



## “Tools & Tips”

By Gary Butts, MMR

### 5 Second Fix- or Not?

I'm not usually much on “As seen on TV” products but my wife, Sandy, sometimes is and she bought some of this “5 Second Fix” UV curable glue on a whim. I didn't think much about it at the time but somewhere in the middle of building my latest scratch built wooden model while holding three pieces of wood together with my hands and mouth waiting for CA (Cyanoacrylate=Super Glue) to do something (anything?) I thought about the glue my dentist uses to secure crowns onto teeth using UV light. I have never had much luck with CA on wood and I am sure it is because the basswood and balsa wood I use have plenty of air in their surfaces and it is the absence of air that cures CA. Anyway, I decided to give this 5 second UV cure stuff a try.



A little research reveals that there are several different resin formulations and curing modes found in UV light curing resin and they all have different cured properties. They all cure in a short time by being polymerized and cured by irradiation from an Ultraviolet light source. No way to know which type of resin this particular UV cure adhesive is but I forge ahead. What I found is that this glue works really great for holding small wooden parts together. It is easy to apply, nice and thick and comes out of a small tube end that looks similar to a ball point pen. The glue stays in place and does stay pliable for some long period of time. I suppose that the UV from the Sun would hasten the cure but on my

model bench it did not cure until I was good and ready and hit it with its built-in UV LED.

The glue worked really well for tacking parts together and fairly well for permanent bonding of smaller pieces of wood. Does it have any limitations? Oh Yea.... First off, it needs UV light to cure so, glue that sits between two larger pieces of plastic or metal will never “see the light” and they won't cure! I verified this. The UV light seems to penetrate thinner wood parts, maybe up to 1/16” and I had luck doing this. As seen in a lot of the on-line reviews of this material, this stuff does not do well with engineering plastics. Well, I am an engineer with some experience in bonding engineering plastics (Acetal, polyurethane, polyethylene, etc.) and I can tell you that short of solvent bonding, nothing works well on engineering plastics! Styrene, ABS, PVC and other plastics can be solvent bonded (essentially melted together) but short of that- good luck. This 5 second stuff works no better or worse than epoxy, CA or any other adhesive on the engineering plastics. Also, since this resin is unfilled (no mechanical fibers or fillers in the resin) it is not extremely strong.



Do I still have some on my bench? You bet! Small wood parts, fillets inside of walls, tacking parts in place until my epoxy cures and allowing for precise alignment before curing are all just what this stuff works well for. You can find prices from \$1 to \$15 for this same stuff so be careful what you are buying. Some come bulk packed with no batteries and apparently some are old and dead on arrival. Sandy bought several for \$8 through Amazon and all have been OK. Compare the package with this photo. Also, be sure to get the cap back on straight after use because the pen will dump all of its glue into its loose cap after a few days and makes a mess. Yes, I verified this as well. Also, I would not store one of these pens for months before use. Good luck and happy gluing! -gb