

# Re: Newbie questions: Recommendations on tools for SMT board repairs

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  - *Date:* Sun, 19 Mar 2006 12:44:53 -0800
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In article <[HX9Tf.2918\\$vy.2145@trnddc01](mailto:HX9Tf.2918$vy.2145@trnddc01)>, "Ray L. Volts" <[raylvolts@xxxxxxxxxxxxxxxxxxxxxx](mailto:raylvolts@xxxxxxxxxxxxxxxxxxxxxx)> wrote:

Liquid flux. I hardly ever require it. If you need to solder a large area such as a thick ground braid to a metal RFI cover, yeah, you'll probably need some extra flux. For 25+ years, I've consistently made beautiful pcb and terminal (pots, switches, etc.) joints using quality rosin-cored solder. Liquid and paste flux is at best overhyped for general electronics work. At worst, it's a time waster. It's one extra step in the soldering process you can eliminate simply by using quality cored solder, the right iron temp and proper technique (ensuing flame fest to be summarily dismissed ;) Granted, flux requirements are different for lead-free applications, but if you have a cored flux that's identical to a bottled flux designed for the task, you should be able to achieve good joints with the same small amount of flux delivered by the solder wire as with leaded cored solder for leaded apps. For more on lead-free considerations: <http://www.kester.com/en-us/leadfree/flux.aspx>

What flame fest? I'm the only liquid flux advocate around here, and I'm not interested in being unpleasant. You don't want to use it, don't use it.

One of these days I'm going to get around to posting a video or two extolling the virtues of flux. One of the greatest advantages is one-handed soldering. I often need one hand to hold the part, and one to hold the iron. That doesn't leave much to feed solder with.

So, I stretch some wire solder out on the bench, hold the part in position with one hand, add a drop of flux, put the flux bottle down, and pick up the iron. Now, I drop the iron on the wire solder a half inch or so from the end, pick up the drop of molten solder, and touch it to the joint. This technique works very well in many circumstances, including splicing wires or component leads.

As far as flux being a waste of time, let's apply my technique to a

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little sixteen pin surface mount IC of 50 mil pitch or so. Right hand positions IC, left hand uses wood Q-tip stick (or orange stick) to hold IC down snug. Right hand applies flux, then grabs iron and loads with solder (A half inch length of 0.020 or 0.025 solder.)

Start at the end away from you, slide tip along pins towards you. Eight pins soldered absolutely perfectly in two seconds. That's one quarter of one second per pin. You can actually move much faster, but may not get a full heel fillet if you do. You never lift the iron from the board. Does that sound like a waste of time?

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