



THE BOATYARD

Bow bumper adhesion

by Dick Martin

THIS IS MY THIRD ARTICLE in less than three years describing attempts to find an ideal way to get rubber bow bumpers to adhere tightly and permanently to the CR 914 bows to which they must be attached in order to enter most regattas. And it promises to be the last one that we will need. Ever. I hope.

The silicone sealant that bonded well to second-generation (molded silicone) bumpers did not always prove to adhere very well to third-generation rubber bumpers that replaced the silicone ones, which had proved to fracture too easily in collisions. CA gluing Dacron sail repair tape to MEK-treated rubber bumpers, which I touted in 2005, proved not to work consistently, nor did the 3M mounting tape that Andrew Schmidt had discovered and which I reported in these pages last winter.

Recently I tumbled to the fact that CA adheres well to *old* rubber bumpers, but not to new ones. Brand-new 914er

and chemist Fred Hawthorne (#1360, *Turn Around*) suggested that some chemical change may occur in the rubber, e.g., oxidation, which would make things like 3M tape and CA glue adhere well only after bumpers ‘age’ for awhile. To test that oxidation hypothesis, I pretreated a bumper by soaking it in hydrogen peroxide for several hours. That didn’t work. But a two-hour soaking in Clorox diluted with water (suggested by my wife, who nearly flunked chemistry) did the trick! It made the surface of the rubber feel very slightly tacky but did not damage it. And CA now bonded the rubber to ABS tenaciously, apparently as a result of *hydroxylation* of the surface of the rubber which lets the stands of polymerized CA get a better grip on it.

If you go this CA route, I recommend taping the bottom half of the bumper in place and applying “thin” CA (not the “superthin” CA that comes in

the CR 914 kit) to the upper half of the bumper with a toothpick. ‘Tape-clamp’ the bumper in place until it hardens, then turn the hull over and CA the lower half the same way. You’ll mess it up if you try to hold the bumper in place with your fingers while you glue it.

Another, simpler and I think better, solution has been discovered by Dave Ramos: *Gorilla Glue*. Made of pure polyurethane, this stuff, though somewhat messy, also bonds tenaciously to rubber bumpers (new or old—I have tested both). It’s much easier to work with than CA because it doesn’t begin to set up immediately. Apply it with a rubber-gloved finger to the bumper, wet the bow according to the Gorilla Glue instructions, and ‘tape clamp’ it to the bow with masking tape overnight. Use very sparingly, though; any excess will ooze, as a tan foam, out around the edges, and it’s impossible to remove neatly once it hardens. ▀