

## 650 V Star Seat Mod

by



[Michael Hendricks](#)

So being of creative mind and shallow wallet, I decided to modify the seat that came on my bike instead of buying a more comfortable one. It worked out great, and since a friend had the tools I needed all it cost me was the price of some glue.

I went from taking a pain-in-my-ass break every 50-70 miles to easily being able to make it "tank to tank" (not having to stop until I need gas) - about 150 miles - and still not be sore.

Here's a shot of what it looked like before I got started. *(I had already modified it once, and had forgotten to take pictures. This time I was tweaking and perfecting it. Maybe I can get someone else to hook me up with a matching angle shot of a stock seat for comparison.)*



Note the bulge in front of the seams, and the height of the center of the seat.

My method is fairly simple to do, but it does take a little confidence and a steady hand.

Tools needed:

An electric grinder, with a sanding wheel attached

Screwdriver/pliers for removing staples

A stapler, with 1/4" or 3/8" staples

(A small hammer might not hurt, it's difficult to get the staples into the hard plastic)

Glue

*I used 3M Super 77 spray glue, which is a great product. However, currently there is a spot in the "bowl" of my seat where the vinyl comes up a little when it gets warmed up in the sun. 3M also makes a spray glue that is specifically for rubber, foam and vinyl - which I discovered after I did this job unfortunately - that would probably do a better job. If you can find a canned, brush-on glue for rubber and vinyl it would make the recovering part less of a hassle than a spray.*

You should use an old, used sanding disk on the grinder. A new one will remove material too quickly and you may cut deeper than you mean to. If you don't have an old one, make it... find something fun to grind a new wheel on for a little while to smooth it down, like maybe your neighbors yard gnome.

You begin obviously enough, removing the seat from the bike, pulling all the staples underneath and carefully peeling the vinyl cover off. There will still be a layer and small chunks of foam rubber glued to the cover. For a nice, smooth final product, and so the glue will stick better, you wanna clean as much of that off as you can.

Underneath the vinyl is a thin plastic ring covering the foam under the seams. I'm of the opinion that this is useless: the fabric backing of the vinyl causes a wicking effect, so the foam rubber will wind up wet anyway; then the plastic makes it harder for it to dry. Just discard it.

Also, if the foam rubber happens to be wet, set it in the sun or something to dry completely before you get started. Anywhere there's a wet spot it won't grind as easily, which could give you uneven results.

To save some time and trouble, I then mounted the seat back onto the bike. This is useful

because you will periodically be sitting on the seat to check the fit, plus it holds the seat nice and firmly.

However... do it this way at your own risk. I was completely confident in my ability to control the tool, but you WILL be using a powerful grinding tool very close to your precious motorcycle. If you don't want to do it this way, find some other way to hold the seat firmly when you're doing the work on it... maybe a partner who's fingers aren't as valued as your chrome and paint can hold it for you.

As you can see in this picture, the indentation in the foam from the seam of the cover provides a nice line to go by for getting both sides of the seat pretty symmetrical. My intent was to eliminate the bulge right at that point, making it so the seat-bowl would turn inward right at the seam instead of above it. (I figured the seam was the best "bending point" in the cover.)



I then used a Sharpie (OK, it was generic) to make a reference line right down the center

of the cushion.



Now you'll begin sculpting your seat with the grinder. You may want to practice just a little on some similar foam to get your technique down (depending on the direction your grinder spins, one side of the wheel will be easier to control than the other - I find that it's easier for me if the wheel is pulling the machine away from me rather than pushing it toward me). Don't worry too much at the beginning though, you'll be taking a lot of foam out of the seat, so a little gouge at the beginning will disappear by the time you're through. I removed at least a good 2 inches of foam from most of my seat (the wider portion).

The sculpting method I used was to grind and shape downward into the seat, and then "smooth" it back into the back, rising portion.

Grinding down/shaping:



Smoothing back:



I had in my mind a model of a horse saddle, both in design and function. People tend to think an uncomfortable seat isn't soft enough, but if you think about it "soft" is just a generic way to make a seat "one size fits all." What's better than soft is **shaped like your butt**. Horse saddles aren't soft at all, but when one has been riding a good saddle for years it becomes shaped like the rider. If a chair was shaped exactly like **your butt**, it could practically be made of wood and it would still be comfortable.

Part of that mental model was the slight rise down the center of the seat.

All in all, this was a very gradual and patient process. I would grind the left side down a little, using the center line and the right side for reference, make the right side match it, then sit on it. I had the sidestand on a brick to hold the bike mostly upright, so I could balance and put both feet up on the pegs to check the riding position.

I would note where it felt like pressure points were and then repeat the process a little more.

More foam ground away...



I also kept feeling the rear portion of the cushion for thickness. I was trying to move my riding position down and back, and like I said, "cushion" wasn't so much a priority, but I didn't want to wind up grinding **through** it. At the end, I was left with about 1" of cushion at the thinnest point (which was at the back... there's still lots of cushion on the bottom).

I ground the back to smooth the whole thing, to the point where it was almost, but not quite, vertical, and went to the seam mark, but not past it. Again, I stopped grinding and sat on it a few times while I was doing this.

I should also mention that a couple of times I also removed the seat from the bike and checked the fitment of the cover.

