S2000.org Mods - Installing an Amplifier

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Intro

We will assume that you have decided, like many S2000 owners, that the factory stereo setup leaves a little to be desired. While many head units are "high power," most will have a hard time overcoming road and wind noise with the top down. Most amplifiers that will outperform your average high-end head unit will be too large to fit under either of the two front seats. With little else room available, the trunk becomes the obvious choice. This installation will cover the wiring and mounting of an amp in the rear trunk well, just above the tire tools. The wiring should be identical for any accessory (changer, etc.) that would be trunk mounted.

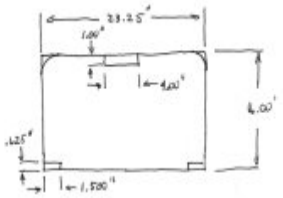
Before and After:


What You Need

- Approximately 4' x 4' of 3/16" or 1/4" thick masonite (or similar)
- Approximately 1' kength of 1" x 1" or larger square hardwood (or 1" diameter dowel)
- Approximately 3' x 4' roll of "automotive" carpet (or similar)
- Approximatley 16' of primary power cable (4 AWG recommended for an amp)
- Approximately 2' of primary ground cable (4 AWG recommended for an amp)
- Primary fuseholder and fuse (preferably waterproof and with screw terminals)
- 20' RCA cables (for however many channels you are running)
- 20' 18 AWG turn-on lead
- Enough wire loom and tape for your cabling
- 4 #6 screws and T-nuts (depending on your amplifier - see below)
- 8 #6 x 1" wood screws
- 1 8mm dia. x 1.25 pitch and 20mm long metric bolt
- 8mm or 1/4" ring terminal (same AWG as ground cable)
- corresponding screwdrivers
- Scroll saw (jigsaw)
- Drill and bits (clearance and drill for the above screws)
- Misc. files, sandpaper
- 3M Spray Ahesive (or similar spray/contact adhesive)
- At least 1 dozen 6" wire (zip) ties

Building the Amp Rack

Fortunately, you already have a template for the bottom piece of the amp rack- remove the factory tool-storage "cover" and use it as a template. Noptice that this piece can actually be a bit larger (if your amp is larger), or you can completely remove and "replace" this piece with the bottom of your amp rack. The decision is yours. For the top, simply cut out the piece from the masonite according to the following drawing:



Note the notches that correspond to the contour of the well, as well as the "handle" at the top. Once you have them roughed out, you should clean up the edges and "refine" them as necessary. It's also a good idea to test-fit them into the well to be sure of proper fit.

Now you will need to make a cutout for your amplifier. The easiest method is to trace around your amplifier on the top piece of the rack, then modify the cutout from there. Keep in mind that you may need to access screws or functions of the amplifier from above- you may need to modify your cutout for this purpose. Fort the Soundstream Reference 604, the cutout was actually reduced somewhat from the footprint to "clean up" the final installation.

Once you have the proper shapes cut out of the masonite, you will need to make the spacers for the two pieces. To keep items from hitting the amp you should space the upper and lower pieces such that the amp is "countersunk" below the top piece. Cut the wood dowel into 4 pieces to space the two pieces. In this installation, the spacers were cut to bring the top piece just barely above the top of the amp, to both protect the amp and maximize the amount of storage space.

Covering the Amp Rack

The easiest method is to size, cut, and wrap the pieces like you would a gift. Start with the bottom piece. Lay the pieces out flat on the carpet, cut a piece large enough to wrap around it, then spray on the adhesive and wrap. To get a smooth surface, you may find that you need to trim the round edges and corners where the material bunches up. Take some care and you can make it look professional.





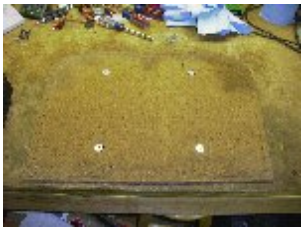


After covering the bottom piece, test "fit" the amp and the upper portion to be sure the cutout is the proper size. You can also test-fit the spacer you made. You should now be able to screw them in from the bottom, then screw the **uncovered** top piece. Test fit the assembly in the well to be sure it is centered. Once you screw the two halves together, you're ready to cover the top piece.


The method is the same as above- lay it out and cut the piece just large enough to fit. It's easiest to cover the piece (including the hole), then cut out your hole **being sure** to cut a small enough hole to wrap the material back around the inside. If you cut the hole exact, you'll find that you may not be able to cover the inside edge of the top (as well as promoting peeling of the material). Once done, cover the top piece as you did the bottom. Test fit the assembly in the well.



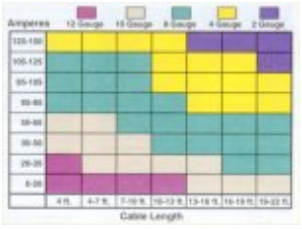
Once you cover it, you should be ready to mount the amp. This is the easy part, simply align the amp, mark the holes, then drill clearance holes for the mounting holes. For amplifier mounting I usually use T-nuts:




These are pretty secure and allow you to buy/cut screws to the exact depth of the mounting surface. This is usually handy in amp racks as you don't have to worry about the screw protruding past the material and getting hung up on carpet (allowing you to use thinner, lighter material). After drilling those holes, press in the T-nuts and install the screws. You should now have a finished amp rack!

