Seat Rebuild with Kemmler Air2Gel Foam BY EliseTalk's Brian 111

Like a bunch of people here, I wasn't really satisfied with the seats on my '05. For short periods they were ok, but after a couple of hours the thin butt-padding and poorly placed lumbar support was really detracting from the fun of driving the car. I sat in a couple of '06 (both Elise and Exige) cars and wasn't impressed by the Probax seats. I've been playing around with my seats for some time and am REALLY pleased with them now. What I did was to reposition the lumbar bladder and use Kemmler Air2Gel foam in 3/8 and 1/8 inch thicknesses to pad and contour the seat.

First, I slowly peeled back the upholstery from the top (unsnap the fasteners first). The bottom cushion had foam that was easy to rip up when separated from the seat, so I used a utility knife to slice it away from the seat shell, almost like scraping a sticker off of the inside of a windshield. I covered the foam with duct tape to keep it from disintegrating (just separating it from the seat made a huge mess) and to give me a stable surface to reattach it to the seat base with tape or glue. Next, I moved the lumbar support. There is an old post showing that it can be slid down an inch or two, but this wasn't going to work for me. I wanted to move it down by drilling a new hole and re-attaching the tube, but it didn't seem to be possible without destroying the bladder and having the dealer replace it. So what I did was to flip the bladder over. The surface facing the upholstery was folded down, and became the surface attached to the seat shell. By doing this, the inflation tube didn't move. For my frame (5'8" and 160lbs) this was 1000% better:

The "x" is masking tape to make it easier to see the new position.

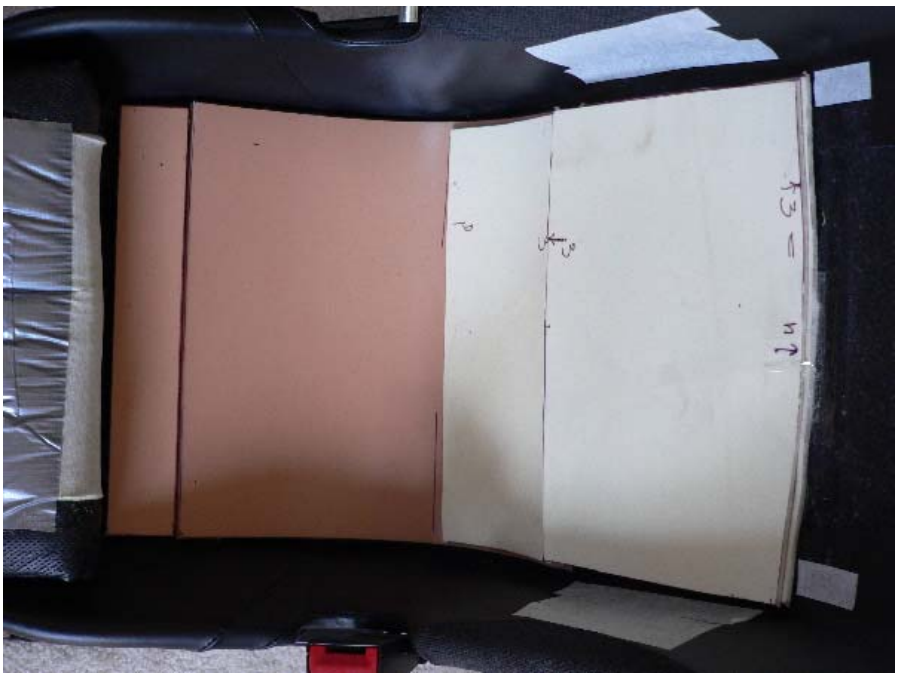
This is a little hard to see, but it shows how the tube from the bladder goes straight into the existing hole in the seat:

I started the padding by using 3/8" Air2Gel (it's brown) on the bottom of the seat, beginning with a strip over the metal which is molded into the shell. The larger piece goes from there to a spot part-way up the backrest. The first try used a piece all the way up to the fiberboard; what I have here is the last of about 25 configurations. This shows the metal strip in the seat, its foam covering, and the front edge of the big piece:

I cut the original foam piece into several sections to play with the positioning and to test where (or if) I would double them up. The foam is amazingly dense, and one layer would be fine- except in the lumbar/backrest. area. I tried a second layer, but had two problems: 3/8" was too much padding, at least in this density, and second, the foam is impossible to cut on a beveled angle. I was able to make a partial cut, but the foam crumbled under the next cut. a straight-through cut is no problem, though. It is so dense that it can dull a utility knife blade significantly after only one pass of the blade. So the chance of my butt wearing it out is about zero. This behavior of the foam was confirmed by Kemmler. (I can't remember the name of the guy I spoke to several times, but he has been a great help in doing this).

