the check. Discuss plan on where you will tie up and passengers can load.

Launching from ramp

1. When boat and passengers are ready to go, get in line to launch boat, be sure to leave room at top for a vehicles returning up ramp to exit if they arrive first.

2. Get into 4 wheel drive low when backing down ramp, it helps keep you going straight down the ramp and you will have the front wheels to pull you when your rear tires are in the water or on a very slippery ramp surface.
3. When a lane is available, back down ramp in your lane even if no one else is there, people show up unexpectedly thus allowing others to use the other lane. It's a good idea to have someone walk down the ramp with the truck. That person needs a full view of behind boat, the driver cannot see behind the boat, this will help keep him in one lane, warn if someone gets behind boat and let him know when to stop when he has gotten to edge of water. Remember if the person walking down the ramp cannot see the drivers face in the rear view mirror, the driver cannot see him. Once stopped at water's edge, unstrap the transom straps and extend boat strap on bow, do not unhook it yet. Captain into the boat at controls and person helping captain at the dock. Everyone has life jacket on that are already on board or at the dock.
4. Vehicle driver backs trailer into water to predetermined position, i.e. water covers trailer fenders. Before backing off trailer start your boat engine. Check to see if water is coming into boat, then close engine cover and turn engine blower off. Have helper go to front and un-hook bow strap. The reason you do this now is you don't want to be floating away from trailer and have something major wrong. At the least your boat will be on the trailer.
5. Back off trailer. Go slow you don't want to rock other boats with waves. Tie up to dock or shore, complete radio check if not done prior to launching. Let engine warm up while vehicle driver goes to parking lot.

Returning to ramp: first you want to raise your kicker motor, have lines for securing to dock in place and bumpers out on the boat prior to arriving at shore or the dock.

Drop off vehicle driver on shore or the dock.(he should know how far to bring trailer to rest in water after he gets entire trailer beds wet), again passengers do not get off until you say so nor sit on bow while underway. Passengers can off load as well, it's easier to do here than get off of boat once on trailer. One person can hold you next to dock or shore until you are ready to leave that position. Wait for your trailer to arrive at water's edge prior to getting in lane. Be out of the way of other boats arriving or leaving ahead of you. Be sure vehicle driver engages emergency brake prior to you driving up onto trailer. He should also leave car running.

Once boat is on the trailer and properly seated, try to get the bow onto the bow rack using the engine to push it up and on to it. Have someone attach the trailer strap to bow ring and wined in the strap to the position marked on the strap that indicates it is properly on the trailer.

Now pull boat out of the water and drive out of the lane to let others use it. Once there put on safety chain, tighten transom straps and remove plugs to drain water out of the boat. Water will be in the boat even if you don't have a leak as waves coming over the bow will settle inside the boat.

Tying off to a dock

Bumpers out before attempting. Have the rope to the bumper already tied to proper length so it a quick action to get them on. Use 3/8” three strand twist nylon bow and stern lines, it is less likely to snag and it is cheaper. Braided nylon is dresser and easier to handle but snags easily on splinters at a dock. Each dock line should be at least two thirds of the length of the boat. The eye on transient dock lines generally goes ashore so you can adjust the lie of the boat from on board. Twelve inches is a good eye size, making it easy to pull the line through the eye of the cleat and form a loop around the cleat. Have bow and stern line at the ready prior to arrival. Tie to dock with rope forward and stern of the boat, not perpendicular to boat. Best if you have another person to help with the lines due to the boats movement due to no neutral in a jet boat and the effect of the wind and any current. Keep engine running so you can maneuver quickly if need be. It is best to tie off without any slack in lines. If leaving the boat for a long time, tie lines from 1/3rd of both stern and bow. Pull the stern line towards the bow and the bow line towards stern in a crossing pattern. This locks the boat in place. Remember the lines will stretch, so go back and check on them later. Be sure bumpers don’t ride up out the water and up over onto the dock. If this happens there goes the side of your boat as the boat will be free to move.

When docking with current or heavy wind, drive into the wind or current, so when you park the current or wind blows you away from the dock once tied up, otherwise you will constantly get pushed against the dock and bumpers have a tendency to get pushed up onto the dock thus scratching up your sides. Approach at a 30-40 degree angle and once at dock location go in sideways (see below).

How to go sideways: The key learning piece is how much momentum to have. Approach the dock at about a 30- 40 degree angle. A few feet before contacting the dock go into reverse and pull the back end towards the dock enough to put the boat parallel with the dock. The right momentum will carry the boat on up to the dock even if bucking the wind or current. Use enough forward or reverse to keep the boat from travelling along the dock.

Complete securing the boat for travel. I leave plugs in until I reach my destination. If stored outside the drain plugs should remain out to allow rain water to drain.

Tying to shore by Dennis Marguet 5-13-20

If parking with other boats close by, put out bumpers on both sides before getting there. Come in down current from another boat, so you don't get pushed into the parked boat. Come into shore where there are no rocks for bow to hit from wave action. There needs to be a place to tie off to, a tree, strong bush, big rock or a place to put sand stake. When coming to shore, no one on the bow (I have never needed to be tied off immediately). Have person who is to tie you to shore at the ready position with rope at the ready and sand stake and hammer within reach, approach slowly but with enough momentum to run bow up a bit on shore, but still up enough that it won't bounce off the shore. If tied properly to shore there is no need to drive way up on shore. Keep engine running until tied to shore. Take into consideration the current and wave action that will affect your boat once parked. If boats drive by, their wake will push you more onto shore, move you to the side or make you come off shore. If you come too far up on shore, that can put your grate too close if not on sand or small rocks. When you leave, it can make it difficult if not impossible to pull away plus your grate can fill with small rocks and the sand trap can fill with sand stopping the engine. Sometimes when coming to shore with other boats, the wake from all boats will raise the water level on shore and this will put your bow more up on shore when water calms, thus your stern will have less in the water, making it difficult to back off. If staying on shore for a long time, the changing water levels can leave you stranded on the shore or release boat from shore because water has risen up, especially in Hells Canyon. If parking overnight use anchor bungee. Continually check your boat to be sure it is secure and not too far up on shore or off the shore. When you tie off, use a truckers knot to secure your boat, this allows a quick release.

When coming to shore, no one on the bow, it is too risky, You may need some extra speed if fighting current to get to exact spot you want, which may force you to hit reverse once you hit shore and throw that person off the boat.

Tying off to shore: In this situation you don't want a lot of stretch in a line, so use polyester. When tying off to a rock, be sure it is a big one, the rocking action of the boat will pull the rock loose if not big enough (foot locker size or larger). If tying off to a thick bush, keep the rope low on the trunk of the bush, it is strongest there. Wrap the rope over itself once before tying off, this helps to prevent swaying. If using a sand stake, and boat is getting bounced around a lot, it can pull the sand stake loose, keep an eye on it. A sand stake should be over 10 feet from boat. Too close and it gets pulled loose. Tie rope at the bottom of stake, all the way to the ground.

This sand stake is easy to install and easy to store. To install, simply drive the tubular handle downward to deliver the spike blade into the shoreline. Once the Spike is secure, tie it off to the lower ring. Retrieval is just as easy: Tap the tubular handle upward to free the Spike from the shoreline.

Wind and the rivers current can push your boat around. When parking and leaving the boat you will need to tie a rope to the side that is getting pushed on the upstream side. Tie it off tightly to shore, remember the line will stretch from the boat rocking. Try to find an eddy, there is much less current there, avoid whirl pools. If you can't park in an eddy, you need to take into account the rivers current will be pushing you as you come in. The same if it is windy. If there is a strong current, it is best to have someone at the ready (not on bow) to jump off and tie you to shore quickly. Tie off the side being pushed by the current first, you can keep the boat on shore by the use of your motor. If you have a tr1 for your outboard, you can use that to help keep you on shore.

Loading and unloading passengers from shore:

No one loads without a life jacket on. Drop bow ladder. They do not get on/off the boat until you are securely on shore and you give okay to do so. This is a good time to warm up engine. If no stomp grate, have the grate rake with-in easy reach before pushing off. Have engine running prior to untying from shore or dock, (last person may need to push you off shore), pull bow line tight all the way into cabin when closing the front window that will be enough to hold the rope. Leave the tag end of bow line within easy reach with rope put away so it does not tangle or create trip hazard. When everyone is in boat and sitting and it is clear of traffic back into water. Put bumpers back into boat. Check sand trap if launched from sandy shore before taking off, if parked over small rocky shore, activate stomp grate to clear grate.

Loading your boat onto a trailer in the current by Dennis Marguet free to copy 4-12-20

In loading boat onto a trailer from a river with strong current, park trailer at a 45 degree angle downstream to shore. Don't drop too far in, the top of the trailer fenders should show, just enough to allow boat to travel most of the way up the bunks. Remember it is the current that pushes the boat around so the less water running over the trailer the better. Drive the boat up stream, parallel to shore, being close to the trailer, turn into trailer when the bow ends at loading bunk of trailer, drive up with a little attitude, don't worry about hitting the trailer bow support, you can winch it up by hand.

Following is a discussion from mean chicken on this topic

UNLOAD DEEP, LOAD SHALLOW. Back in and angle slightly so you drive with the current, never put the bottom bunks in more than 1/2 way. Don't put your trailer so far in to the water !!!!! That is the key! Just put the very beginning of the bunks in to the water and drive it up after you put the nose in between the bunks let it settle a bit then drive up.
One other option that hasn't been discussed is to turn the trailer hard to as close to 90 degrees as you can as you put it in the water so you're driving into the current as much as possible as you load. Leave the motor idle at whatever speed is necessary to hold on the trailer, attached the bow strap, kill the motor...Voila!
Of course, this method depends on there being a very particular set of circumstances at the launch spot - the gradient has to be slight to put the trailer sideways and still be able to load the boat. There has to be room to jackknife your trailer. There has to be enough river downstream of the launch site to swing your boat in...
I have tried this, but have never gotten near 90 degrees and straight with the current. Like you said it is tough to find a place that you can do that for a lot of reasons. There is one area where I load the boat where I can get the trailer turned quite a bit so that I am facing somewhat upstream to drive the boat on to the trailer, but often then the trailer is not sitting level and the right side is lower into the water than the left side.
Of course, this method depends on there being a very particular set of circumstances at the launch spot. This is used on Payette river out of Horseshoe Bend The gradient has to be slight to put the trailer sideways into the water and still be able to load the boat. There has to be room to jackknife your trailer. There has to be enough river downstream of the launch site to swing your boat in...Get as near to 90 degrees and straight with the current facing upstream to drive the boat on to the trailer, but often then the trailer is not sitting level and the right side is lower into the water than the left side.

