

Building a splitboard

Building a splitboard is a relatively simple process. You cut a snowboard in half, use the hardware that you bought to attach the two halves of the board back together, set up your bindings on the board in the stance that you ride with, and you are ready to go. Sounds simple eh? Lets hope that it is. I will be trying to do just those things and I will be documenting my endeavors along the way, and giving feedback and opinions to help others of you who are or may be wanting to do this exact thing. For a more in-depth write-up on how to construct a splitboard check out [Voile's instructions](#). These are what I am using to guide myself through the process.

1/1/07 - Making the cut

My snowboard is now cut into two pieces, well it has been that way for almost two years now. I cut it in half a couple of summers ago when I first got the notion to build a splitboard, but never got around to buying the hardware to mount on the board. To cut the board in half you will want to mount the board on a couple of saw horses, or a good work table with a board vice. Measure the exact center of the board at the tip, middle and tail of the board. Use these marks to set up a chalk line that will give you a guide to cut the board in half. Use a circular saw with a carbide blade. Cut the board in half. If you suck with power tools have someone else who is good with them do this for you, like I did.



The next thing you are going to want to do is to bevel the petex edge to a 45 degree angle with a file, round off the sharp edges on the tip and tail, and seal the cut edges with a durable varnish or some sort. Allow this to dry completely.

1/12/07 - The missing links

So about a week ago I ordered the hardware that I have been needing for such a long time to get this project rolling, and it is finally here. I will be starting construction hopefully in the next few days!

I already had a few extra parts lying around from my existing splitboard, so I didn't need to spend the \$150 for the entire split kit. Instead I just ordered what I needed from Voile's spare parts section to obtain the rest of the parts that I would find in the split kit. I paid \$108, saving \$42. Check Voile's site for an entire list of parts required to split a board.



1/17/07

Today I am going to be installing the first of the hardware on the two halves of my board. I have no idea how much I will get done. If it all goes easily I will hopefully get it finished in one quick attempt.

More to come tonight or tomorrow...

1/18/07

I mounted a bit of the hardware last night. Most everything went well, except for one thing that did not. I will elaborate on all of this later today. I will have step by step info with photos and a lot of feedback to give.

Ok so here is what happened.

The Split Hooks

After cutting the board in half, the next step is to mount the split hooks that help hold the board together. To do this Voile's instructions say to lay the board on the ground and find the contact point (the point where the camber of the board comes in contact with the ground), and measure 1" in from the contact point and mark this area. This is the area where you will mount the split hooks. I did this and found the the split hooks would be setting on top of a curve, and not flat on the topsheet. I would recommend mounting them on the first available flat section of topsheet. If they are mounted on a curve, they will not be able to spin when you go to spin them when you are converting to tour mode.



Right edge of paper marks the contact point, black mark is 1" in from the contact point.



The split hook did not sit flat in the location in which the directions stated, so just move it inward until it will sit flat when it is rotated in "tour" position.



Put the two board halves together securely, and once you have found the optimal placement for the split hook use the sticker template to find where the holes will be drilled. Use a punch to mark the location of the drill holes and follow Voile's instructions as to drill bit sizes, etc.



Here the template is in place with one of the splithooks positioned.



After you drill the holes for the bolts, counter sink the holes on the bottom of the board to allow for the bolt to be flush with the base.

After all of the split hooks have been mounted it should be possible to secure the two board halves together. You are looking for a nice snug fit, as it will loosen up a little bit as everything gets used and broken in.



From right to left: The split hook oriented in the "tour" position, before being bolted down. The top of the board with the split hooks bolted on and the two board halves fastened together in "downhill" mode. Looking at the base of the board you can see the allen head bolts flushed with the base.

The Touring Bracket

The next part of hardware that I tried to mount was the touring brackets. To mount the brackets, you need to find the balance point of each half of the board. To do this place a 1" wooden dowel across two saw horses or garbage cans. Secure the dowel so that it does not move. Place one of the board halves on the dowel so that it can balance on its own. When you have found the balance point, mark where the balance point is on each edge of the board with a marker. Do this to both halves of the board. With a straight edge connect the two marks so that you have a balance point mark that goes all the way across each board half.

Next you will want to find the center of the balance point line and mark the center, so that the touring bracket is mounted on center of each board half.