Wiring the Amp

This is the fun part. First, there are several factors to consider. While we've recommended 4 AWG wire, this is a "worst case" requirement. Most amplifiers will not need this, but it's much safer to err on the high side. If you would like to choose your own cabling, use the following chart as a reference:



You might recognize it from Crutchfield's "Car Stereo Installation Guide." Very good for beginners, they sell it for a few bucks and toss it in for free if you buy anything. Recommended reading for all car audio newbies. And if anyone from Crutchfiel complains, check your records over the last 15 years and see how much business I've given you...

Once you pick your cable size, be sure you fuse the primary cable at **NO MORE** than what the cable is rated at, preferably no more than the amplifier's max rating or the sum of the ratings (if installing more than one amp). Try to use a waterproof fuseholder that's a quality piece (Rockford Fosgate, Phoenix Gold, Streetwires, etc.) with screw-type terminals. This will simplify installation/removal and insure a durable installation.

Another factor to consider is the placement of the fuse and where to tap into a primary power source. Typically the battery is the best location, though the S2000 leaves precious little room to do this with conventional "battery lug" taps. The best location we found was the fusebox- remove the top and you'll notice two cables, one of which leads to the + terminal of the battery. We used that one, bending a battery crimp terminal (available at an auto parts store) so that it would fit like the factory cable. While the lid to the box now bulges a bit, it still fits and only a trained eye could differentiate the setup from stock (a little wire loom helps that).

Using a 10mm wrench to loosen the terminals and battery "stay," remove the battery. Find a convenient spot to mount your fuse (if it screws down) or place it if it will be "loose." Once you decide where to place the fuse, we need to find an easy route through the firewall and into the cabin. With the battery removed we found one right away:

Before you can run the cable inside, you will need to remove the passenger's side kick panel and the door sill trim:


To remove the kick panel you will need to remove the two trim clips above (you should be able to just pull out on the panel gently. The kick plate along the door sill just unsnaps (lift up).

Now you can run the cable. Undo the tape and carefully insert the wire into the grommet hole. **DO NOT CUT THE GROMMET!!!** It is there for a reason. Moisture and debris aside, the grommet protects against shorts from the firewall and other conductors. It may appear difficult at first to insert the wire, a screwdriver (carefully!) makes it easier to stretch the opening for large gauge wires.

In our installation we used wire loom to cover all wires run in the car. You may notice that most factory cabling is covered the same way. Wire loom protects the cables from rubbing as well as anything sharp (the unit body). We recommend it not only for safety and durability, but also for a clean, professional-looking installation.

To run the cable through the firewall, simply feed your wire through the hole, then run it along the existing wires and down into the cable "tray" along the side sill towards the back:

You will now need to remove the panel behind the seat to get into the trunk area. There are two 10mm bolts through "hooks" that you need to remove. The panel should unsnap at that point. Once you do that, you can remove the trim clip and then the screw down by the seat belt mounting point:



And now you can see where to run the cable:

Now you need to remove the liner in the trunk:



The spare tire portion can be done by pulling out the trim clips by the tiny handles. The side pieces use push-clips, simply pull them out (sometimes harder than it sounds). Try to use even, slow pressure to keep from bending the sheet metal that the clips snap into. The rearmost panel (along the outer edge of the trunk) uses a "resettable" clip. To remove the clip press in on the center dot. Not too far, it only needs to go in 1/8 to 1/4". The clip should "snap" and you should be able to remove it. To reset the clip, widen the legs slightly and push the post back up to it's center position. You can just snap the clip back into it's hole at this point. Once you free everything, you should be able to run the cable where you like, in this case, down into the trunk well.

To run the RCA cables and speaker wire, we did the same thing on the driver's side. It is recommended to do this to prevent power/ground noise, though this is probably of little concern for most stereos, especially in the S2000. A larger concern may be cable size if you have multiple amplifiers, a CD changer, or very large primary (power) cable.

The ground location that was used was factory:

We're not sure what it was intended for, though it was most likely intended as a ground or mounting location. This is a "typical" 8mm x 1.25 thread, what most of the 10mm-head bolts on Hondas use. We scavenged one from our parts bin to use, you can probably locate one at your local hardware store. Crimp or solder on your ground cable and run it with the power to where your amp rack will be (should be pretty short). Be sure to remove the paint around the contact area with sandpaper or a grinding wheel. Go through the body color, through the primer, and down to bare metal. You can paint everything afterwards if you are worried about rust. Without a good ground you might as flush your high-dollar amp and power cable down the toilet- if you choke off the ground it won't matter how good the rest of it is, you won't make the power you should.

Once you route the cables to the rear of the car, you can wire (zip) tie the wires around the unit body in the trunk to the final location. To minimize cutting of the trunk liner, we routed the cables all the way around the back to the center of the rear wall of the trunk. They can then be run down to the well the amp sits in and into the rack with only two small slots in the liner cut. If you buy a few large pieces of wire loom that hold all your cables, you can use these sections to cleanly route all of the cabling out one or two of these. In our case, this greatly cleaned up the 4 RCAs in, 4 sets of speaker wires out, and the primary and turn-on wiring.

Congratulations, you should now be done! Reattach all the trim (we hope you saved those screws and clips!) and enjoy the new installation!

As always, feel free to email the author with comments, critiques, etc.