Transporting Kayaks
Everett Mountaineer Sea Kayaking Group

Core Systems
- Racks
  - J-Shaped
  - Cradles
  - Rollers
  - Sliders/Gull-wings

  - Systems come with specifically designed straps
  - Straps and Pads
    - Commercially sold pads
    - Ad hoc alternatives: Z-Rest or other foam sleeping pads
    - Support near strap points
    - Elevate to avoid the boat’s belly to contact a vehicle roof

Beyond the Core System
- Bow and Stern Lines
  - Use secure tie-off points, not deck lines
  - Use bowline, trucker’s hitch and double half hitches for easy
- Cockpit Covers keep water out, and reduce drag
- Triangulation offsets tendency to shift, vibrate, and to wind-cock
- Safety Flag

Risks
- Automotive Paint Finish
  - Strap buckles against finish without protection
    - Get straps with built in fabric/rubber protection
    - Use towel scraps or non-slip (shelf liner) materials
  - Straps/ropes vibrating against paint
  - Pads placed between boat and dirty finish
- Losing your Boat
  - Strap/tie near supports
  - Secure against movements fore/aft, side to side, going kiddiewompus
    - In the absence of a custom kayak rack, loop around hulls
  - Consider where the strap/rope will be after wind and jiggling
  - Use “S” hooks with caution, consider adding a “safety” bit of zip tie or tape.
- Use opposing forces for stability
  - Pulling both the bow and stern the same direction will lead to a loose boat.
- Secure cockpit and hatch covers
- Bending your Boat
  - Do not over-cinch down bows or sterns
  - Pay special attention with plastic boat on hot days.
- Bending your Vehicle
  - Support weight of boat where the vehicle is strongest.
  - Locate support near uprights/columns/pillars
  - Locate boats off center to avoid collapsing roofs
  - Avoid tying off to flimsy bumpers, use stout metal locations
- Strap Vibration and Noise
  - Lengthy strap spans act as woodwind reeds
  - Twist them to remedy

Let’s Getta Goin’!
The Ten Commandments of kayak transport

1. Thou shalt allow plenty of time to ‘boat up’
   Loading your kayak on your car in a rush is the first step on the road to not getting to your put in with everything in one piece. Most of us plan our paddles and you need to plan when you ‘boat up’ or get your kayak ready for transport. I tend to get my kayak on Penny the night before a paddle. I put the cross straps (the ones that work with the racks) and tie them down as I would have them while I am driving. The bow and stern lines are attached, but left slack overnight, so not to put any downward stress on the kayak while still safe in the driveway. The downward stress factor applies regardless if the kayak is composite or roto-moulded. Bottom line is leave yourself plenty of time to properly secure your kayak.

2. Thou shalt always use a cockpit cover
   This is one of a few that make my blood run cold. Not using a cockpit cover, which is properly secured, not only lets all kinds of goodness knows what getting blown into your kayak, but, it’s turning your kayak into a long drag chute. Imagine the amount of force driving at 60 miles per hour (96.5kmh) is (hopefully) hitting your rear bulkhead, and how much your kayak wants to try being an airplane. I have seen the lack of a cockpit cover contribute to the kayak becoming a fast moving missile that is probably aimed at the unlucky person driving behind you. I do not know what the actual speed the car was traveling; you’d probably have to ask the State Police who responded or the lawyers who litigated the situation later.

3. Thou shalt always use bow AND stern lines
   This is the one I always get pushed back on. However there are sound reasons why they come standard with practically every rack set up and if they didn’t there are plenty of aftermarket models available. Bow and Stern lines are to keep your kayak from turning into an airplane wing. I cannot begin to count the number of times I have seen kayaks on cars bouncing up and down and I’m just waiting for a gust of wind to turn it sideways or come flying off, or for the driver to have to stop short and watch the kayak become a missile. There is a tremendous amount of force passing over, around and under your kayak. Your kayak is hydro dynamically designed, meaning to efficiently move through the water, which uncannily is not too far removed from aerodynamics. So, basically your kayak really wants to be a wing and give into the force of driving at highway speeds combined with any wind that may be blowing.

   The most popular design of bow and stern lines are of the ratcheting variety. These work wonderfully, but can put a lot of torque on the ends of your kayak. This is why you need to carefully secure them so that you do not wind up bending or cracking your kayak. When you are not driving, you should release the pressure and let the lines go slack. These lines are hooked into the straps provided to go under your hardlines, putting them under the bungees is not very effective, they bounce as well. The other end is hooked to the underside of your car. Hopefully your manufacturer has given you places to do this. I am very lucky, my kayak-mobile has two welded D rings in the front and one in the back, making it very easy to secure the straps. In most cars something hooking something to the back is fairly easy, but the front can pose more difficult.

   One of the best bow line tie downs are straps that are either bolted under the hood (bonnet) and have the loop come out of the sides of the hood, or more temporary ones that uses the locking of the hood to hold loops attached to a round piece of plastic, again using the locking of the hood to hold them in place. These are very hard to describe with words, so I am hoping they pictures clarify how they work. These are also very inexpensive and easy to use.

   There is a word of caution to be given here. Please always make sure your bow and stern lines are secure, tight and not dangling in any manner. Especially in front of your car because they have a nasty habit of getting run over, and then tangled up in your wheels, which can cause a lot of damage both to the car and kayak.