Sharp drop off ramps are always an issue. With 2 people available, back trailer in "very" shallow, place nose in the trailer, and slowly back the trailer down, keeping the boat in forward all the time. In current to load, it's imperative to be able to shift back and forth into forward and reverse. X10 on the EZE Loader bunks Web page (http://estore.ezloader.com/subcatmfgprod.asp?0=200&1=231&2=-1).

For me, fast water is no problem it's the swirly stuff that makes it tough. Back in and angle slightly, never put the bottom bunks in more than 1/2 way. Go slow; keep the boat straight in the current almost 90 degrees to the trailer until the nose is at the bunks. Turn and give it a little gas till the boat lines itself on the bottom bunks and drive it up. Once you're on the bunks keep the wheel pretty much centered and let the bunks guide the boat on.
In my experience it is important to make sure the trailer is not tipped to one side, make sure it is level in the water.

Loading boat onto trailer by backing up to a stationary boat:

This maneuver requires both a boat captain in the boat and a vehicle driver that knows what he is doing. Pull the boat to the center of the ramp and lightly tag the boat on the ramp.
Then back the trailer into the boat, it's not that hard to center the trailer to the hull. Once the trailer is centered to the boat, gently back the trailer into the boat using little or no throttle on the boat as the trailer lowers, the boat practically loads itself, and the boat almost guides itself.
Once the trailer is back far enough you can add a little throttle and you're done. Pull the boat to the center of the ramp and lightly tag the boat on the ramp.
Then back the trailer into the boat, it's not that hard to center the trailer to the hull. (Unless you're my teenage son)
Once the trailer is centered to the boat, gently back the trailer into the boat using little or no throttle on the boat as the trailer lowers, the boat practically loads itself and the boat almost guides itself.
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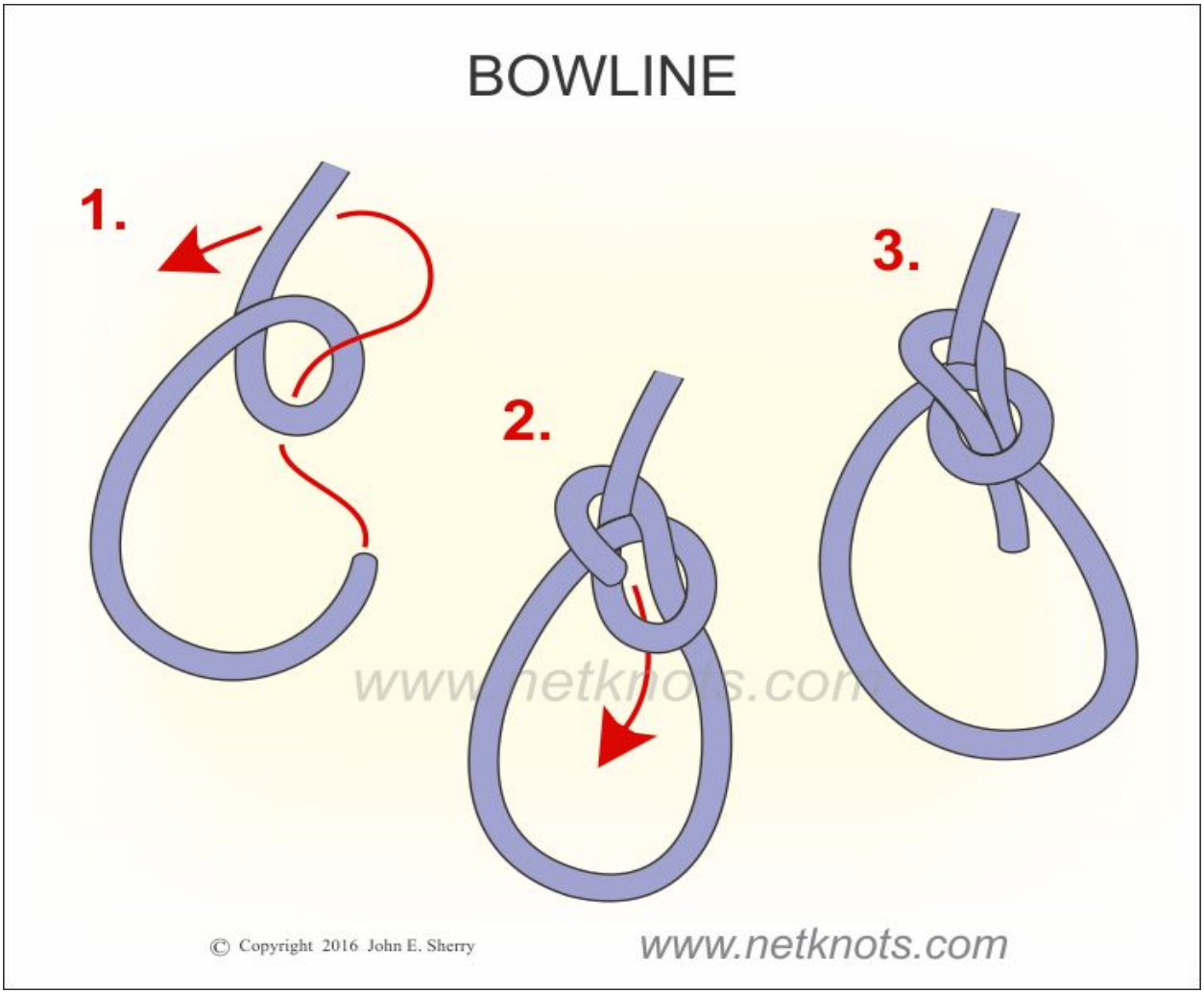
How to tie a bowline knot

The bowline creates a loop at the end of a rope that cannot shrink or expand.



Bowline Knot Tying Instructions

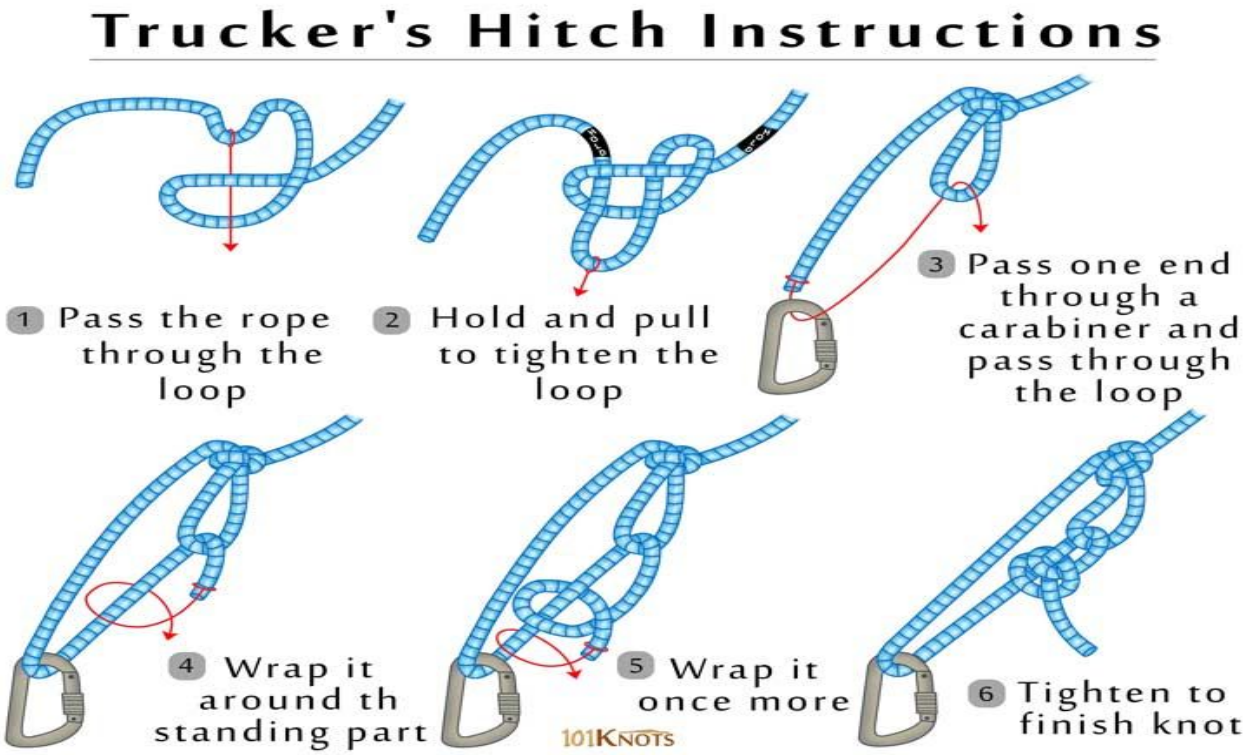
Lay the rope across your left hand with the free end hanging down. Form a small loop in the line in your hand.

Bring the free end up to and pass through the eye from the underside (the rabbit comes out of the hole).

Wrap the line around the standing line and back down through the loop (around the tree and back down the hole).

Tighten the knot by pulling on free-tag end while holding standing line-long line- Loading a boat in current by backing up

Use the Trucker's Hitch to cinch down a load and for tying boats to shore. This combination of knots allows a line to be pulled very tight. Probably the most useful hitch there is, the Trucker's Hitch allows a line to be pulled tight as a guitar string and secured and yet is easy to untie.



