



J2 TECHNICAL ARTICLE

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From Octagon Heaven

Help from F.E. Old, N.E.M.G.T.R.
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BAKELITE REPAIR

One of our J2 owners wrote to my Old and inquired as to how to repair the cutout and fusebox covers on his J2. He had been unable to find an adhesive that would repair the bakelite material.

Mr. Old responded as follows:

According to my father-in-law, who is a chemical engineer specializing in plastics, one of the big problems with Bakelite was that it is almost impossible to glue or cement. For this reason it is difficult to repair broken parts or join parts into an assembly unless some sort of mechanical connection (bolt, screw, etc.) is possible. He knows of no solvent that will dissolve it, so you can't "melt" the broken edges together as you do with other plastics. Adhesives do not bond well to it because they cannot penetrate the surface. The exceptions are adhesives containing large amounts acetic acid, but neither he nor I have been able to come up with any current brand names. It has been a long time since he worked with Bakelite, so there may be new adhesives which will bond it. If you know of one please get in touch with Barry at the above address. Let me know as well; this is not an uncommon problem.

I have had limited success with epoxy cement. It doesn't bond very well, but well enough where there are large mating surfaces and little strain on the parts. On thin parts like your cutout cover you might try bonding the pieces together with epoxy, then apply an epoxy-saturated patch of cloth or fiberglass across the break inside the cover to reinforce it.

Another possibility is to bond the parts with Permatex gasket cement (non-hardening), a method sometimes used back when my father-in-law was still working with Bakelite. This is not a very strong repair, but the Permatex gives a bit before it pulls apart so it works okay for parts not under tension or torsional stress. A patch bonded with Permatex to the inside of the cover might also help.

In a last minute call just before press time my father-in-law also suggested formaldehyde or resorcinol two-part glues as possibilities. Their chemical composition is similar in some ways to that of Bakelite, so they might work.

Editorial note:

I have had some success with a "wonder glue" but don't expect to buy it from a local hardware store and have success for the shelf life is only about 30 days (unless refrigerated).