   If your front bumper does not offer a way to secure the lines from sliding off into the wheel well, consider using two bowlines that come together forming an inverted ‘V’ to keep them pulled towards centre and not to the outside of the vehicle. I recently heard a horror story from a person who ran over their bowline and it snapped their composite boat almost in half. Again, ample time and diligence is called for.

4. Thou shalt periodically check your lines while traveling
   Ever wonder what else you could be doing on your road trip while watching the fuel pump ring up untold amounts of money on your way to wherever you’re going? How about checking your kayaks and the
straps to make sure nothing has managed to wiggle loose over the last couple of hours since your last stop. Check your knots, your bow and stern lines to make sure they have not unacceptably shifted. Gently try and move your kayak and if it doesn't feel secure, find the weak link. Your tie down is only as good as your worst knot. THIS is the time to find out, not half an hour up the road when you see your prized kayak bouncing around or you hear that nagging sound coming from the rear that you just can't quite put your finger on. The key to successfully securing your kayak to your car is a system of redundancies. Checking en route is part of that system. When you stop for fuel, lunch or just to stretch your legs, check your lines. It's a worthwhile couple of minutes invested into making sure everything arrives at your destination.

5. Thou shalt perform an extensive annual inspection of all tie down related gear
Of all the things one ought to do, this one is key. What good is it if you have done all of these things with gear that is worn, frayed, rusted or in numerous other forms of disrepair? You could tie knots like a sailor of old, and if the strap is fraying, or the buckle rusting out, it is all for nothing. And this does not just apply to the straps, cords and lines. This goes for your entire rack system. It is put under a great deal of strain every year. It is more than worth the time to make sure all manner of screws are properly tightened. I go so far as to apply a fresh layer of Loctite, a fluid that you squeeze into the holes where the bolts are inserted to insulate them from vibrating free over time. I'm pretty sure there is a similar product on the other side of the pond. One word of note when using Loctite (or something similar), do not use the 'permanent' bonding formulation. It will make it VERY difficult to remove a rack to another car, or a different model. The 'blue' comes undone with just tools, while the 'red' requires heat and tools, and quite a bit of torque. Once a year inspection of everything that gets you to your favorite put-ins near and far is not a lot to ask.

6. Thou shalt proceed at a reasonable pace
Or to put is simpler, the faster you go, the faster things can go wrong. If you do the math you're not going to get there all that much sooner by stomping on your gas pedal and flying down the road. Take your time, every now and then glance up at your kayaks and make sure they are still pointed straight ahead and not bouncing. By easing off the accelerator you incrementally lessen the forces in play on your kayaks. It is far better to be safe than sorry. Slow down a bit when you are under load.

7. Thou shalt never leave extra tie down gear at home
This is one of those cases where forewarned is forearmed. Despite your diligent inspection of all your straps, buckles, bow and stern lines, et al; sooner or later you are going to have one malfunction on you, or blow away, or just plain wear out. How are you going to get back? You have extras in a bag in your vehicle. If you don’t have spares, make the investment; it is a very inexpensive insurance policy. Also, extra straps come in handy for a multitude of purposes both in transit and while camping, towing a trailer that comes apart at the worst possible time (personal experience here), you name it. You cannot ever have enough straps and tie downs, throw a bunch of bungee cords and karabiners in there as well. This is your transport first aid kit keep it well stocked.

8. Thou shalt affix a caution flag to the stern of your kayak
Depending on where you live (see #9) this is not only a good idea; it may very well be the law. Unless you are carrying only shorter white water kayaks, there is a very good chance that your kayak is going to overhang the rear of your vehicle. It is prudent to hang a red caution flag from the end of your kayak to keep other vehicles that might not notice it from running into it. Not all drivers look up and from the rear it is a very narrow profile to see. A caution flag can go a long way to preventing an accident, there are even a few available for purchase for just this purpose.

9. Thou shalt check the ‘Rules of the Road’ afore venturing out
If you are traveling outside of your home area, it is a sound idea to find out what the rules are for transporting your kayak safely, as I know the laws on this side of the pond vary state to state, sometimes even between different counties. I can only imagine the difference in the regulations traveling between countries in Europe. Some require a minimum of three points of contact between what’s on top of the vehicle and the vehicle itself. Nothing can ruin a perfect trip than getting pulled over and cited for improper transport and the incumbent fines. Not to mention just the overall buzz-kill that comes with being stopped for something you could have prevented.
Now this may seem like a lot of different things that you have to do to your vehicle and kayak, and some may seem redundant. But a successful and safe transport is a system of redundancies. If one part of the
system fails, there are a multitude of back ups to make sure your precious kayak doesn't wind up bouncing down the road, causing untold carnage or having it become a wing and pull the hardware right out of your roof and damaging your car. This is why in the very beginning I wrote of allowing yourself plenty of time to get your kayak set up and tied down properly on your vehicle. A good rack system for the top of your car is not a modest purchase. There are many lesser set ups available, but they are basically just padding for the roof of the vehicle. If they slip, the whole thing comes undone. A proper set of saddles, rollers or J-hooks will insure that you and your kayak get to the put-in and enjoy your day on the water.

10. Arrive safely and enjoy your paddle!