Trucker's Hitch Knot Tying Instructions

Tie/secure one end of rope to bow. Prior to the place where you are going to wrap the rope around (sand stake, tree, bush, large rock), on the rope tie a slippery half hitch to form a loop in the middle of the line. Be sure the loop part is formed and is tight with the slack part of the rope or it will tighten down on itself under pressure.

With the free end of rope make a wraparound to the fixed point opposite the bow such as a sand stake, tree, bush, large rock. Bring that free end back to the loop and pass the free end through the loop.

Pull back hard with the free end so the tie down will be very tight. Holding rope in place at the loop, secure the knot with two half hitches around one or both lines. (The rope will stretch after it is tied due the pressure of the boat pulling on it so you will need to visit it during the stay.)

When ready to leave, you can simply untie the half hitches, release the free end from the loop. Now pull on the rope attached to the bow and the knot will come undone with no other effort.

How to go sideways using with a single jet. 4-12-20 By Dennis Marguet Feel free to copy-

The key learning piece is how much momentum to have. Slow is your friend. Approach the dock at about a 30- 40 degree angle. A few feet before contacting the dock go into reverse under slow speed and pull the back end towards the dock enough to put the boat parallel with the dock. The right momentum will carry the boat on up to the dock. Use enough forward or reverse to keep the boat from travelling along the dock. If wind or current is present drive into the wind or current if possible, you don't want these pushing you into the dock.

RIVER HAZARD TERMS: 9-17-19

This list of river hazards is quite extensive.

CURRENT – Ever present flow of the water - from timid to turbulent –where volume, channel width and gradient (see definition below) all affect the characteristics of a river. Current is usually slower along the inside bend of a river, faster along the outside bend. Also current is faster on the surface due to less friction than along the bottom of the channel.

GRADIENT – The steepness of the river bed, expressed in feet/mile (an average). This can be a sign of shallow water if it is sudden.

RAPIDS – water flowing over an obstruction, causing turbulence. Most often formed by boulders below the surface.

HOLES – water flowing over a ledge or rock creating a void, can trap objects held in the circulating flow/hydraulics created.

HYDRAULICS – Water circulating on top of itself – evident by the churning of water below a dam or spillway. Often associated with other hazards such as holes and breaking waves.

EDDIES – Water rushing around obstacles, circulating downstream, towards shore in a reverse current. Current flows to fill void created by flow of water. Sometimes violent eddies form whirlpools.

EDDYLINE – boundary between the circular eddy and the downward current flow.

POUROVER - Think of it as a vertical eddy, water flowing over a rock, ledge or manmade horizontal structure (dam, spillway, weir) creating a "hole" below the obstruction.

DROP – Water dropping straight down – a waterfall is a classic example.

CONSTRICTED WAVE – As flowing water is constricted – by a narrowing channel - it begins to move faster. The compressed water sometimes forms waves.

WAVETRAIN – a series of non-breaking waves.

BREAKING WAVES – the top of a swell that collapses down on the upstream side of the wave (often referred to as a "stopper").

Natural river hazards:

GRAVE YARD- Many shallow rocks in a section

PILLOW – Water that is piled up by the current against an obstruction that is not entirely submerged. Water is compressed but flows around it.

UNDERCUTS/POTHOLES – submerged hazards that don't usually affect passage overhead but can trap a capsized paddler under the edge of a riverbank or rock ledge, or entrap a victim against a rock or in debris settled into a pothole.

ENTRAPMENTS – Anything that can snag/hold one underwater, from the force of water preventing them from swimming free or clothing/items becoming snagged on the obstruction (branches, rock points, etc.).

SWEEPER – branches hanging low over or into water that can sweep a person from the boat.

STRAINER – Often used to describe a sweeper under water. Branches act like a sieve that keeps victim/boat/gear from passing through. Oftentimes loose objects get snagged by strainer branches, thereby holding victim below the surface.

BRIDGES, ETC. – The bases of these structures can create eddies, collect debris that can act like strainers and cause the current to react in myriad ways.

STUMP FIELDS – As part of the creation of pools behind dams, trees were cut prior to the flooding of lowlands. Many acres of stumps lie submerged just below the surface throughout many of these pools.

OTHER HAZARDS – common to all bodies of water are the natural elements of wind, lightning, fog and even the water itself (hypothermia, for example).

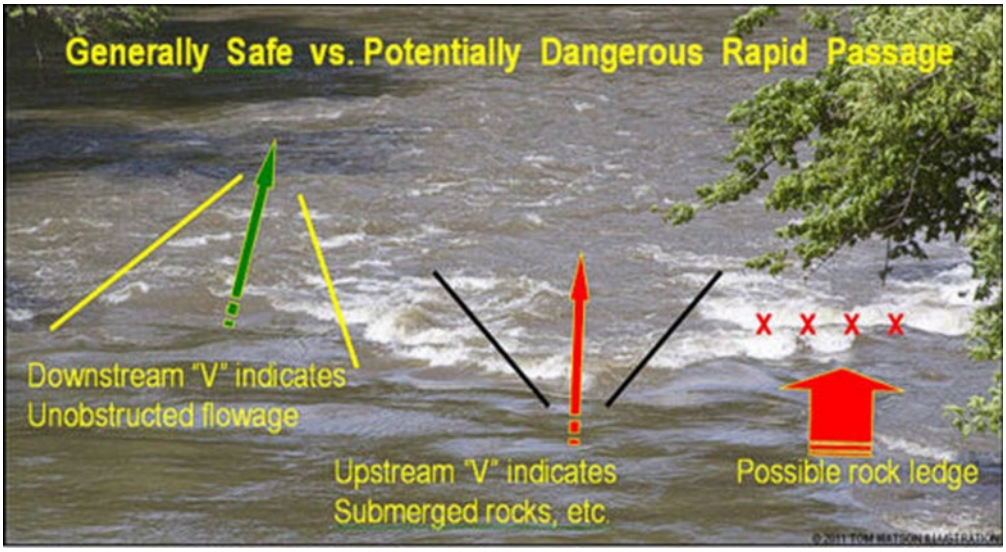
Reading water- By Dennis Marguet Feel free to copy-9-18-20 some info from Mean Chicken and other sources

Reading the water is learning the language of the surface turbulence, it is telling you what is below.

We begin to learn and recognize that currents are made up of certain staple features such as eddies, eddy lines, downstream V's (tongues), rocks, waves and hydraulics, pathways begin to open up amid the chaos. Even the scariest rapids are made up of these staple features. Recognizing the best path through a rapid helps you discern if your skills are up to running the line.

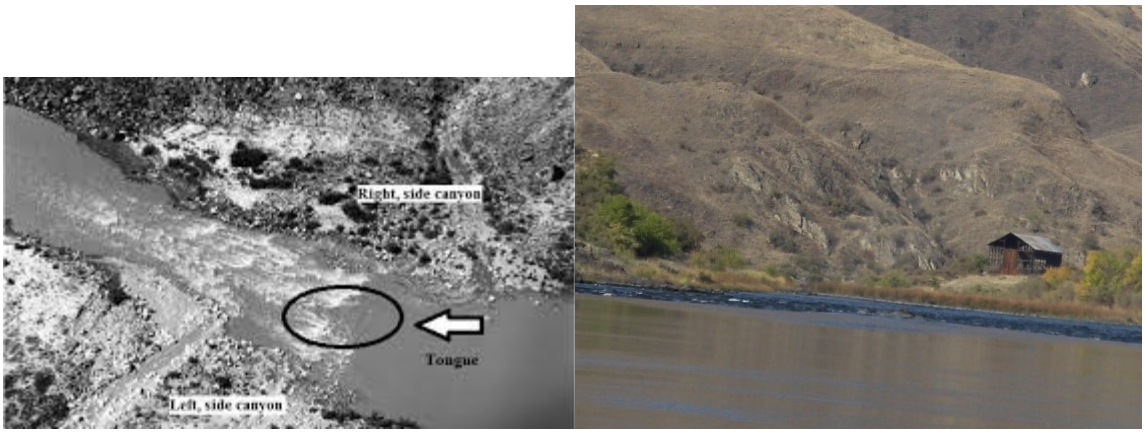
Learning to read whitewater takes some time and requires some risk taking. Choosing and running your own line through a rapid is one of the best ways to learn how to read water. When first learning, it's normal to misread the water and end up somewhere in the rapid that isn't that much fun. This is why it's important to learn how to read whitewater on easy rivers first and with someone who know how to read water and will teach you to read water and not the line through a rapid. The line or way thru a rapid change based upon water levels. Generally the line is the same up and down rapids.

Here are some tips:



Look where you want to go. Always be on the lookout for rocks and trees as you travel.

Going into a rapid "the "V" is where you want to be". The most basic and important feature to look for in current is the 'Downstream V.' Dark or 'green' water fills the middle of the 'V' and whitewater forms the edges of the 'V.' You'll literally see a loosely formed V in the water with the point of the V pointing downstream. The V shows you the deepest and usually the best route to take through a rapid, especially in class II and III rapids. Current that is dark is deep and usually obstacle-free. Whitewater is formed by water flowing over rocks or debris in the riverbed and indicates obstacles in the river. This doesn't mean that whitewater equals shallow water – some big rivers like the Grand Canyon – have whitewater that is very deep. The V shows you the obstacle-free and deepest entrance to the rapid. The V can be described by some as a 'tongue' of water flowing into a rapid.



Left photo is of the tongue or “V” with the wave train immediately below the point of the “V”. Right is a v seen when approaching from a boat.

At first it will be easier to recognize downstream Vs from above so you’ll want to get out of the water and look at them from shore. Eventually it will get easier and easier to see them from your boat in the water. At times you’ll have to get very close to the top of the rapid before you see the downstream V. If you’re approaching a rapid and you’re not sure if you can see the V and you’re nervous about running the rapid blind then it’s always best to get out and look at it from shore. When downstream going up river and you can’t find the V, find the tail end of the wave train and follow it up to the V.

