Soldering Workshop

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HackRVA

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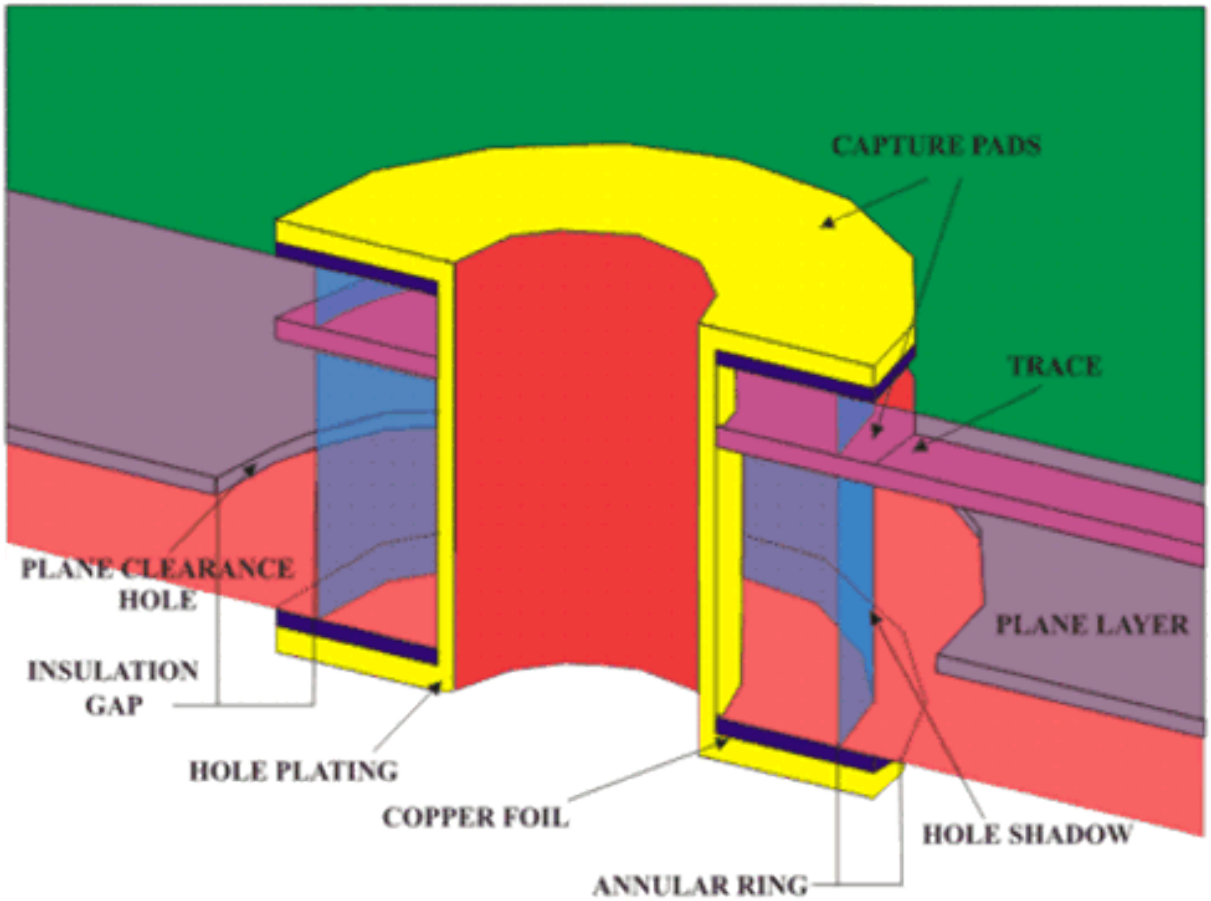
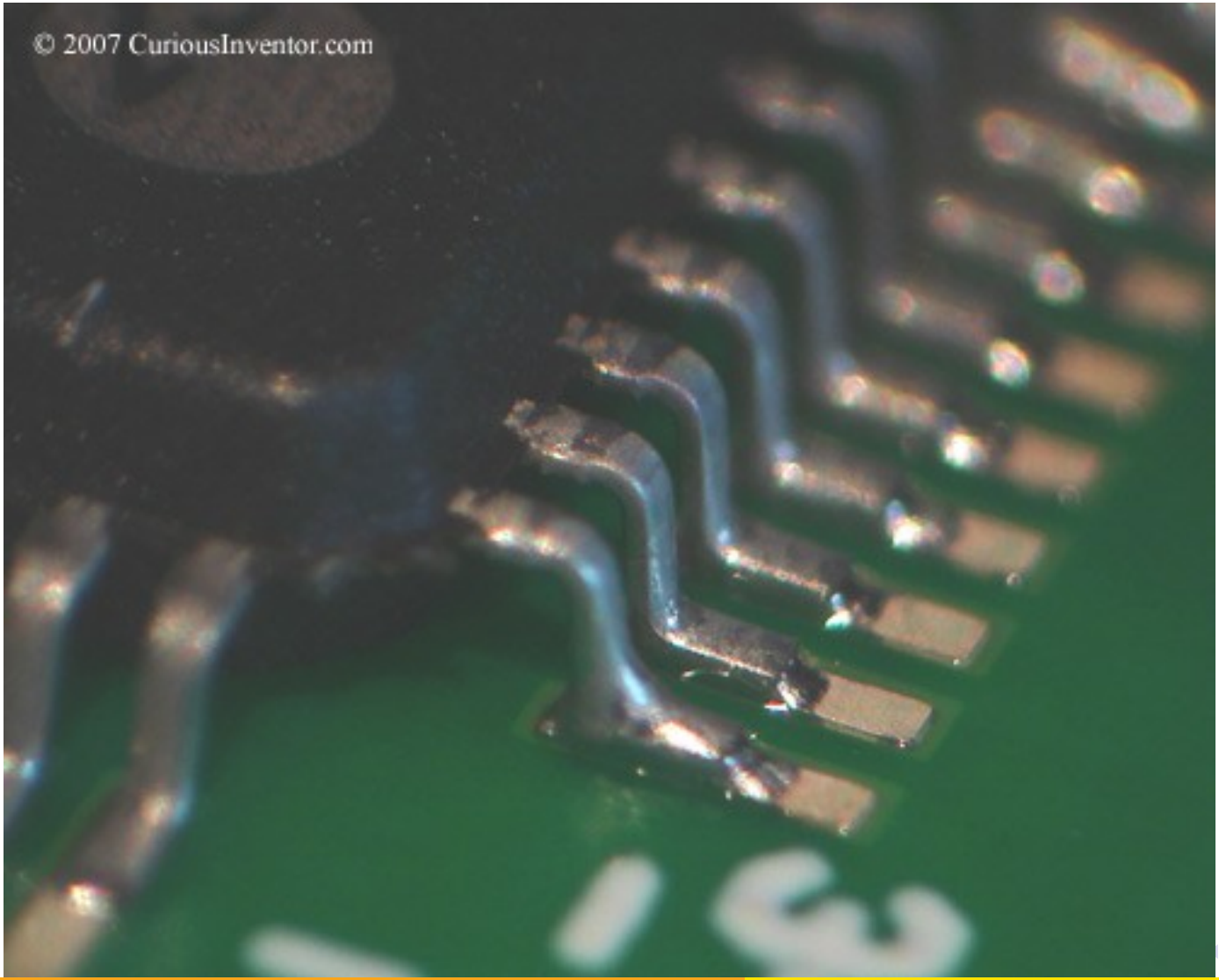
Outline