The rest of the padding is 1/8" Air2Gel. It is much softer, even when stacked up to make a 3/8 or 1/2" piece. It can also be cut with scissors. This picture is of the first piece of 1/8" foam, which goes from the top of the thicker sheet up to the spot where the fiberboard support for the leather begins. There is a lot of masking tape visible which I used as reference points:

Next, I ended up placing strips of the thinner foam in overlapping positions to build up the back. Surprisingly, the edges of the leather on the frame helped contour the foam upwards to cradle the sides of my back. This shows all of the thinner padding in place from above. On the left, the duct tape covering the OEM foam is visible:



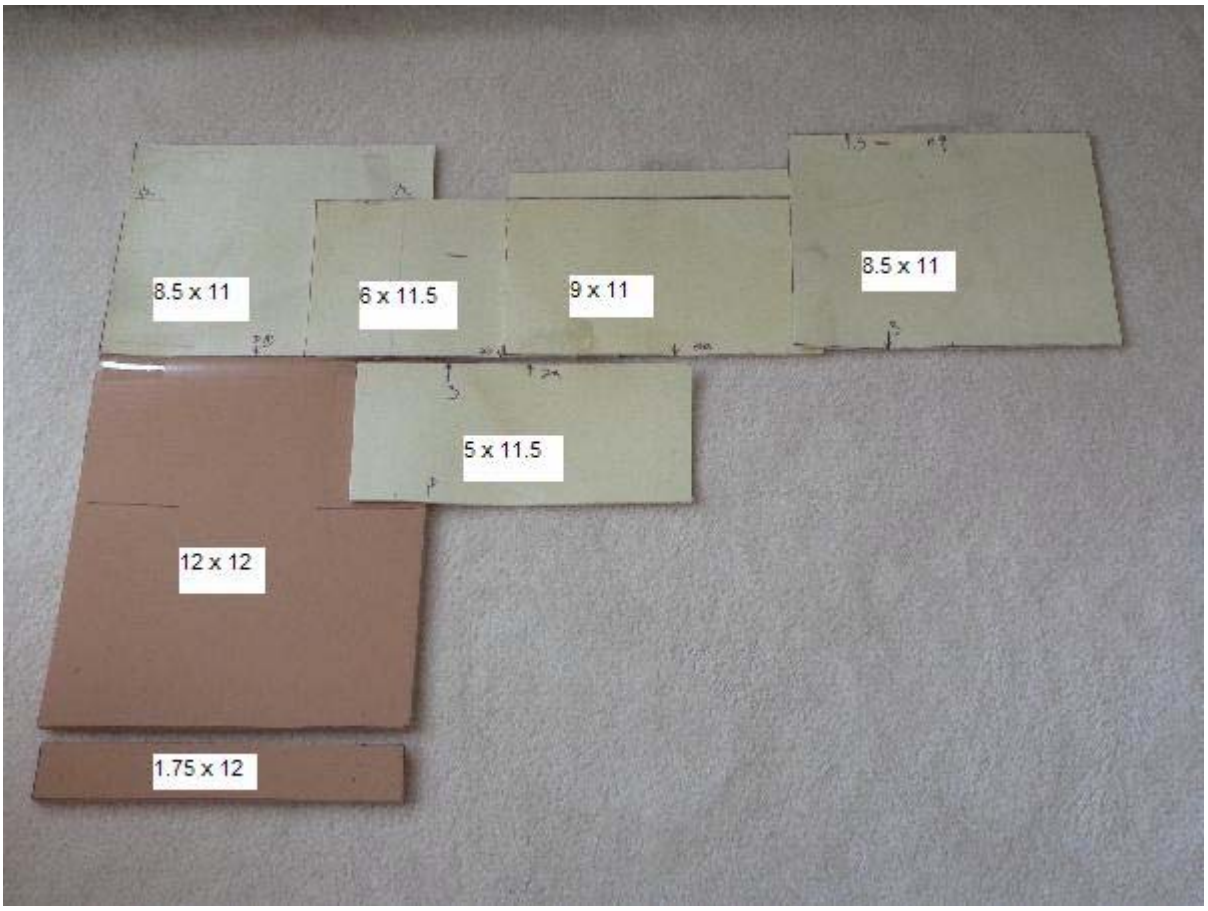
Here's the reassembled seat:

And the stock seat:

This is easier to see the difference; the modified seat is the one farthest away:

It may look a little strange, but the lumbar support (not inflated here) helps a lot on the bottom, and the combination I ended up with makes me feel like I'm sitting up straighter like the Probax seat is supposed to.

Finally, here are all of the pieces laid out in their order of assembly and in their final positions, except that the far right piece ended up being an inch lower:



Now, I love my seats. The impact resistance of the 3/8" foam makes the car seem like it is smoother on bad pavement, and the 1/8" layers make a night-and-day difference- the seats almost seem cushy compared to the way they came.

A few other details:

I used contact cement for the final assembly of my foam, the reattachment of the lumbar support and the leather. The upholstery was reattached with double-stick carpet tape. It will allow easy removal of the leather in case I want to tweak the seats later.

Pull the leather towards the center of the seat when reattaching it after moving the bladder. It will prevent wrinkles on the side bolsters.

I found that UPS type packing tape worked best to position the foam in place when experimenting. It comes off easily without damaging the foam, unlike duct tape, and holds well, unlike masking tape.

The cost including the tape and glue was less than $100. It did take a Long time, but after a dozen tries, it fell into place pretty quickly. It may not work for everyone, but I thought it was worth a try.

Brian