Rocks mark by an upside down “V” when compared to the tongue formed going into a rapid (see above picture with water flowing down river). The white water does not move. Going down river, the rock is before the white water created by the rock. There may be a hole, the bigger the water and hole the bigger the rock and closer to the surface or above it is. If you don’t know if it is a rock, treat like it is. Rocks look completely different going down river (harder to see) than going up river. Up river you will see the white water ahead of the rock and the upside down “V” white water trails will be coming towards you. The rock will be behind or at the top of upside down “V” There are many shapes of the upside down “V”, each depending upon the water flow, size of rock and how close to the surface or above it.

Rocks form an upside down v, the opposite of a v formed at the front of a rapid. They create their own waves that face upstream and can create drop offs or waterfalls near the downstream side of the rock. Notice in the above photo how the two front rocks have the rock showing at the top of the wave while the next rock above on the right the rock is below the surface and is ahead of wave.

Rocks are an integral part of a river. They're everywhere in the current and on shore so it's important to learn the signs of rocks. Sometimes rocks are above the current in which case you want to try to avoid them. Remember that you must anticipate when you want to avoid a rock because the current is continually moving you toward the rock. Once you're right at the rock it's too late to avoid it so it's important to look ahead and make moves early.

The key to avoiding rocks is to look at where you want to go and not at the rock.

Rocks under the surface of the water create waves and hydraulics. Water flows over the rocks, drops and then comes up forcefully mixing with the air and creating whitewater. Waves are formed when there is a lot of water flowing over the rocks. The white water will be below the rock in this case and you won't actually see the rock only the turbulence caused by the rock.

A hydraulic is created when there is a steep drop off of the water behind the rock which creates a strong back current flowing upstream feeding the current back into the hydraulic. Hydraulics have large 'foam piles' of whitewater flowing back upstream which can help you to recognize them.

Look for color change, brown water is rocks. Green is your friend

Riffles

Riffles have rocks just below the surface

Eddies

An eddy is a place in a river where the current flows upstream. This happens when the downstream current flows around an obstacle such as a rock, meets and is pushed back upstream. The same can

happen when there is a point of land that juts out into the river. The current is deflected by the point of land and creates a space for current to fill in by flowing back upstream.

Eddies are great places to stop, or get in and out of the river. In slow moving rivers the current in the eddies flows very slowly or is almost stagnant so it's easy to stop and hold. As you move into faster flowing rivers the current in eddies flows much faster and can feel chaotic. Recognizing eddies is important because they offer a place for respite if you need a break from the whitewater. An eddy line is a swirly line at the edge of eddies where the current flowing downstream meets the current flowing upstream.

In flat water, whirlpools are above the fastest deepest water.

Start with geography by looking ahead as much as 300 yards ahead:

1. Is the river wide or narrow? The narrower the river the faster the water flows and the deeper the water will be often rapids ahead, the wider the river the shallower and slower the water will be.
2. Steep walls next to river continue into the river, but there can be rocks that have fallen next to the wall.
3. Landslides continue into the river
4. Points continue into the river.
5. Is there a bend ahead? Water is lazy and will flow straight into the walls creating the bend and it will rush off the wall. This will create a deeper section of water next to the wall. Stay on the opposite side of the wave train from the wall, or you may get pushed against the wall.
6. At the narrowest part of river, you may only see flat water and the tops of the whitewater; this means there is a ledge or drop off.
7. Water flows bend to bend

Island in river:

1. Which side has the most powerful "V"?- that's the one to take
2. Which side has riffles?-stay away
3. Which side slopes into water the most? This will be the shallowest
4. Which side has biggest wave train? Can be the best path
5. Watch closely for color change- lots of green or brown color?- green is your friend
6. Is there a bend where most of the water is flowing from upstream to form a channel?

Wave train: immediately following the "V" or tongue of a rapid

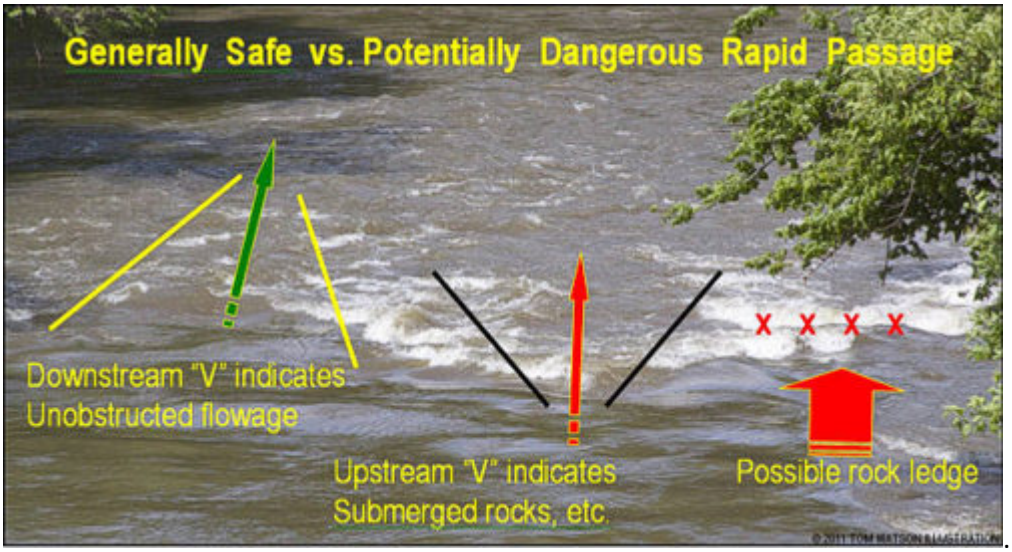
1. Can hide rocks; assume there are rocks in there.
2. Ride the sides of wave train
3. If need to cross as in a bend in the river, cross in the trough of waves- quickly.
4. When coming up river and you cannot see the "V", follow the wave train up to the "V"

Recognizing River Patterns and other river running tips I have picked up along the way. By Dennis Marguet Feel free to copy-4-12-2020

Water principles:

1. Water flows bend to bend. Look at the geography to alert you to water changes & what's to come.
2. Water is lazy. River flows bend to bend. The heavy flow of water digs a channel, follow that flow.
3. Look for color changes, green is deep, brown or dark is shallow, follow the green.
4. Follow deep water, deep green, rough water. "V" in rapid generally deep part of river, follow it into rapid, both up and down river. Keep pump in green water. Green is your friend.
5. Small lumpy water is riffles, it's shallow
6. Large roller is heavy flow of water rapid, ride the sides of rollers.
7. Whirlpools, boilers, lumpy green that do not move indicate a rock.
8. 1/8 to ¼, moon shaped water, reverse V, lumpy water (can create a hole next to it), hole, mini water fall is a rock. Reverse V, lumpy water or mini waterfall can create a hole
9. Low sloping rocks, and points that extend out into water, the water is shallow there.
10 Stick steering, bow moves when you push to right, pull is left.

We learn to "read" the river to tell us which course to take through a rapid such as the downstream pointing "V"-shaped flow of smooth water that indicates a clear channel through the rocks. Conversely we learn that rocks lying just under the surface causing that water to boil and tumble forms an upstream pointing "V" – a sign of caution for most – or an inviting challenged for the more seasoned and skilled paddler



A lot of the acquired skill in reading rivers is recognizing the recurring patterns. So stop often (in those deep holes) and study any place where the river changes direction. Ask yourself what caused the inherently lazy water to change its momentum and direction.

Look at the willows on the bank. Are they on the inside or outside of corners, the shallows or the deep? Now look ahead 500m or so and see if the geology or pattern of willows you see gives an idea of the path of the river ahead.

Are the steeper banks on the inside or outside of corners? What does this tell you about where the deeper water tends to be?

The “V” is where you want to be. Follow the tongue. Green is your friend
Look for landslides that continue into river, long sloping shore line with rocks, big and small rocks continue into water making it shallow further into river. Cliffs generally means shore is a cliff, be mindful of large boulders that have fallen close to shore, they will be in water as well.
Look for faster moving areas of water; this will usually be deeper than the slower moving sections. Shallow big rocks can’t hide in current.
There is often a deep (and thus safer) section close to any big logs or rocks under water. This is caused by water being pushed around and scouring out the riverbed.
If water turbulence is seen amongst otherwise still water, then rocks, logs or a shallow section is likely there. Stay away from standing whirlpools and boilers. Moving whirlpools is fast moving water.
Shape of rock will tell you direction of water, watch the water flow. ¼ moon shape with long tail of white water is a rock.
Lumpy green water that does not move is a rock. Lots of lumpy green water, (riffles) are rocks just below surface; look for color change, dark is shallow. Small riffles are shallow, avoid at all costs
If not sure of where to go, stay in current, usually in center of river it’s tougher for rocks to hide in current, while they can in smooth water.
Keep eye on points going out into river, rocks continue on into river.
One reliable rule of thumb for river boating is "The Water is always lazy". Whenever the water changes direction or speed then some geographic feature or hazard altered and caused it to happen. Ask yourself "why did it happen and what effect will it cause?"

In rough water, back off throttle some to smooth out the ride in wave train. May need extra throttle to get out of trouble. Keep hand off throttle in rapid, bumping will jolt throttle. Smooth throttle control. Ride alongside rollers, not in wave train.
When going up rollers, drive to the top, take off some throttle right at moment bow is to hit the wave, get back on it to keep momentum and then but avoid driving too hard down other side. Ride over top.
In heavy water be smooth, use no more power than is necessary to keep boat on step and maintain control.

Keep eyes on shore to be sure you are not being pushed into shore or rocks next to shore.

When crossing the wave train, ride the trough, surf thru it. Cross there quickly. Move really fast when heading down stream as the current is pushing you downstream. You may need to make wide turn to ride the trough and come in at 90 degrees. So you will need to move faster when crossing over rollers than when coming up river to come out where you want to.

Going into a big rapid, leave driver’s side window open 4”, so can see the shore at least if front windows covered in water. Turn wipers on before entering rapid.

Normal way to run rapid in a bend is going into it ride side of wave train away from shore, as river starts to turn and heavy water is not right next to shore, cross over and head for V in rapid. Usually in or just past middle of bend.

Look for color change in the river, deep green is deep; no cavitation in green, brown is shallow.

