

Kayak Car Topping 101 - Part I Strapping A Kayak Onto Your Car

by Tom Holtey

The very basics on how to tie a kayak onto the roof of your car - The first in a series on roof racks and the car topping of boats.

How will you get your kayak home from the shop, or bring it to the water?

In this first segment we discuss the very basics of how to tie a kayak onto the roof of a car. This topic can be very lengthy and complex when one looks at all the combinations of kayaks, cars, roof racks and rack accessories. So, this article will be simple for now, with in-depth information coming in the next installments.

The ingredients are basic and more or less the same for all vehicles and kayaks (canoes too). You will need: your car, your kayak, and some sort of roof rack system; including bars and/or pads and straps.

Many cars have a factory-installed "luggage" rack on the roof. A factory rack will have crossbars (side to side) and/or sidebars (front to back). Crossbars are essential and can be added if needed. Factory installed racks generally have a weight capacity that will limit the load to one, maybe two kayaks.

Your vehicle may be (or can be) outfitted with a sport rack. The Yakima and Thule brands - *see links to sources below* - are good examples. A sport rack is not available as standard equipment on your car, but there are specialty sport racks made to fit most vehicles. Sport racks are installed at outdoor shops, or by the consumer. The rack consists of crossbars, supported by towers or feet, and some sort of clip that clamps the towers onto the car. Sport racks are typically stronger, carry more weight and facilitate the use of accessories. (More about sport racks in a future article.)

Many sit-on-top kayaks can be loaded directly onto the crossbars, as well as canoes, hull-up, upside down. The key to this is that the gunwales of the boat must create a long and flat stable base for the kayak to rest upon. An Ocean Kayak Scrambler is a good example of this. Some sit-in-side kayaks can be loaded hull-up, but this is typically not preferable, as the cockpit combing is weak, and all the weight of the kayak will rest upon it. One advantage of hull-up loading is that rainwater will not collect inside the kayak.

Deck-up loading, right side up, is a good option for the majority of all kayaks, but requires hull shaped saddles, or "U" or "V" shaped foam pads, on the crossbars. Some U shaped foam pads are "soft rack carriers" and do not require crossbars. They are simply placed on the roof. The advantage of deck-up loading is that less saltwater will drip onto your car and windshield.

Without a saddle set or U shape foam blocks the hull of your kayak would rest on the "keel" line of the boat, point loaded on the crossbars, and deform the hull shape. Specialty kayak saddles can be attached to factory luggage racks and sport racks, or one can snap on generic foam hull blocks, slotted to snug around crossbars.

Soft Racks are typically pairs of foam blocks, placed directly on the car's roof, for the kayak to rest on. U-shaped soft racks are for deck-up loading, and long flat blocks are for hull-up loading. Do not confuse canoe style car top blocks with kayak racks; they will not work for a kayak.

Some sort of padding is required for fiberglass and composite kayaks. At the very least glass kayaks need a form fitting saddle or U shape foam block. Plastic kayaks do not need much for padding, if any at all.

The first step is to get the kayak onto the car. This can be a challenge for beginners, so plan to have some help; it is easy with two people to lift a kayak onto a car, one person at the stern, and the other person at the bow. (Solo loading will be covered in a future article.)

You will place your kayak onto...

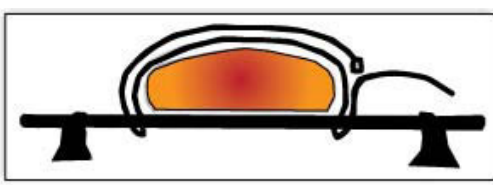
- A. The crossbars, kayak hull-up, if the gunwales allow.
- B. U-shape foam blocks or kayak saddles, mounted to the crossbars, kayak right side up.
- C. Flat, wide soft racks, placed directly onto a plain car top, kayak hull-up, if the gunwales allow.
- D. U-shape foam blocks, placed directly onto a plain car top, kayak right side up.

The next step is to tie the kayak to the car. If you chose A or B, from the list above, the instructions are the same. You will need two tie down straps per kayak, and a way to tie the bow of the kayak to the front bumper and the stern of the kayak to the rear bumper. (See more below.)



Tie down straps are simply long straps with a cam-buckle on one end, not unlike a very long belt. They may come in 8 to 20 feet lengths, ten feet being quite common. If you have a small car 10 footers should do. If you have a tall car, van or SUV, you may want to use 15-foot straps. You will need one pair of straps per kayak.

Make sure the kayak is well placed and centered on the crossbars. The kayak should be balanced so that it is not inclined to tilt to the front or the back, like a seesaw. (The kayak can be skewed a bit forward or aft, as long as it balances OK.) Ensure that the centerline of the kayak is parallel with the centerline of the car.