Here's a shot of where I stopped just short of the seam, you can see where the arrow and one mark from the previous picture are gone:



And one more good one showing the bottom and back, pretty much finished... nice and smooth! You can see that the front of the hump is still pretty much where it was to begin with:



At this point I decided that as far as the looks, I thought the hump was a little too much. I ground some more off, and this is my completed sculpture before I put the cover back on:



And one more, from the same angle as a picture above, showing the difference in the hump:



And now I'll criticize that last decision:  
Frankly, the seat was slightly more comfortable before I ground off a bit more of the

hump. The hump wasn't so much something I could feel, but somehow it did help to push my butt back into the seat a little more. Just something to keep in mind as you design your own.

Recovering is rather a tedious pain in the ass (but worth it for the pain in it that's relieved by the whole process).

You need to spray both sides (the vinyl and the foam rubber) with the glue for it to stick best, and Super 77 sticks very quickly. As you probably noticed when you pulled off the cover to begin with, the whole thing doesn't need to be glued, just the top portion... or the part that's encircled by the seam.

Take your time. I strongly recommend gluing it a strip at a time, spraying (or brushing, much easier) about a 2 or 3" stripe and positioning it before spraying another. This way you'll keep from A. having parts stick that you aren't working on yet - making the whole thing harder to work with, and B. getting glue all over your hands - making the whole thing harder to work with.

With a little trial and error I found that I got my best result working from the front back (it's narrower so you start with less glue there), and then from the center out. Since the front was modified the least, you can put that part on almost exactly like it was before (the front is just a puzzle piece, with the rest you just re-cut half the pieces and have to do some figuring-out) and even put a couple of staples in it.

Stretch it good and press it in toward the center, the deepest part of the "bowl," making sure to put plenty of glue there (it's really taut across there, and, well, bowl-shaped) and then work it upward and outward toward the seam. I found that it went up and straight over the back with minimal difficulty, but then getting the sides tight and wrinkle-free took a bit more effort. The more you can manage to glue from the center - outward the easier it will be. There's another indentation across the top/back of the cushion from the seam that's there... if you get the front on good, then the middle of the bowl, then that back seam, you're off to a frustration-minimized start.

After that you're ready to start stapling.

I'll warn you now, it can get a little frustrating. The plastic is very hard, and the angles available to work from are inopportune at best, obstacles at worst. A hammer helps once you get them started, but since you're trying to whack on an inverted cushion it can still

be a little cumbersome. I suggest gripping the hammer, or finding something else convenient, and using it to push the staples in once they're started.

Pull it nice and taut, and put plenty of staples in it. Wherever you wind up with thick wrinkles, staple around it first, cut a slit in it, and staple it down as layers instead of a wrinkle. You may find that with some attention to detail you can get it on there better than the guy at the factory did it.

Here's a shot of the completed product (with a repeat of the first picture for a close comparison) :





And a before and after profile shot:





You can see the difference at the seams and the studs, but the most significant difference is the scooped-out bowl into which my narrow butt comfortably nestles on a long ride.

And see...



...it looks like it came that way.

Until you put it next to - or sit on - a stock V Star 650. (Especially a new one... yuck.)

Three special notes:

1. With this modification, and another free one that lowered the rear end 3 1/2", the seat height of this bike is now at just 24 1/2". This means that this could be a strongly recommended bike and modification combination for any shorter brothers or sisters out there looking for a comfortable motorcycle. The lowered center of gravity and riding position also make this bike very easy to control.

B. I stopped where I did because it was *pretty much (see the next note)* where I wanted it to be and because I didn't want the studs to visually go any lower. If your seat has no studs, and you want to, I believe you could go a lot farther with this mod. I've removed a lot of foam rubber from this cushion and the stock cover still fits what I'd call "perfect with a little difficulty (read: elbow grease)." I also left very much a "bowl" shape to it, with the sides of the saddle almost where they were originally. I believe that the following differences from my shape/design can also be accomplished and still have the stock cover "look right":

The sides can be carved away/out more, creating more of a stretched-out "C" than a "bowl," for wider butts than mine (mine's admittedly, umm, lacking in bulbousness). *This one can probably be done with a studded seat.*

The bottom of my seat still has a lot of foam rubber. If you wanted to go for a more old-school, much flatter look, you could carve the cushion right down to where my studs are and still have more padding than a springer seat. The stock 650 seat has a good 4" of padding (top to bottom) - I removed about 2" - while the back of the bucket (the plastic frame of the seat) has weird shapes that have to be worked around, the bottom is flat, so you could easily take away another inch if you were so inclined.

For either of these, I haven't tested them. I would recommend stopping periodically to make sure the cover still fits the way you want it to, but I see no reason it won't (the seam might start looking a little out of place).

And lastly, but most importantly, that old ragged pair of shoes didn't become your favorite overnight. Over time they've become shaped "just right" for your feet and the way you walk. You're trying to recreate that for your buttocks. Don't be afraid to get it "good enough" this time, put a few hundred miles on the bike, and then repeat the whole

process. In fact, go ahead and plan on it. I've done mine twice already, and was already planning this time to do it once more before I call it finished.

I believe that with a stock seat and a few creative hours of your time you can make a seat that's **at least** as comfortable as any \$350 aftermarket replacement. Remember, that \$350 seat is still made to fit everyone, not you, and I don't think any modern seats will gradually shape to you like a good saddle.