High steep bank, most of the time means deeper water next to it.

On a slow moving river the flat water is often the shallowest if you can see moving whirlpool circles that's deeper.

Look where you want to go, not where you are at.

Don't follow too close to another boat; his wake will hide surface rocks. Learn to read water not someone else's wake. Know who you are following and what he knows about the river.

Keep boat on plane as much as possible, keep moving, don't bog down or get nose too high. I found quickly in the jet world it is best to power through... Odds are you'll come out the other side. Constantly look for signs of rocks, logs, sticks.

Slack water is where sticks accumulate, stay away.

Get bumpers out prior to launching and landing.
If you are coming into the bank with other boats, come in on the downstream side if possible. The water will wash you away and not into them.
When putting boat on shore, have boat going forward, but put it in reverse prior to hitting land so can slow and stop for smooth landing.
When landing on shore, make a wide turn and come in perpendicular to shore. Keep stern always away from shore, only the bow on shore.
Don't park bow over rocks, passing boats wake will rock boat on top of those rocks.
When tying boat to shore, bring bow line to shore, tie to tree, rock or sand stake, bring line back around on top of itself wrapping it over the top of first wrap, bring line back to side of boat that is facing up river (water is pushing boat towards shore), tie to that side of boat near the rear. This will hold boat in place.

Always keep some throttle in case needed to maneuver out of way quickly.

When going into a rapid where you will know your windshield will get covered with water and you can't see, point boat in direction you can go to escape the rollers safely.

When I'm heading into the top of a rapid, I cut throttle enough to drop the ass of the boat like it's going to come off plane, then throttle back up to hold that ass-down, bow-up position. It makes for a smooth

ride through the rapid and keeps your bow high and dry, which is good if you don't have Lexan windows. The key here is to keep your bow into the waves.
If you don't have enough throttle to get your boat to respond quickly while traveling at 20 plus miles per hour in the current of a rapid, you'll be 300 feet downstream and way beyond where you wanted to be once your steering actually responds. So you throttle it in such a way that you're going slow, but you still have a metric ton of thrust to maneuver with if you need it.
Even if you don't carry any more speed, you should carry more THRUST. You can go as slow as you like, as long as you don't fall all the way off plane, but set your throttle so that the boat acts like it's trying to come back up on plane at that setting. You should be able to play around with it to find that sweet spot on some flat water.
The idea is that you shouldn't be decelerating in the rapid. Slow down before the rapid, and then if anything, accelerate your way through it. Even if you come off plane above the rapid, and then throttle up to get back on plane as you come in, you'll be okay, but the idea is to maintain thrust and steering in the rapid by keeping your throttle set so that it's putting enough thrust into the water to let you steer and keep your bow up. This does NOT mean you have to go fast.
I agree with your statement of trying to keep your boat on the cusp of planning for maneuverability coming down river but that is not always true. If a guy starts dropping into big water like granite or waterspout on plane you might only be riding in half your boat when It's all over!

Rapids named after a creek many times means there are rocks in center dropped there by creek or river in confluence. Ride the side away from confluence. Rocks and sand build up where water empties into the river.

If cannot make it up the rapid and you are stopped by the wave train, turn hard in the direction safest to avoid any hazards and hit full reverse. In reverse the pump will help turn the boat along with the water as it grabs the nose. Keep the throttle on long enough to make the turn and get the boat in control. Before going into a rapid have your escape paths worked out in your head. Safer to make the turn and ride thru the rollers sideways rather than get pushed backward into a huge hole or wave. If there are rocks to be concerned about, better to take the hit in the side or bottom rather than the pump. Jet boating is awesome.

A discussion. When boat got caught in wave train and sent down stream when going up it. From a tactical perspective, this run is flawed because the driver approaches at a significant diagonal to the wave train, and "cuts across" the wave train. Generally it is better to hug and parallel the wave train, then "slide over." By thinking "slide over" rather than "cut across," steering tends to be more subtle (for me, anyway). This tactic is used on some of the smoother video runs of Landslide rapid on the Payette.

Slow down when passing a boat, if they are on shore, no wake. Going down river current will push your waves ahead of you, going up river the waves will get pushed behind you, so you can slow down closer to boat on shore when coming up river, farther back when coming down river. Stay closer to far shore. Boat's coming down stream have right of way. For rafters, once they are in rapid or positioned to go into rapid, let them through. Be on lookout before entering rapid, it can be dangerous to turn in a rapid.

Give yourself lots of room to make U-turn in river; current of river will push you into shore, learn to do so quickly and on the spot (on a dime). To do turn on a dime, you will turn steering as far as you can-which way does not matter-put into reverse and give it a lot of throttle, boat will turn sharply, if it does not you did not give enough throttle or you did not turn it far enough. As the turn passes the half mark move from reverse to forward and you will be able to immediately be able to get moving forward at end of turn. Practice often, you will need to do this in an emergency, do enough you don't need to think about it. I do it each time I go out. Besides I find it fun and it impresses boat passengers.

How to get stuff caught in jet grate out of it. If going up river, hit reverse and back to forward a few times, then try to go. Then turn boat so you are going down river, turn off engine for 1-2 minutes. Restart engine, hopefully whatever is there will wash out.

Before beginning the day, put CB antenna on, radio check and bring anchor line tight and bow line secure so won't fall into water but is easily reachable inside cabin.

Know your limits both for your boat and yourself, stay fresh and alert. Breathe and enjoy yourself. Stay focused and not be distracted by conversation or the scenery.

Loss of performance resulting in higher RPM = Jet pump issue, lower RPM= engine issue

Mountains sides that have peaks may repeat in the river.

Bow sheer created by water coming off a point will push you away from the point and shore.

Allow yourself to drive away from wave train in a narrow passage i.e. around an island, there will be a channel dug out next to island by water pushing by. You can get closer than you think.

When towing a boat in the water, never tie the rope to either boat. Have someone holding the tag end of line so it can quickly be released by that person. If tied have sharp strong knife to cut line at the ready. Both boats could sink in right conditions.

When loading trailer in swift current conditions, only stick the trailer in the water enough to have the pump intake just in the water. Tilting the trailer downstream really helps. If you have problems getting your jet boat on the trailer straight, it's too deep in the water. Just a few inches of water over the back of the bunks, side guides out of the water, nose the boat in easy, straighten her out with just enough power to steer, then a blip of throttle to slide her forward. Then, use the winch to get it pulled tight against the bow roller or stop. That's what it's there for. It helps if you angle the trailer pointing down flow and drive slowly against the current parallel to shore onto the trailer and you're good. To load up, the goal isn't to drive it straight on, but approach the trailer from down-current and gently contact the downstream bunk with the front quarter of your bow and pivot the boat right onto the trailer.

The spacing between riffles on the surface is approximately the depth of the water. It probably isn't exact but it will give you an approximation of how deep it is.

In an eddy swirl, the diameter of the swirl is approximately the depth, comes in handy when looking for stopping spots in the skinny.

Just remember, steer the nose and the back will follow!! Works backing up too.

If you are going up a rapid and the boat won’t go further up river, even though you are at wide open throttle, try wiggling your stern a bit, it sometimes gets enough extra to pull you up.

Setting up for the rapid ahead is key.

Boat camping on the river: by Dennis Marguet 4-12-20 free to copy

Camping on a river with varying water levels, such as the Snake requires special connections to the shore to avoid being stuck on shore when the water level drops during the time it is parked near shore. The Snake River water flows are controlled by the dam which releases water based upon electric demand, water flows for fish migration, flood control and farmers demand for irrigation. This creates a situation where the river level can change dramatically throughout the day and night. Thus if you park your boat on shore for a long period of time, as little as a couple hours and it is tied to shore, when the water level drops, your boat can become stuck on dry land. Leaving you with only two possibilities to get your boat into the water, wait for the water level to rise or have someone tow you off the dry land. This may be impossible if the boat is too far up on the new shore line or you are by yourself.

To prevent this situation you need to tie the boat in a way that the boat is tied off the shore and not be attached to the land so when the water level drops the boat will float freely. There are many ways to accomplish this.

Park in an eddy if possible and out of fast moving water; this makes it easier to get in and out of the boat. Be alert to shallow water close to shore that can ground you when the water drops. I prefer to park the boat with stern out towards the water. If you park with stern towards shore and the water level lowers enough, the stern gets stuck on shore leaving you no way to drive off. When you do park bow to shore, you may have to swim farther to get to swim deck to board boat. To avoid this there are ways to tie the boat so you can pull the boat to you on shore for easier boarding of the boat.

Equipment needed: sand stake, stern and bow anchor, anchor float, separate rope to tie anchor to the anchor float; another rope to tie anchor float to bow or stern; another rope to tie stern or bow to shore. Spot lights that point in all directions in case boat comes free at night.

If sleeping in the boat overnight:

Tie a large float to the anchor with enough slack in line between the float and anchor that rising water does not pull the anchor off the waters bottom or pull the float underwater. With the anchor tied to the boat, drop an anchor far enough off shore that the boat will be between the shore and the anchor. The float should be floating. Do not permanently tie off the anchor line; you will need to let line out to reach shore so you can tie to shore. Someone controls the anchor line as the captain drives the boat to shore. Then someone jumps on shore and attaches yet another line to a big rock, tree or sand stake high enough that if the water level rises you can still reach where the rope is tied off to shore. The line needs to be able to allow the boat to back-up to the position that is deep enough that boat will not get stuck on the bottom/shore

when the water drops. At this point tie off both the stern anchor line and the bow shore line. You are ready to sleep in the boat.

Windlass systems: anchor the front out in the water, and stern toward shore tied to a sand stake, tree or huge rock. At night let out 20 or feet of rope, and use the windlass to pull the boat out from shore.

Have sand stake or anchor on shore, back boat up and throw river anchor out in deeper water, make sure it holds, feed slack line out and go back to shore. Then tie end of bow line to sand stake or anchor on shore, pull your boat out with line from stern anchor until bow is in deep enough water to avoid becoming stuck. Then tie bow and stern off, sleep on boat or swim to shore, best to try in daylight before adult beverages.