Tie the kayak to the crossbars with a pair of tie down straps:

Toss the buckle free end of the strap up and over the kayak to the other side of the car. Bring the free end of the strap under the crossbar, and inside the tower, looping it around the crossbar, but not winding it. Toss the buckle free end of the strap back over the kayak to the other side of the car. (If the strap is long enough you can "jump rope" it instead of tossing. Tossing in wind can be a problem; you may have to toss the buckle end of the strap.) Prevent the two ends of the strap from crossing over the kayak.



Pull on the plain end of the strap so the buckle end rises up on the side of the kayak and almost out of reach. Loop the plain end of the strap under the bar and around, but do not wind it around the bar. Thread the plain end of the strap through the cam buckle and snug it up tight, firmly, but not so tight as to squeeze the kayak. Repeat for the second strap. Always make sure the straps are behind the tower and under the bar. Keep the straps in contact with kayak as much as possible, aiming to leave no gaps between the kayak and the straps.

Any loose end of the strap should be secured so it does not flap in the wind as you drive along. Wind it around something and tie it off, or your strap may have a feature that manages with the loose end.

Test the tie down by grabbing the kayak's gunwale and shaking it. If the kayak and the car rock as one then you have a good tie down. If the kayak moves, but the car does not, or not much, then the down is poor and needs to be redone.

If you chose C or D, from above, the tie down is the same for all types of Soft Racks, wither you go with hull-up or deck-up. You can approach this in one of two ways; Attach the kayak to the soft racks then lift it all to the car top, or... place the soft racks on the car top then put the kayak on the soft racks. First timers should do the latter, and then aim for prior.

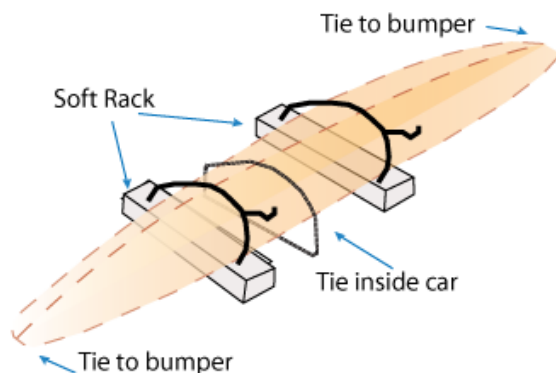
A soft rack system should have two foam blocks (flat or U shape, maybe with built-in straps or separate straps), one or two standard tie downs, and bow-stern tie downs. A "Kayak Carrier" is just another term for "soft rack". Bear in mind that not all soft racks are sold that way. Do not confuse surfboard soft racks with kayak soft racks. They will nor work very well for a kayak, but are OK for a small surf kayak or wave ski.

Place the foam rack blocks on top of the car. The best placement is close the windshield and close to the rear window. The center part of the car's roof is flimsy and can dent, or "oil can" easily. The very front and back sections of the roof are much stiffer and stronger.

Then have your friend help you lift your kayak onto the blocks. Remember, hull-up on flat blocks, deck-up on U-blocks. Carefully center the kayak and the rack blocks. The kayak should be balanced so that it is not inclined to tilt to the front or the back, like a seesaw. (The kayak can be skewed a bit forward or aft, as long as it balances OK.) Ensure that the centerline of the kayak is parallel with the centerline of the car.

Secure both soft rack foam blocks to the kayak, so the blocks cannot blow away while driving.

It is best if your soft rack has built-in and/or dedicated straps for securing the foam to the kayak. You may use the slots on the bottom of the block if so equipped, or devise any way you can of tying the foam blocks to the kayak. The strap should go under or through the block, and then over the top of the kayak and around. The straps should cinch snug, but not tight enough to squeeze the kayak or cut into the blocks.



Now you need to secure the kayak (soft racks attached) to the car with "center strap(s)". The best way to do this is to open the doors of the car. Gently toss a standard tie down strap over the top of the kayak. Bring each end of the strap inside the car, one end through one door, the other end through the opposite door, and cinch it up inside very snugly, but not too tight. If you have a two door car use one tie down strap, maybe two. If you have a four door car use two straps. Close the car doors on the straps. Some vans and other vehicles may need a strap through open windows in the rear.

Do not strap the kayak to the roof through the open windows in such a manner as that it will prevent your opening the doors. You do want to get out after all, and may have to in a hurry if there is accident.