Here you can see the balance point, and center point marked on one of the board halves.

you would take the template that is provided with the brackets and punch where you are going to drill the holes and then drill them. I did just that, only to find that the templates that were provided were misprinted and they were slightly scaled down. The end result was the two rear holes for the touring bracket were both about a 1/4" off. I called Voile to confirm that this was the problem and they concluded that this was exactly what happened. By the time I had figured this out, I had already drilled the bolt holes and counter sunk all of the holes for the T-nuts on both brackets. OOPS! The good news is that I have been a ski tech for several years and I can plug the holes, fill the counter sinks and re-drill the rear bracket holes in the correct positions.

IMPORTANT!!! Do not rely on the paper templates that come with the touring brackets. Use the paper template to line up and mark the forward most hole for the brackets, but use the brackets themselves for the position of the rear holes.

Assuming you can position the drill holes for the brackets correctly, follow the directions from here.

Once you have the correct size holes drilled through the two halves of the board for the bolts, you will need to countersink for the t-nuts on the base of the board. I found that a 3/4" forstner bit and a drill press worked best. You only need to countersink just far enough to make the t-nuts flush with the base of the board. The directions say that the t-nut fits into a 1/4" hole, this is not the case, you will need to drill a slightly larger hole so that the sleeve of the t-nut will fit. If I remember correctly the holes need to be 19/64" or some odd size. Use a drill bit sizing card to find the correct hole size for the t-nut sleeve.



The touring bracket holes before counter sinking.



Using a 3/4" forstner bit and a drill press to countersink the t-nuts into the base of the board.



Here is the base of the board after the t-nuts have been installed. If they are countersunk enough they will cover over when you wax the board.

You will have to forgive me, but I forgot my camera when I went to my parents house to finish the board. The rest of the steps are pretty straight forward and simple though, so I doubt that you will have any problem.

The first thing that I had to do was fill the holes that were incorrectly spaced due to the misprinted templates for the touring brackets. To do this, I placed a piece of tape over the hole that I wanted to fill on the topsheet. I then mixed up some epoxy and warmed it slightly with a hair dryer. Warming the epoxy makes it easy to pour into the hole that is being filled. After filling just the drill hole with epoxy, and waiting for the epoxy to fully cure, I finished filling the countersink for the t-nut with p-tex. Once I had the two rear holes on each board half filled, I used the bracket itself to mark the position of the new, correctly positioned drill holes.

After both of the touring brackets were installed, I put the binding plates on the brackets with the pins inserted and used them as a guide to find the placement for the heel risers. You want to make sure that the heel risers are centered and the same distance back from the touring bracket on both board halves. The way that Voile has you install the heel risers requires you to drill holes in the board and use more t-nuts. From my experience as a ski tech I figured that this was too much work and decided that I would use posi screws like you would use to install a heel riser on a telemark ski. This only requires that you drill a pilot hole for the screw and you DO NOT drill all the way through your board. When installing heel risers this way just make sure that you don't drill the pilot holes too deep. Although if you do, you can just install them per Voile's directions. Make

sure that you use the correct drill bit size for the pilot hole, a 3.9 x 10mm or a 4.1 x 9mm pilot bit size are usually the two most common sizes used. Make sure and use a waterproof glue of some sort on the screws to keep the moisture out, just a dab on the tip of each screw is fine. One more piece of advice, don't over tighten the posi screws, you can strip out your hole if you are not careful. A also left out the shim that goes under the heel riser, I didn't feel that there was a need for it and my posi screws were not quite long enough to go through the heel riser and the shim.



Here is the heel riser in the up position.

To install the tip and tail clips you will need to place the two board halves together and then put the sticker template on the nose or tail of the board as indicated in the instructions. Use a razor blade and cut the template down the middle. Separate the two board halves and drill the appropriate size hole as indicated in the instructions. I countersunk the holes a little bit on the base, so that the rivets could flare enough to hold solid. When flaring the rivets, make sure that you have the tip or tail of the board half on a solid surface. I used an anvil and it worked great. To flare the rivet I found that a rounded punch worked well. Start out lightly and make sure to get a nice even flare started, once you have the flare almost complete, just lightly hit the rivet with a hammer to flatten it out. The tip clip should spin with some resistance, if it does you have done it right, if not you have to do it again on the other end so you get another shot.