If not sleeping on boat:

Anchor Buddy: The stretchable anchor line! Poly-covered bungee cord stretches from 14’ to 50’. Tie the anchor buddy to your anchor. Simply drop anchor about 30' out, set the anchor, then proceed to shore, the Anchor Buddy line stretches, while your anchor stays set. Once everything and all people are off the boat, pay out the boat towards anchor. As you pay out your bow line, Anchor Buddy retracts, anchoring your boat safely offshore. Also works great for anchoring in rough water.

Tie two shore lines at about 45-degree angles and an Anchor-Buddy set offshore. This will allow you to pull yourself into shore without having to untie anything. The two shore lines (instead of just one) will allow you to sleep better because you know that you have more than one rope secured to the shore, plus if you get cross currents or wind they will keep your boat from drifting side to side.

Bungee is tied to the bow. Retrieval line is tied from stern to shore if you want the stern, thus swim deck close to shore, if you want bow pointed to shore, thus being sure you can power away, do the reverse.

Note: if you are going to be camping at the same place for more than one day, Place an anchor off shore with the large float attached, leave the anchor in place with anchor line unattached from boat. Then tie to large float for easy retrieval to reattach to boat. Hook and unhook when returning/leaving each time. It is best to have a separate anchor for this due to needing an anchor on board at all times.

Boating and fishing etiquette by Dennis Marguet, feel free to copy

I believe it is every boater's responsibility to be good stewards of our sport and to leave a good impression on folks who also want to enjoy their time on the river. . I practice slowing to a no wake speed whenever possible when I pass another boat, rafter, fisherman or other users near or on the river. If I have to pass quickly due to shallow water or going up a strong current or rapid, I get on plane to make the smallest wake and push the wake away from them. People traveling down river by law have the right of way, so I pull over and let them pass.

Please take the time and see the below u-tube videos put together by Idaho Fish and Game. It is important that we be aware of our wake as we travel by someone else using the river, our behavior at a ramp, fishing together, and leaving the place better than we saw itHere are good videos from Idaho fish and game regarding boating and fishing etiquette. On the river- https://youtu.be/DEtpBzZV5Po ; at the boat ramp https://youtu.be/6dLzIcAnwxg ; Keep rivers beautiful https://youtu.be/MEepBT1V30I ; Fishing together https://youtu.be/uJKudZn8q_g

Boat cover. By Dennis Marguet Feel free to copy-Oct 30, 20

The cover shop in Boise and Meridian is a good place to go; they also give a 10% discount to members of Western White Water Assoc. members. If not a member now is time to join, you will get more than your money back for dues in the discount and belong to a group that fights for our rights on the river.

My first boat had a full cover. Because I store my boat inside, my current boat has only a wind shield cover, the most important to have to avoid rock chips. I have a drop down curtain at the cabins end. I use this when it rains and to keep dust out of the cabin area is driving on dirt roads. In addition I have a camper cover that only covers the back half of the boat. It keeps dust out of the inside and things out of view that might temp someone to steal stuff. Plus it is a camper cover to sleep under protecting you from the elements. I have doors on both sides of the cover and at the rear for easy access from all sides. The doors are doom shape so the door is completely out of the way. Another advantage is there is no possibility of paint damage as it snaps to the boat. Also it's easier to take off and put on than full cover (its heavy) and easier to store than a full cover. You don't always need the camper cover when you travel. And it is cheaper. I also have vents in the ceiling of the camper cover to vent out the heat.

In my view the only reason for a full cover is if you store your boat outside. This helps to protect the sun from fading your paint. I'd cover all your paint plus the cover can rub a line into the paint when it flaps in the wind or while driving down the road. Only use good elastic rope to tie down the sides.

I'd investigate the way your windshield cover is made. For sure I would have a foam lining against the windows. I'd also have it snap against the windshield so you don't have to mess with the windows to put on or take off.

With the camper cover you want it tight enough to not have water pool on the top (same for full cover).

You may want to get a hand tool that helps you connect the snaps together if your cover is tight which I recommend it to be. No flopping in the wind.

Winterize boat-Riddle 10-3-17 a checklist-My personal checklist by Dennis Marguet

Use this as a template to develop your own checklist. It cost me a new engine because one winter it was done wrong. The instructions from the manufacturer were complicated, half were in one place another half was in another place and no reference was made to that effect.

Tools needed, spark plug gap checker, lower unit oil for outboard. Antifreeze tester, grease gun, engine oil and filter for both motor and outboard, Stabil, anti-fog for out board.

While out in water before heading to ramp

1. Stabil in gas tank (1 large bottle treats 80 gallons). Run engine for 10 minutes so Stabil gets into carburetor of both outboard and engine. Run outboard out of gas.

While at launch ramp:

2. Fog engine by removing air cleaner while engine is running and spraying engine fog into intake until engine coughs and smokes (15 seconds or so).

3. Outboard- fog it by removing spark plugs and spray 5 seconds of engine fogging spray, (or 1 ounce of fogging oil) in each cylinder and turn motor over for short period to distribute oil to cylinder walls.

4. Drain sand trap by turning handle, leave in open position.

5 Drain heat exchanger hose by removing cap under hose which is below sand trap

5. Live fish well drained?

6. Remove two hull drain plugs

7. Drain wash down pump on transom up high Drain hose and unit by pushing red tab at bottom of pump next to two hoses, leave open, pull hose out of pump and drain. Drain actual hose.

At boat storage:

1. While engine is still hot, at hanger remove engine oil if time to do so.
2. Check anti-freeze in engine to be sure it works with coolant tester
3. Hook up battery chargers
4. Turn battery selector to off
5. Be sure outboard motor is in upright, down position
6. Outboard, spray corrosion guard on external metal surfaces.
7. Outboard, Drain and refill lower unit, gear case, page 92 of manual. Replace with mercury or quicksilver premium or high performance gear lube, 10.8 fluid oz. See Evinrude Johnson HPF xr marine gear case lubricant in white plastic bottle.
8. 8. Use hand pump to fill. After draining of gear case, screw in hand pump into lower hole, with upper hole open, pump lubricant until it starts to come out of top hole.
9. Check fan belts

10. Check if fire extinguisher is current
11. Check if life jacket is current
12. Drain air tank, leave closed. Make sure the water side of heat exchanger is drained when ambient temperature is below 32 Degrees F
13. Make to do list

Spring time- will need grease gun if not done in winter

At boat storage:

1. New year boat stickers
2. Check trailer tires for air pressure, 80 lbs.
3. Close sand trap handle
4. Put cap onto hose under sand trap heat exchanger hoses
5. Check engine oil level or change oil and filter if need be- check for oil leak at filter.
6. Check heat exchanger fluid level
7. Check water separator/filter
8. Check fuel cleaner
9. Replace fuel filters at 100 to 150 hours
10. Change outboard oil and filter if not done in winter.
11. Check outboard power tilt fluid level
12. Grease fittings on outboard with grease gun from garage, handle in the way.
13. Grease jet drive.
14. Tri 1 Gold oil filled to 1-2 inches from bottom.
15. Brake adjusted on trailer, every 3000 miles, check magnets for wear cleaning.
16. Repack wheel bearings every 12,000 on trailer
17. Engine will smoke for a while when first start, removing fogging spray
18. Outboard will need lots of pumping to get fuel up line plus into carburetor.
19. When first run engine, warm it up about 15 min, bring up to temp by watching thermostat opening, then temp will go down, before using, especially in cold weather to unfreeze any ice that may be there.
20. Close wash down pump drain and attach hose.
21. **Run as much of fuel as possible that has Stabil in it.**

STORAGE (Lay-Up)-One Month-

CAUTION: Make sure the water side of heat exchanger is drained

when ambient temperature is below 32 Degrees F. Same for wash down pump.

1. Start the engine with dry run adapter

2. Treat upper cylinders by spraying recommended engine oil (SAE 10) or equivalent into the air intake for about two minutes.
3. Open throttle for a short burst of speed.
4. Shutoff engine.
5. Allow engine to stop while spraying recommended engine oil into air intake.
6. Leave spark plugs in holes or seal with suitable threaded plugs.
7. Cover all openings into the engine with dust proof cap or shields.
8. Check coolant protection fluid level.

Storage (Lay-Up) – For Indefinite Period- per engine manual

CAUTION: Make sure the water side of heat exchanger is drained

when ambient temperature is below 32 Degrees F. Same for wash down pump

1. Drain crankcase completely.
2. Refill with recommended engine oil, (SAE 10) or equivalent.
3. With engine running treat upper cylinders by spraying recommended engine
4. Oil into air intake for about two minutes.
5. Run engine until completely out of gasoline.
6. Restart and run on unleaded gasoline for at least 10 minutes.
7. Open throttle for a short burst of speed.
8. Shut off engine.
9. Allow engine to stop while spraying recommended engine oil into air intake.
10. Check coolant protection.
11. Disconnect and remove battery.
12. Leave spark plugs in holes or seal with suitable threaded metal plugs.
13. Seal all openings in engine and accessories with Non-Hydroscopic Adhesive Tape.

From Engine manual instructions:

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7. Open throttle for a short burst of speed.
8. Shut off engine.
9. Allow engine to stop while spraying recommended engine oil into air intake.
10. Check coolant protection.
11. Disconnect and remove battery.
12. Leave spark plugs in holes or seal with suitable threaded metal plugs.
13. Seal all openings in engine and accessories with Non-Hydroscopic

Boat insurance: It's always a good time for a review of your insurance By Dennis Marguet 9-17-19 free to copy

I just reviewed my own policy which I had ignored for the past 8 years and it was a challenge for me as the insurance people I was dealing with did not know their policy. It was valuable for me; I hope you find it of value to you. I ended up increasing my insurance after my review.

You may find this long, but there is a lot to buying the proper boat insurance. In my 25 years of being in the insurance business I cannot remember a boat policy I reviewed from another company to be properly insured. It's just not an area that has wide expertise. This should give you a good base of knowledge for which to discuss this with your agent. Hopefully the agent knows the policy.

