

How to Solder - A not "by the book" Instructional Guide
 (adapted from
<http://www.epemag.wimborne.co.uk/solderfaq.htm>,
<http://www.geocities.com/ammardini/soldar1.htm>,
<http://home.att.net/~joemacjr/diyproject/soldering.html#>)

1. All parts must be clean and free from dirt and grease.
 2. Try to secure the work firmly.
 3. "Tin" the iron tip with a small amount of solder. Do this immediately, with new tips being used for the first time.
 4. Clean the tip of the hot soldering iron on a damp sponge or paper towel.
 5. Add a tiny amount of fresh solder to the cleansed tip.
 6. Heat all parts of the joint with the iron tip for under a second or so (see Figure 1).
 7. Apply solder (see Figure 2).
 8. Only apply sufficient solder to form an adequate joint (see Figure 3 and 4).
 9. It only takes two or three seconds at most, to solder the average p.c.b. joint.
 10. Never take more than three seconds to solder a joint. Allow the joint to cool before trying again.
 11. Do not move parts until the solder has cooled about 15 seconds.
 12. Clean the tip of the hot soldering iron on a damp sponge or paper towel.
 13. To solder more go to step 5.
 14. Return the iron safely to its stand
- Figure 4 is a good solder joint and Figures 5 and 6 are bad solder joints.

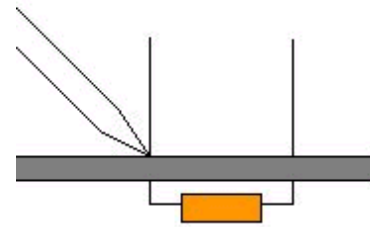


Figure 1. Heat for under one second!

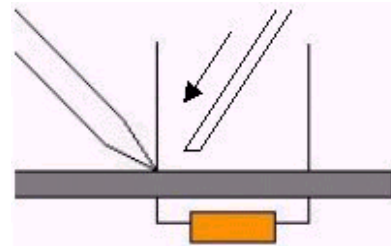


Figure 2

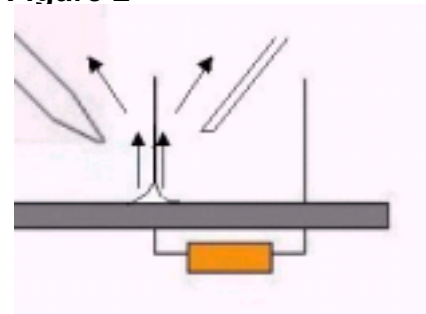


Figure 3

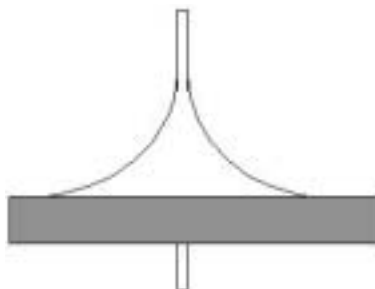


Figure 4. Good solder joint!

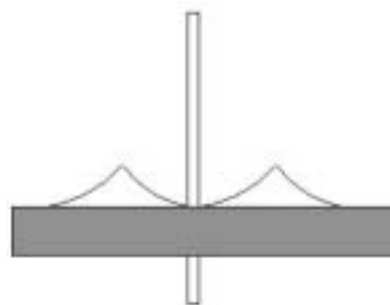


Figure 6. Bad solder joint.

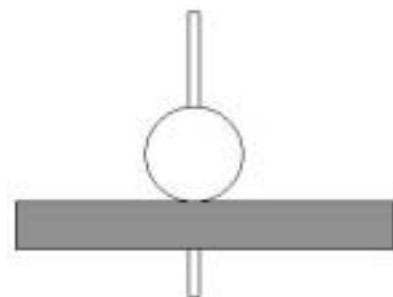


Figure 5. Bad solder Joint

Troubleshooting Guide

1. Solder won't "take" - grease or dirt present - desolder and clean up the parts.
2. Joint is crystalline or grainy-looking - has been moved before being allowed to cool, or joint was not heated adequately - too small an iron/ too large a joint.
3. Solder joint forms a "spike" - probably overheated, burning away the flux.