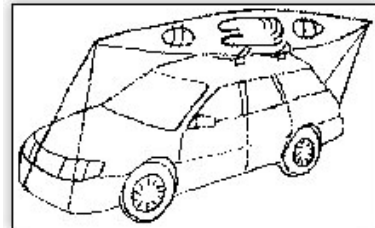
Cars that have automatic seat belts may bedevil this through-the-door tie down. You may have to figure out another approach. Some soft rack car top kits may have small hooks or clips to secure the center straps to the door frames or rain gutters.

Once you have figured our exactly where you like to strap the soft racks to the kayak you can pre-mount the foam blocks to the kayak before lifting it to the roof. Getting a good placement on the rooftop worth the experimenting.

Tie the kayak to the front and back bumpers of your car:

Methods A, B, C & D are all the same when it comes to **bow and stern tie downs** to the front and back bumpers of your car. The reason to have bow and stern tie downs to prevent lifting and swiveling from side to side.

Tie off to the grab handles located on the stern and bow of your kayak. If necessary tie to strong points of the deck rigging. (A tie down to the rudder is your last resort.) You can use simple rope, straps, or bow-stern tie downs specifically made for the job.



Take a close look under the bumpers. Look for tow loops welded onto the frame, or bumper brackets. These may be evenly spaced, one in the center, or two each side. (These are good tie down points for bow and stern lines.) You may find only one, off to one side, and not evenly spaced, sorry, just bad luck, but you may have to use it anyway.

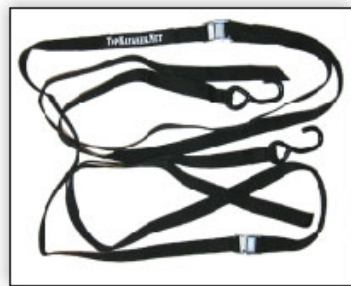
On some vehicles you can find a gap between the body panel and the bumper cover that a strap or strong cord can pass through and tie around the steel bumper that is behind the plastic cover. (Make a custom permanent loop for this.) You can also tie a short loop of strong cord to a tow loop or frame member that is hard to reach to.

Many commercially available bow-stern tie downs have hooks that can easily hook to tow loops, bumper covers or the frame. What ever you secure to make sure that it will not interfere with the moving, sharp or hot parts of the car.

It is best to have two lines running from each side of the bumper to the grab handle (or deck lines) of your kayak. This

will form an upside down letter V. One single line is OK, but two are better. If you have two kayaks on the car, tie the right kayak to the left side of the bumper and left kayak to the right side of the bumper, making a letter X (or a letter V if both kayaks are tied to the center of the bumper). Preferably the line(s) are centered and will not tug your kayak out of alignment with the centerline of your car.

Tie off the stern of the kayak to the rear bumper and the bow of the kayak to the front bumper. (Yes, you can place your kayak stern first or bow first as you please.)



Do not tighten the bow and stern lines to snug. They should be almost loose, but not tight enough to strum like a guitar string. You do not want to bend you kayak like a banana.

Do your best to tie both front and back. One line is better than none. Choose between the front and the back with merits on both sides, with a front line preventing lift, possibly the most compelling. Any line you use in the front should not impair your field of view or create a distraction. A light rope or thin strap is best. A line in the back is best to be very visible, particularly if the back of the kayak hangs over and past the rear bumper. Consider adding a red flag even if not required by law.

Bow and stern tie downs are not 100% necessary if you:

- A. Have quite a lot of space between crossbars, thus preventing any possible lift and side swiveling of the kayak.
- B. Your kayak is very short.
- C. You are not traveling at hi-way speed. Or... you are going a very short distance over smooth roads.
- D. The geometry of the car, kayak and rack system prevent use of bow-stern tie downs.



Take extra tie down precautions if you do not have bow and stern lines and drive at slower speeds.

Additional car topping tips and info:

All roof rack makers and car top accessory manufacturers recommend that you do not exceed 55 MPH with a load on the roof. Careful to say this means drive extra carefully. Be 100% sure your kayak is secured to your car and will NOT fly off your property. Careful driving will really help prevent this from happening. Anything coming off your car and striking another, or their property, is your responsibly.

The strongest parts of a sit-on kayak are just behind the seat and at the front of the cockpit where you place your feet. The strongest parts of a sit-in kayak are the same, or at the bulkheads (if equipped) being the strongest. If at all possible place your kayak so it rests on the crossbars at these strong points.

More than one kayak can go on a car. Typically two will fit nicely on most passenger cars. Each kayak needs to be independently tied with its own tie down straps. Multiple kayak car topping will be covered in the future articles.

It is possible to use a soft rack carrier system on a convertible car, with the top UP. Place one pad on the windshield frame the other when the back of the roof ends, at the strong strut or double strut.

J cradles for side loading are very good, but this is a topic for later.