This is based upon my reading my policy, which I encourage you to do as well. My over 25 years as an insurance agent/broker background was a plus. If you don't feel comfortable reading the policy yourself, have them show you in the policy where the coverage is and how terms are defined in the policy, words like, "custom equipment" and "personal effects". These are all defined in the policy. With customer service representatives helping people on the phone now, many just don't know the policy well enough. Even if you speak with your agent, unless they specialize in boats, they just don't have very many boats insured and don't know it as well as say your homeowners or auto policy. But the claims adjusters will know the policy. Hopefully a thorough review will save you heartache down the road.

The following applies to most boat policies, not all are the same, but I am sure the basic concepts will fit your boat policy. You can expect some differences with your insurance company. I have mine with the Hartford thru AARP, they have good premiums and they cannot cancel you for claims, for me, that has been a god send. I get a discount for taking a boater safety course put on by Idaho parks and rec and the sheriff's department (I took it for the discount, but I learned some good stuff there).

Rates for your policy start with where you use it, inland lakes and rivers and the ocean are two of the rating territories that affect me in Idaho. If you take your boat out of the country, i.e. Mexico or Canada be sure you are covered. The next factor is based upon the value of your boat and the deductible you chose plus optional coverages for personnel effects, customized equipment, plus your trailer, all of which have their own coverage and policy limit it will pay. Most boat policies have included additional limits for these, but don't assume it is enough.

So let's take these coverages one at a time and I will use my situation as an example. Some of these items may fit your situation.

Boat or hull coverage covers items that are added on after the original manufacturer completed the boat or are optional items bolted or welded to the boat by the manufacturer and meant to be a part of the boat, for me this included many items added after I purchased or upgraded the boat; fish finders, downriggers, kicker motor and driver side controls, bow trolling motor, anchor winch, vhf and CB radios, rod holders, cup holders, stomp grate, TR1 gold, Lexan windows, wash down kit, hydraulic forward and reverse, rear seats, on board battery charger, sand trap, rail mounted BBQ, additional bilge pump, bow anchor caddie, chines and strakes modified, new 6.0 liter engine and Hamilton 212 pump and stick steer.

Customized equipment (items made uniquely for your boat and not interchangeable); boat cover, windshield cover, camping room enclosures, portable front steps, fleece seat covers and removable hand rail wash container. I did not have a custom paint job so no need to include that.

Personal effects: Even though I have homeowner's coverage, many things that can happen on a boat are not covered by the homeowners, i.e. sinking of the boat or a boat accident. Don't let them tell you if you have a homeowner's policy you don't have to worry about increasing it like Hartford's representative told me. This will include life jackets, first aid and emergency kits, tools, paddle and hook, bumpers, spare parts, fishing poles and gear including downrigger parts, fishing nets, rifles when I go hunting (I only have $2500 of theft of guns on my homeowners), ropes, throw bag and cushion, eye glasses (once I tipped over a boat while scuba diving and lost my glasses to the bottom of the sea), gas cans, ice chest and cloths.

Trailer: I added electric brakes, a V lock bow holder, and an upgraded coupler.

Now the next challenge, establishing how much to cover your boat, customized equipment, personal effects and trailer which are based upon actual cash value not replacement cost (which is what you would pay new for it at the time of the claim) or what you paid for it. So you need to take what it will cost to buy new for your items (not what I paid for it) and depreciate it for its age and use. A good rule of thumb is what it would cost you to buy a boat of like kind, quality and age for your boat. Let's say you paid $100,000 for a new boat 10 years ago, well it is not worth what you paid for it, so don't unnecessarily over insure by starting with what you paid for it 10 years ago and then add the upgrades to that. You are insuring the boat for its current value, not what you paid for it 10 years ago new or what you could sell it for, is its current value.

The exception that makes the rule are upgrades like my new engine and pump. In a claim I will not get what I paid for them new less depreciation, because the boat value includes an engine and pump already, so I can only get the additional value for the upgraded engine and pump. Same for the steer stick as the boat had steering, I just upgraded the steering. Installation was a big cost of these as well, but you will not get that in a claim, as the boat value assumes you have a working engine and steering. Bottom line is if I have a total loss, I will get far less money than what I paid to upgrade these items, so don't pay for coverage you won't get by upping your coverage to what you paid for the engine and pump plus installation, only increase the coverage for the added value.

Don't under insure your boat thinking you could never have a total loss as it is a problem in two major ways. 1st if it is stolen that is a total loss. 2nd in the event of a large partial loss, if it is insured too low, you could have a problem getting it repaired, because they will call it a total loss when the damage repair comes within 70% of the "insured value", and they will pay you for the amount of insured value and they take the boat. There is the option that you can buy it back at a salvage price. So insure $40,000 boat for $25,000. Do $17,550 or more in initial estimated damages and the insurance company will pay you $25,000 and they will own your $40,000 boat, A $15,000 loss to you. Ouch!

Now that you have a value for your boat, custom equipment, trailer and personal effects add sales tax. 7% of $40,000 is $2800, no small amount if you find yourself having to buy another boat because it got stolen.

To document what I added to my boat, I took photos of my entire boat and all the personal effects, as I know I will forget what I have on the boat and I can provide to insurance company as proof of loss.

Your driving record will affect the price of your boat policy. Too many tickets and accidents and they may not insure you.

Running snake river from Pittsburg landing to confluence Salmon Hells Canyon info 509.758-0601 By Dennis Marguet Feel free to copy-9-17-19 Notes from when I was newer but much applies anywhere.

In following lead boat, follow wave train, 50 feet back. Best to read the water and not his wave train.

In launching boat, want boat trailer to be perpendicular to river

In loading boat on trailer from river with current, come up stream, parallel to shore, park trailer perpendicular to shore, turn into trailer at lower ramp rail,

Boats going down river have the right of way.

Follow deep water, rough water of river flow bend to bend. 'V" in rapid is generally deep part, follow it into rapid

Shallow rocks on a point will continue into river, avoid this area, move over

Shape of a big rock will tell where the water will go.

Try to ride the side of rollers

Don't rely on depth finder; it's on rear of boat and too late.

If going into big rapid, turn on wipers before entering rapid, no time to turn on once in, have driver's side window open 4 inches so can see shore when windshield is covered in water.

In rough water, back off throttle to smooth out ride, smooth throttle control to avoid bouncing.

Regarding CFS (cubic feet per second of water flow) can change 3 feet of water depth. Gates open at dam takes 5 hours to reach this area. Be aware of river depth change throughout day and if tying to shore. Always need to read the water on each run. Water is lower in morning higher in late afternoon.

When passing boats on shore or on water, slow down, no wake.

When running up rapids, ride side of rollers and head into "v" tip of rapid

When going up rollers- drive up the top of roller then back off throttle as not to drive down over top of roller. Ride over the top. Keep eye on sides of river to be sure not being pushed towards shore.

Keep hand off throttle in rapid, it will push throttle up.

Keep moving to stay on plane, don't want to bog down or get nose too high up.

Avoid riffles, its shallow! Rocky points rock continue into river

Constantly look for signs of rocks/ debris in your path

When coming into shore, slow down to avoid wake, then take a wide turn to be sure you hit it perpendicular with bow always pointed towards shore.

When parking on shore, stay away from rocks above water line or just below boat. Wake from other boats can cause your boat to hit the rocks and dent bottom, can bounce you onto rock below, sides or in front.

When tying boat to shore, bring line from bow hook to shore, tie it down and return rope to boat on up side of river (side where current is pushing it towards shore) and tie onto boat. This prevents rear end of boat from moving down river.

Pittsburg landing to Confluence of Salmon River rapid running guidelines

You still need to read the water. 4-13-20 By Dennis Marguet

It takes about 1 1/2 hours to run to confluence of Salmon River from Pittsburg Landing

(Fish trap bar is one mile up river from Pittsburg landing launch site, boats often meet here prior to run)

Main rapids only. Water levels change and so does the line. Afternoon water is generally higher than morning. This is not exact way just a beginning, always read the water for best line, these suggestions are not always the best way down. Run at own risk.

2 ½ miles from fish trap, 1 ½ miles from Pittsburg Landing ramp (214 miles on river guide book)

Upper Pleasant Valley – Stay Oregon side

Stay on Oregon side of sand bar island

4 miles to: (209 miles on river guide book)

Cottonwood rapid- Stay Oregon side

Always run Oregon side of river, never Idaho side, going down river line up with what's left of lone pine tree on your rear and "V" in rapid in front, run in straight line

Going up and down river, stay 10-15 feet to east of big boulder on OR. side of river, a submerged rock is not too far to east, run on plane (on step)

Ease into rapid and run thru it

4 miles to: (205 miles on river guide book)

<u>On up river run,</u> aim straight for tall tree, stay on Oregon side of river

Copper Creek rapid Start Idaho Side then move to Oregon side

Favor Idaho side of river at entry, sleepers on Idaho side at rocky point, just before rocky point move to Oregon side of river

1 1/3 miles to: (204.3 miles on river guide book)

Roland Bar Rapids- Start Oregon side then move to Idaho side

Enter Oregon side of river move over to Idaho side of rapid, pretty close to shore

3 miles to: (202 miles on river guide book)

5 pine rapids- Start center river flow then move to Idaho side

Stay to center of river flow, and then cross over to Idaho side of rollers near end of rapid at last turn

1 mile to: (201 miles on river guide book)

Dry creek rapid-Start Idaho side then move to Oregon side

Stay on Idaho side. Wave train means a rough ride avoid it, stay to side of waves, half way thru cross over waves watch rocky point on Idaho side

5 ½ miles to: (194.5 miles on river guide book)

White horse rapid- Start Oregon side then move to Idaho side

Enter Oregon side of center will cross over to Idaho side of center at bend in river

Next section of small rapids- Stay Idaho side

Watch shallows on Oregon side, stay on Idaho side

3 ½ miles to: (191.5 miles on river guide book)

Imnaha rapid (class III rapid) **Idaho side all the way**

Ride Idaho bank. Watch for rocks on side, not too close, run Idaho side of rollers

3 ½ miles to confluence of Salmon

1 mile upriver on Salmon

Eye of the Needle- Idaho side

Follow flow of water thru rapid not too far on Idaho side.

