

How to fabricate a lost side cover

I happened to lose the left side cover on my Suzuki GS1000G and just could not find another so decided to make one myself. My method is obviously the most unprofessional method available, but it worked for me.

1. I obtained some of those green foam blocks that is used for flower arrangements at our hardware store. I glued them together to make up a size larger than the right hand side cover.
2. Then I put the right hand side cover on a piece of cardboard and traced the open end shape and cut it out about 3mm smaller (to allow for the fiberglass mold). I flipped it around and glued it to the flat side of the block of green foam. (As you need to make a mirror image of the opposite side, you must turn the cardboard around.)
3. Now I used a kitchen knife to roughly trim the foam to the size of the cardboard template, but a little larger and overlapping the edges.
4. Now put the existing side cover next to the foam piece. Give it a very good MK1 eyeball from all angles and plan how you need to shape the foam to make an inverse shape of the side cover. The dangerous part here is doing this incorrectly and cutting on the wrong side. It is difficult to make the foam bigger, but easy to take some off! You could even make a rough sketch to guide you.
5. Now use a rough file and some P60 sandpaper and just start working at the foam. Take it easy and carefully shape it to the exact mirror image of the side cover you still have. If you have the same type of foam it goes down nearly too easy and also crushes easy, so be careful as you do not want to damage your masterpiece!



6. Now glue a block of wood to the cardboard base so that this side cover mold is raised about 20-30mm from the base to allow an overhang when molding.
7. Wrap the complete model in ordinary kitchen sandwich plastic wrapping



8. I used an ordinary floor wax and waxed the sandwich wrap on the outside, to act as a release agent. It also meant I had to wash the first mold out very well before I could put any layers on the inside. You may want to do something better here.

9. I bought 1 liter of fiberglass resin and a bottle of hardener, a bottle of acetone for cleaning and some woven mat, used for fabricating fiberglass items.
10. I cut out a couple of shapes of the woven cloth and slit the ends so that they would not bundle up and large enough so that they would completely cover the foam mold.
11. Next mixed some resin and then painted the foam mold with resin, stuck the prepared woven mat on it and proceeded to wipe on enough resin and work it in carefully with the paintbrush and smooth it off. This all has to be done before the resin starts curing and hardens.
12. I then set it aside to cure.
13. Once cured I just bent the new and very flexible single layer slightly until the mold popped out.



14. Now you can build it up on the inside by just painting on a few more layers of matting with resin. Another 2 layers should be OK. (If you do it on the outside the cover may become too big and not fit.)
15. After this you should have quite a sturdy resemblance of a side cover, with broad edges as in the photo.
16. Use a flapper sanding disk on a small 115mm angle grinder and carefully shape and smooth the outside of the new side cover, always referring to the existing one. Then use P60 sandpaper on a rubber block to shape it further and smooth it down.
17. Once your new side cover is shaped to your satisfaction and fairly smooth it is time to trim the edges. Again use MK1 eyeball and measure the existing cover sides and draw the edge on the new cover with a felt tipped pen.
18. Use a small cutting disk on your angle grinder and carefully trim the edges.



19. Test fit your side cover and trim as needed and sand the sharp edges until it fits nicely in the position on the bike.
20. The next step is to manufacture the hinges and the fixing pin. Bend 2 pieces of aluminium sheeting to be glued to the inside of the side cover with a slot cut, using a Dremel or jigsaw, so that the side cover hooks into the two lips of the frame same as the original did. Try to have a fair size for fixing to the side cover as base plate. Now glue these two pieces in place

with a strong epoxy. I suggest grinding a flat spot on the fiberglass before glueing.

21. Fabricate the fixing pin from a piece of aluminium rod and just grind the head on a bench grinder to simulate the shape of the pin in the existing one.
22. Fix this pin to a small square piece of aluminium sheet, about 25 -30mm wide, by drilling a tight fitting hole and forcing the pin's back end into it, or threading the pin and the hole, or riveting the end. Epoxy this baseplate to the inside of the side cover.
23. Check that your side cover fits properly and can be removed in the correct way.
24. Now put another layer of matting and resin over and around the aluminium bases of the pin and hinges so that the base is completely covered and a big fiberglass overlap onto the side cover is allowed for good bonding. Now those bits should be very sturdy after curing.
25. Use ordinary panel beaters body filler and tidy up the side cover, prime and spray paint to your liking.