Plated Through-Hole



Surface Mount



Sn / Pb

- Tin (Sn)
- Lead (Pb)
- Common Combinations
  - 63/37 Melting Point: 183°C (361°F)
  - 60/40 Melting Point: Between 183-190°C (361-374°F)
  - 50/50 Melting Point: Between 185-215°C (365-419°F)
- So... It's hot. Burn cream and antiseptic are available. But please exercise CAUTION!
- Meaning: Point the business end of the iron at the business and pay attention while you're working

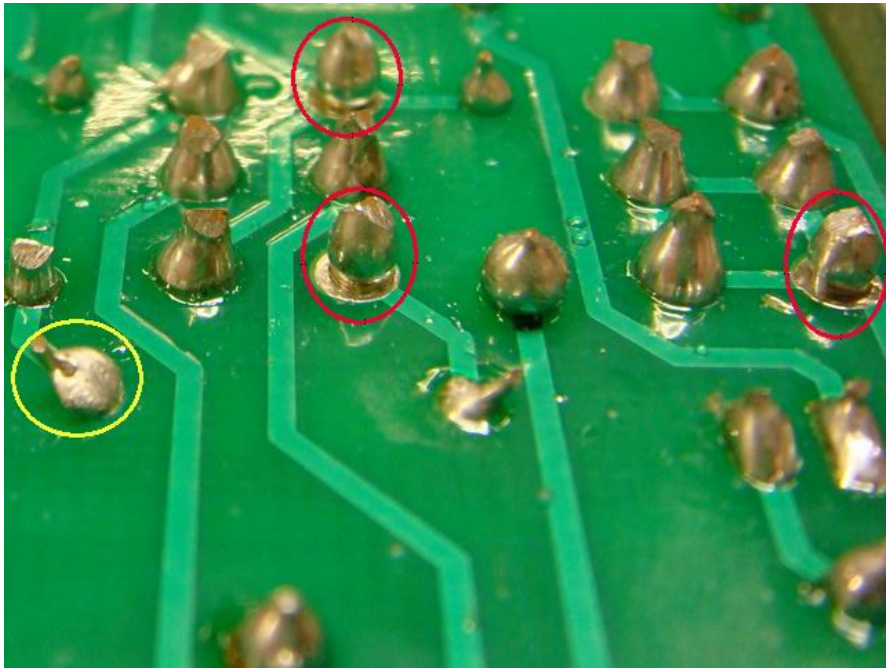
Isn't breathing this crap bad for me?

- Yes
- Use proper ventilation (we do)
- Take regular breaks (Once an hour is usually enough)
- Go outside, walk around
- Particluate masks are available for those that are really worried.

Good

- Conical Shape
- No cold gaps
- Silvery vs. Gray color indicates not too much resin as to make a cold joint

Bad



- This guy is fired
- Notice the bulging joins, possibly not even attached to collector pad
- The yellow circle indicates there is way too much flux in the connection

Here's how I do it

Watch and learn

History

- First evidence 4000 BC
- historically used to make jewelry and weapons
  - bling + killing the other guy = good times
- Not sure who invented the electric soldering iron
- a few lay claim online, but they're all manufacturers, claiming their founders created the first electric soldering iron
- I love history, but finding this Marconi seems like a waste of time
- Further reading for those that are interested can be found here: `http://answers.google.com/answers/threadview?id=441944`

These docs and their authors rock, and this presentation would have sucked more without them.

- `http://www.ami.ac.uk/courses/topics/0170_wsp/index.html`
- `http://pages.csam.montclair.edu/~west/phys240/Soldering.pdf`