The last step is installing the pucks for the binding plates to slide onto. This step is pretty simple. Place the two board halves together and use the sticker templates to mark your stance. Make sure that you get your stance exactly as you want it, the pucks are fixed and once you drill you are more or less committed. After you have found your stance, cut the template down the center and drill pilot holes, just like in the heel riser step, for the binding puck screws. It is important that you get the pucks lined up as accurately as possible, because if you do not, you will have a hard time sliding the binding plates on and off. Mine are just a touch off, but a little filing will fix that problem. At this point, if you are able to slide the two board halves together and your binding plates slide on and off, you have successfully built your own splitboard!



The board in split mode.



Here the two halves are put together in board mode.

If you have problems with the binding plates not wanting to slide onto the pucks easily, I have found that a little spritz of cooking spray lubricates the system quite well. This will also prevent icing up of the binding plates and the pucks. Just spray some on to the grooves in the binding plates and wipe off the excess.

If there are any questions about anything that I have covered in this write-up please feel free to e-mail me.

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Total Project Costs

Snowboard \$75.00 (got it cheap at a board swap)

Voile Split Kit \$150.00

Climbing Skins \$85.00 (check out [climbing skins direct](#))

Ptex and epoxy \$15.00 (To fill over t-nuts and to use on puck screws)

Total \$ 325.00

FAQ

The FAQ list will grow as I ask myself questions along the way, or as others start to ask questions about the building, using, riding, and touring of a splitboard.

Q: What kind of flex and length should a snowboard have, that I want to make into a splitboard?

A: You will (*generally) want a board that has a medium to stiff flex. When you cut the board in half, a portion of the flex is lost making the board softer. In powder condition a softer board is OK, because the nose of the board can flex up some letting the board ride up onto the surface, rather than diving under. As far as length is concerned, you will probably want a board that runs 6-10 cm longer than your normal on piste board. The deeper the pow the more surface area you are going to need to get up and on top of it.

*In my case, I am going to be using it mainly for lift serviced backcountry, where, touring will be a minimum, so I am going with a shorter length for better inbound performance.

Q: What happens if I mess up cutting the board in half?

A: Don't mess up! You get one shot at doing it right so don't rush it. Like I said above, I had someone else who was much better at making straight cuts than I am cut the board in half. After the board is cut in half small mistakes are not nearly as costly as a crooked cut.

Q: What if don't want to cut my only snowboard in half?

A: If you have a board that you don't want to risk cutting in half, then I would advise you to do what I did and pick up a cheap board at a board swap or go to a pawn shop. You will most likely have good luck finding a board for around \$100 that will be perfect for building a splitboard. Remember you are using it for backcountry boarding, it is going to get beat up, so its not bad to have a board that you are willing to thrash. If you end up thrashing the board past the point of rideability, you can always remove the hardware and reinstall it on a different board later. Not to mention every backcountry snowboarder should have a quiver of boards, not just one, or two, or even three.

Q: Will there be any loss in performance when I make my regular board into a splitboard?

A: There may be some loss in stiffness from cutting the board in half, and depending on how well you mount the hardware you may have some more board chatter. If you take your time and make sure to do everything correctly then there will be a minimal loss in performance, and risk or chatter. You need to remember that the board will is supposed to be used in the backcountry where snow conditions are extremely variable and a boards performance needs to be varied, and not just strong in one aspect. If you are going to be riding groomers all the time with the splitboard you will notice some difference. This brings me back to the point that it is good to have a quiver of boards.

Q: So, I have decided to go along with doing the split project, where can I go for help if I get stuck along the way.

A: There are several places that can provide you with advice and help. The first place that I would recommend is Voile. If you have an issue with how to install a piece of hardware or the size of a drill bit etc, I would give them a call. From my experience they are very helpful and friendly. Another source of info would be splitboard.com browse the forums and see if anyone has similar

questions to yours. Lastly, I would be willing to try and answer any questions that you may have. Just send me an e-mail climbingjunkie.com@gmail.com.

Useful sites to help you along the way.

www.voile-usa.com

www.climbingskinsdirect.com

When you get to the point where you need skins for your splitboard, check this place out! All skins under \$100 a pair, and free shipping!

www.splitboard.com

A website devoted to splitboarding. Info on gear, avy links, and forums!