

CA GLUE ACCELERATORS & DEBONDERS

by Mike Nassise

A primer on a couple of ancillary commercial products available for use with cyano type glues _ editor.

CA accelerator solution or "kicker" as it's often called, is a catalyst that is applied to CA glue that causes it to cure (set or harden) almost immediately. This stuff is fantastic for making field repairs when you don't have time to wait for regular model glues like Duco or Titebond to dry.

It's also nifty stuff for tacking "fiddly" little pieces in place on a model without gluing your fingers to it, and further damaging the ship as you try to pull them free.

However, there is one admonition, don't use kicker unless you absolutely must. The problem is that kicker can cause CA glue to set up before it has time to soak into the wood and form a strong bond. Joints that are made using kicker can be very weak and brittle causing them to come apart easily. Also, some people find that the smell of commercial accelerators is bothersome so take notice if you have a sensitive "sniffer".

In addition, don't get CA glue and kicker on your skin at the same time. When you mix these two materials together a powerful chemical reaction takes place (exothermic) that can easily irritate and blister your skin, depending on the amounts present. Fortunately, the amounts of CA glue and kicker present are usually small so serious chemical burns are unlikely to occur. True, doctors do use sterilized CA glue to close cuts and lacerations but I've never heard that they use kicker to speed things up. Being careful with solvent type accelerators is always good advice.

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I've been using Baking Soda (sodium bicarbonate) as an equivalent to solvent accelerators for years when building model airplanes in my shop. I also keep a small amount in a small plastic snap cap vial and take with me in my flight box whenever I go flying. I use it for gluing, gap filling, etc. Moisture is the key for getting CA to cure (specifically the Hydroxide ion, OH⁻). Baking Soda tends to absorb water which probably is why it acts well as an accelerator. One thing is certain, however, it's likely the cheapest and safest option. Even a few grains of baking soda applied by dabbing the wooden part to be glued in the powder, will quickly start the curing process.

Unfortunately, using baking soda as an accelerator embeds the white powder in the joint which does increase the weight of the airplane. Limit the amount of bicarbonate you use and this will not be a significant problem. The resulting material created in a CA glue joint made with bicarbonate for the kicker may be sanded, filed and drilled. Sanding, however, does involve extra elbow grease.

Getting right down to it, just plain water is probably the simplest CA accelerator you can use. A light mist of water (use a small plastic spray bottle) will set off CA very nicely. Out on the field, however, you can avoid a lot of hassle by just using commercial kickers for minor repair work. Keep in mind that water will not evaporate to dryness as fast as commercial accelerators, a property that mayor may not

be an issue for you.

I suppose we should say a few words about CA debonders while discussing CA accelerators. Debonding solutions are great to have on hand when you've inadvertently glued your fingers together. If your fingers are stuck together so tightly you can't separate them safely, debonder will turn the CA glue into a tacky substance you can peel away with water to free your digits.

Debonders can also be used for separating materials you have mistakenly glued together, but you have to react quickly. If you've used a lot of CA glue to put certain parts together, debonders may not work well getting them apart, especially if the CA glue has already securely cured. Ordinary nail polish remover will do the same thing, but at a much slower rate. That's because it contains acetone, a chemical that dissolves CA glue. Acetone is the most frequently used solvent for cyanoacrylates but not the only one. There are others such as nitromethane, methylene chloride, and dimethylformamide. Take it from me, these are all nasty compounds that you don't want to be "messing around" with.

In conclusion, separating misaligned parts and removing CA glue from fingertips are the most common uses of debonders. They can also be used to remove CA glue from surfaces where it has spilled and to clean off parts before bonding them together. For the latter, however, there are far less expensive options.