

## Project: Painted Exhaust Manifold Heat Shield

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Car model: 1991 Honda Prelude SR  
Engine model: Honda B21A1

There's nothing worse than opening up your hood and seeing a hideous exhaust manifold heat shield staring back at you. Thanks to the immense heat that our exhaust manifolds disperse, the heat shields often become singed and the paint starts to flake. Plus, they get really dirty, a painful sight to see.

The good thing about this is that the heat shield is one of the easiest parts on your Prelude to refurbish. A couple bolts, some fancy maneuvering, a song and a dance, and the whole thing comes right out. I decided one evening that I would fix mine up, because it was starting to look pretty scary. All you'll need is some paint of your choice capable of handling exhaust temperatures. Some sand paper, or a wire wheel is useful for clean up.

The first thing you need to do is undo the three bolts that hold the heat shield in place. Careful, there is a good chance that these will be seized, and the last thing you want is to have the bolt heads shear off. I suggest spraying some release fluid on them and letting them sit for a few hours before you try to twist them off. When you do try to take them off, use an impact wrench if you have one. Impact wrenches create very strong vibrations in a bolt and a great for breaking the seize without breaking the bolt. Just be careful, and you should be able to get them out without any trouble.

With the bolts out of the way you'll be able to start to move the heat shield out. You can try to take it out of the engine bay at this point, but if your setup is like mine, you'll find removing the heat shield from the engine bay is infinitely harder than it looks. I tried and tried, but I couldn't pull it out from behind all the hoses without scratching something up.



My solution to this problem was to unhook the power-steering line, allowing me a little more room. This worked well, and I was then able to remove it easily. Once I had it out, I sent it through the parts washer to clean all the dirt and oil off. This helped things a little bit, but the paint was still in terrible shape. Larger measures were needed!

I got out my trusty die grinder and wire wheel and went to town on the heat shield. The wire wheel is excellent for removing paint on such an item, and things went very quickly. In a matter of minutes I had all the paint off and had given my heat shield a fancy brushed aluminum look. It looked a lot better, but I thought I could get a much better result after applying some paint.

I went to the hardware store and picked up a few colors of engine paint. The kind I got is good to 500 degrees celsius, probably enough for an exhaust heat shield. I started by putting on several coats of low glass black paint. This was a huge improvement, but things could be even better.

I thought it might be nice to decorate the 'hand' logo on the heat shield slightly. After all, it conveys an important warning message, no one likes to burn themselves on their own car....jokes. I masked off the area around the hand logo with newspaper and masking tape then sprayed a few coats of blue paint on the unmasked area.

Once the paint had dried, things looked tons better. Now I had a black heat shield, with a blue warning in the center. It was at this point that I noticed the the cross that runs through the warning message is raised much higher than the area around it. This makes it a perfect candidate for polishing, and since this is aluminum we're talking about, I knew it wouldn't take me long to get things really shiny.



I put my cotton wheel on the dremel, and using some white polishing compound I began to polish the cross. This went very well (I love power tools) and before long the cross had a nice chrome-like shine. Sweet. I was satisfied.

Reassembly is easy, just be careful not to scratch up your work while you maneuver the heat shield back into place. Tighten up the bolts, and don't forget to reattach your power steering line if you removed it. Beautiful.

Enjoy.