The Volt Vette Project

Chapter 10

Fiberglass Boxes for a Fiberglass Car

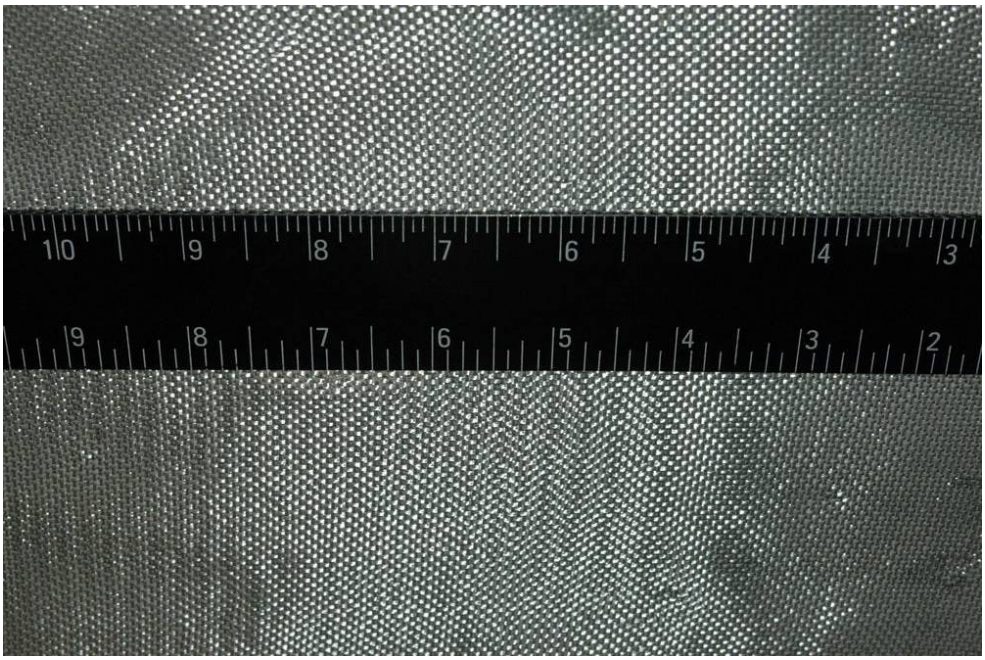
My original plan was to have a local plastics shop make me three battery boxes out of one of those semi-soft, leak-proof plastics. These boxes would be supported by a welded metal framework.

But Lee thought I could save weight by using self-supporting fiberglass boxes, and could save money by making the fiberglass myself. Years before, I had heard that working with fiberglass was very unhealthy, due to toxic fumes and all that.

I knew the Corvette had a fiberglass body. But that body seemed to be more weak and heavy, than strong and light. Lee explained that GM used cheap cloth and a lot of cheap resin to make Vette bodies. If I used high quality fiberglass cloth, my boxes would be strong. If I squeezed out the excess resin, the boxes would be light.

Knowing next to nothing about making fiberglass, I went to the public library to get a how-to book. Bad news. The library computer said the system had how-to books on everything from paper making to thumb twitling, but NO BOOKS on making fiberglass! Ouch! Perhaps it's too dangerous? Maybe too difficult? Lee said not to worry.

I went to the yellow pages and called up a boat shop. They did not stock the cloth I needed, but were able to order it.
In a few days I had a gallon of epoxy resin, a quart of hardener, and a 30 foot roll of fiberglass cloth. It didn't look very strong to me.



Pressing ahead, I made a plastic form test box, and cut some fiberglass cloth strips. Mixing a little glue, (5 parts epoxy to one part hardener) my nose was happy to find that the mixture did not give off toxic fumes.

I laid a cloth strip across the box and tried to paint it with epoxy. The cloth stuck to my brush rather than the box. After much trial and much error, I had a box covered with 2 layers of fiberglass. After it had dried I turned the box upside down and jumped on it. The box didn't break. Turning the box on its side, I jumped on the box again. The box didn't break. Finally, I put 320 pounds on the box. It still would not break. I was impressed!

But, this fiberglass cloth is about $6.00 a running foot, so I do not want to make the real battery boxes until I'm certain how many batteries will go in each box.

A lot depends on where the electric motor will be mounted. (See Chapter 9)