Running snake from Hells Canyon Pittsburg landing to dam including notes I took in 9-6-15. Much applies anywhere you go.

Hells Canyon info 509.758-0601

In following lead boat, follow its wave train, 50 feet back. Best to read the water, than the wake of a boat

In launching boat, want boat trailer to be perpendicular to river, unless in extra heavy current

In loading boat on trailer from river with current, come up stream, parallel to shore, park trailer perpendicular to shore, turn into trailer at lower ramp rail,

Boats going down river have right of way.

Follow deep water, rough water of river flow bend to bend. 'V" in rapid is generally deep part, follow it into rapid

Shallow rocks on a point will continue into river, avoid this area, move over

Shape of a big rock will tell where the water will go.

Try to ride along side of rollers

Don't rely on depth finder; it's on rear of boat and too late.

If going into big rapid, turn on wipers before entering rapid, no time to turn on once in. Leave driver's side window open 4 inches so can see shore when windshield covered in water.

Regarding CFS (cubic feet per second of water flow) can change 3 feet of water depth. Gates open at dam takes 5 hours to reach this area. Be aware of river depth change throughout day and if tying to shore. Always need to read the water on each run. Water is lower in morning higher in late afternoon.

When passing boats on shore or on water, slow down, no wake.

Keep hand off throttle when in rapid, you will accelerate when you don't want to.

When running up rapids, ride side of rollers and head into "v" tip of rapid

When going up rollers- drive up the top of roller then back off throttle as not to drive down over top of roller. Ride over the top. Keep eye on sides of river to be sure not being pushed towards shore.

In rough water back off throttle to smooth out ride, stay on plane, smooth throttle control.

Keep moving to stay on plane, don't want to bog down or get nose too high up.

Avoid riffles, it's shallow! Rocky points rock continue into river

Constantly look for signs of rocks in your path

When coming into shore, slow down to avoid wake, then take a wide turn to be sure you hit it perpendicular with bow always pointed towards shore.

When parking on shore, stay away from rocks above water line or just below boat. Wake from other boats can cause your boat to hit the rocks and dent bottom. Can bounce you onto rock below, sides or in front of boat.

When tying boat to shore, bring line from bow hook to shore, tie it down and return rope to boat on up side of river (side where current is pushing it towards shore) and tie onto boat. This prevents rear end of boat from moving down river.

From Pittsburg landing going south towards Hells Canyon Dam.

Main rapids only. Water levels change and so does the line. Afternoon water is generally higher than morning. This is not exact way just a beginning, always read the water for best line, these suggestions are not always the best way down. Run at own risk.

Upper Pittsburg

Stay on Idaho side of rapid/ sand and rock bar.

Kirby Creek Rapid (Kirby Creek Lodge)

Stay Oregon side of shore,

1 ½ miles to Kirkwood Ranch

Sturgeon Rock (Pine Bar)

When beaching, stay left of tree, across from sand bar, chucker's are there in rocks

Main rapids only upriver of sturgeon rock or pine bar

Go almost 3 miles (230 miles on river guide book)

Sheep creek rapid – Stay Idaho side

Stay on Idaho side of wave train and drive between rocks at top of rapid, hit the V.

Go ½ mile rhino rock in middle of river, avoid it.

1 1/2 miles to: (231 miles on river guide book)

Rush creek rapid (class IV) Go up middle

Go between two rocks, keep to the middle with controlled forward motion on plane, near top of rapid is large rock, at base of rock is a hole, drive up to that hole under slow control yet on plane, without going into the hole, (keep bow up) make a sharp turn toward Idaho side of hole into "V" then turn up curving up over the rock avoiding the hole, riding water formed by water spilling over side of rock.

In low flow, below 9100 CFS, stay close to Idaho side and avoid hidden rock.

1/4 mile to: (between 231 and 232 miles on river guide book)

Sluice creek rapid- Go up middle

No rocks in middle or rapid, ride along side of wave train, the higher the water the higher the wave train

1 3/4 miles to: (233.8 miles on river guide book)

Waterspout Rapids

Start Idaho side of wave train, 1/3 of way up cross over to Oregon side then into V. Watch for rocks on Oregon side of river near top of rapid. Coming down river come into rapid slowly, be prepared to go into hole then up wave (gun it)

1 miles to: (235 miles on river guide book)

Lower Benard creek rapid-Idaho side

Idaho side of wave train

Upper Bernard creek rapid – Oregon side.

Start Oregon side of wave train. Big rock at top center of rapid. Move to Idaho side of big rock. Ride side of hole, don't end up in hole, drive up over the water flow on side of rock turning toward Oregon side above the rapid.

? miles to:

Sand/Rock bar- Oregon side

Oregon side of wave train cross over to Idaho side of wave train.

3 miles to: (238 miles on river guide book)

Three creek rapid

Below rapid is sturgeon hole, park Idaho side of river, next granite rapid.

1 mile to: (239 miles on river guide book)

Granite rapid Start Oregon side

If going to park and not run rapid; do so on Oregon side below wave train.

If hit rock and leaking, 400 yards below rapid drive up onto sand bar on Idaho side, it's very shallow there, will suck up sand if not careful.

Enter Oregon side up to hole formed by big wave formed by big rock in center. Before hole cross over to Idaho side of wave then up towards center of rapid. Ride the water formed by rock much like Rush Creek.

2 miles to: (241 miles on river guide book)

Wild sheep rapid (class IV rapid) Always check before running

Zig zag thru rocks start Idaho side along smooth water, not in it, up to rocks with water flowing over it, cut across sharply to Oregon side, and watch for rock in center. Pass second rock (turn rock) Oregon side of center; turn up river sharply into V of water, up river then behind big rock in center into green water.


SNAKE RIVER
WASHINGTON
Heller Bar
Take-Out
Wild Goose
(II-III)
GRANDE
RONDE RIVER
Scenic River Boundary
Geneva Bar
Salmon Bar
SALMON RIVER
Mtn. Sheep
Imnaha (III)
IMNAHA RIVER
Nez Perce Crossing
Deep Creek
Pleasant Valley (II-III)
Pittsburg Landing
(Take-Out for 3 day trips)
Scenic River Boundary
Wild River Boundary
River Flow
Upper Kirby (III)
Kirkwood Historic Ranch
OREGON
Two Corral Camp
Suicide Point
Salt Cr. Camp
Big Bar
High Bar
IDAHO
Sturgeon Rock
Rush Creek (III-IV)
Sheep Creek (II-III)
McGaffee Cabin
Watersprout Cr. (IV)
Bills Creek (II+)
Lower Bernard (III-IV)
Upper Bernard (III)
Three Creek (II - III)
Granite (IV)
Wild Sheep (IV)
Hells Canyon Cr.
Launch
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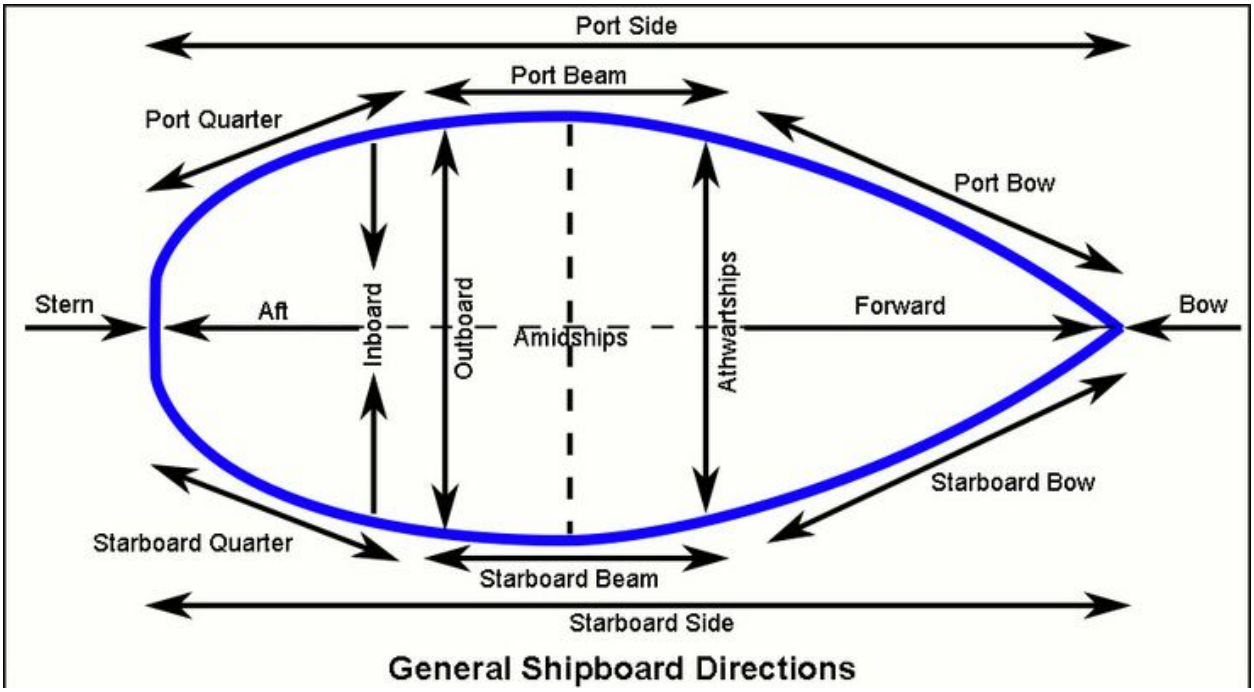
Boating terminology for directions on a boat 9-2-19



Critique sheet Jet boating class; Todays date_____

This is early attempt at this class, your input is vital to making it better for the next time and everything is open for your input.

What would you like to see changed so class be improved?

What would you like to stay the same?

Reading water adequately covered? If not what you do to improve it?

Rate the quality of handouts.

Too detailed? Yes No

Just right? Yes No

Easy to understand and apply concepts? Yes No

How would you change these or just keep as is?