

Garbage disposal repair with epoxy?

By Bruce Niederer

If your kids are like mine, they manage to break stuff you didn't even think could be broken—constantly. As parents, we can either get inventive at repairing things we know little or nothing about, or we can get second jobs and pay someone else to fix everything. I like the first option better. So in the spirit of banding together against a common enemy, I offer the following household repair tip.

I discovered two things after my little angels decided to put dirty silverware down the garbage disposal. First, there is a black plastic reducing collar on my garbage disposal that connects the bottom of my sink drain to the top of the disposal. Second, shoving silverware in the disposal is not a very good idea. I ended up with a hole the diameter of a pencil in the side of the reducing collar. To replace it, assuming the part is available in the continental U.S., I would have to spend at least two hours under the sink removing brackets, dismantling the plumbing, and cursing the children. Instead, I decided to get a bit creative.

The collar is made from a low surface energy plastic that is difficult to bond to. As a general rule, assume that any injection-molded, mass-produced plastic part will be hard to bond to. Surface preparation is the key to a good secondary bond. First, I scuffed the surface with sand paper, then wiped the dust off with a plain white paper towel and a bit of acetone. (Note: solvents release ink from printed paper towels and fabric softener from rags, contaminating the surface.) I cut a length of Epysize™ 731 (3" wide woven glass tape) so it would overlap by about 2" and mixed a small amount of WEST SYSTEM® 105/205. Then I flame treated the scuffed surface with a propane torch.

To flame treat a plastic surface, hold a propane torch flame about 4" to 6" from the plastic (with the tip of the flame just above the surface) and move it across the surface at a rate of 2 or 3 inches per second overlapping the previous pass slightly. Keep the torch moving and only allow the exhaust gases to hit the surface. If done correctly, the surface will not discolor or burn in any obvious way. This technique oxidizes the surface and improves adhesion.

Using an 803 glue brush, I put a thin coat of epoxy on the plastic surface and wet the glass tape out on a piece of plastic sheet. I wrapped the glass tape around the collar so that the overlap was centered over the hole. Finally, I cut another piece of plastic to wrap around and over the whole repair, pulling it taut and taping it in place with masking tape. (Hint: be sure to keep the plastic clean. Masking tape will not stick to wet epoxy.) The following day, I removed the plastic wrap. After about 24 hours, I turned on the water—no leaks! I tried the disposal—no leaks! I ran the dishwasher—no leaks! Success!

That was about 6 or 7 years ago and it has not leaked. Neither heat from the dishwasher nor vibrations from the disposal have caused the epoxy to let go. So get inventive. That 'A' group of WEST SYSTEM epoxy on your work bench can be used for many things other than building world class boats—which, of course, the kids might break anyway!

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