
VOLUNDR
THOR

Today

What’s in the future?

Just soldering

Programing is possible

Volundr soldering workshop

Components, a basic reminder

Preparation

Making a good soldering joint

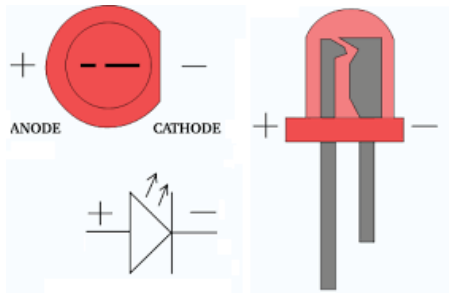
Common soldering problems

Components

a basic reminder

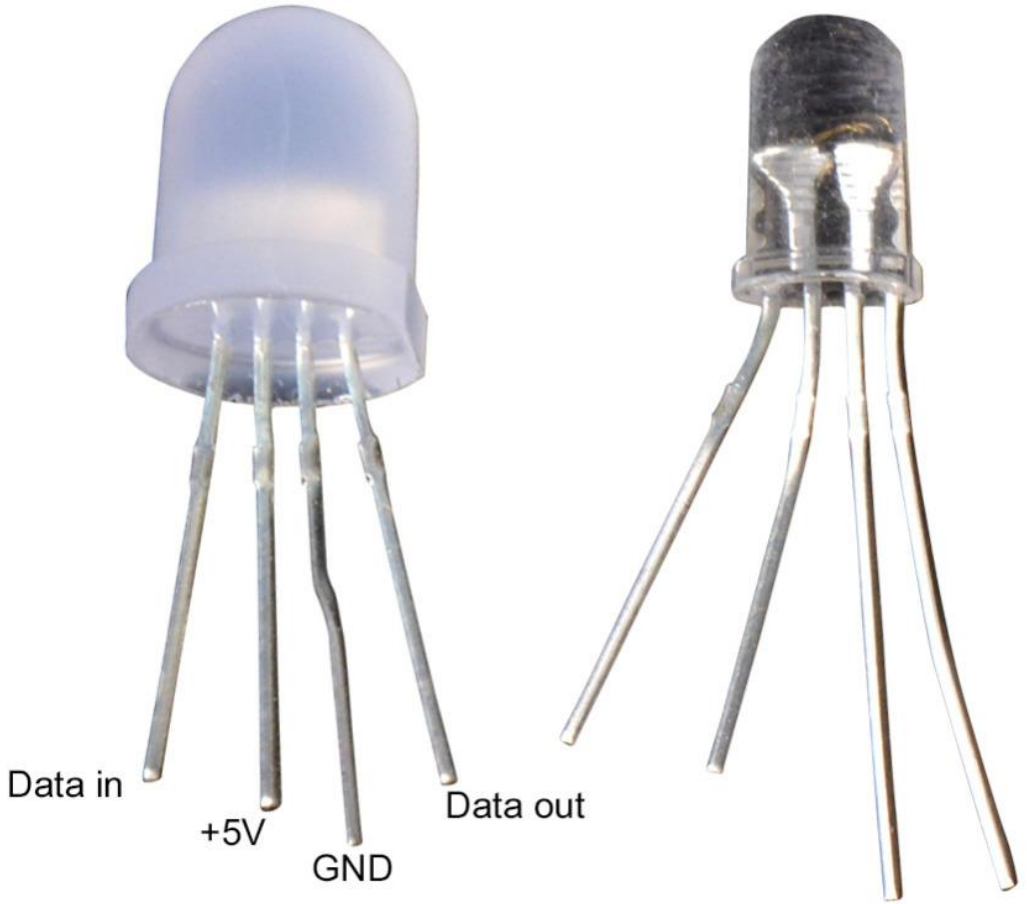
LEDs

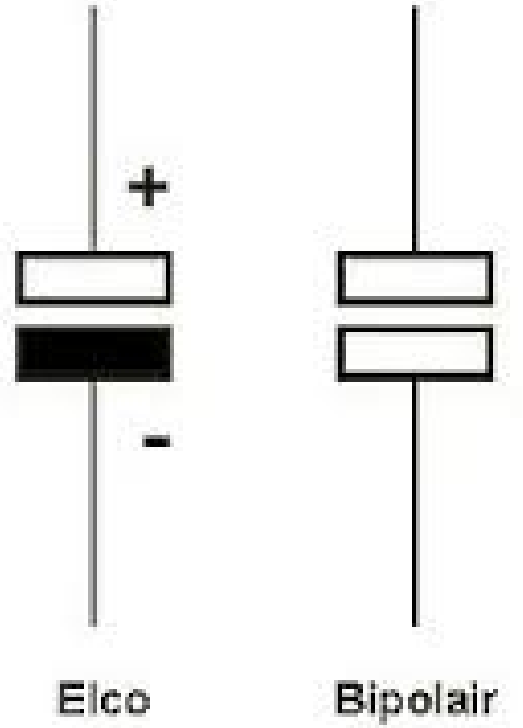
- Diodes, but different



Adressable LEDS

APA106



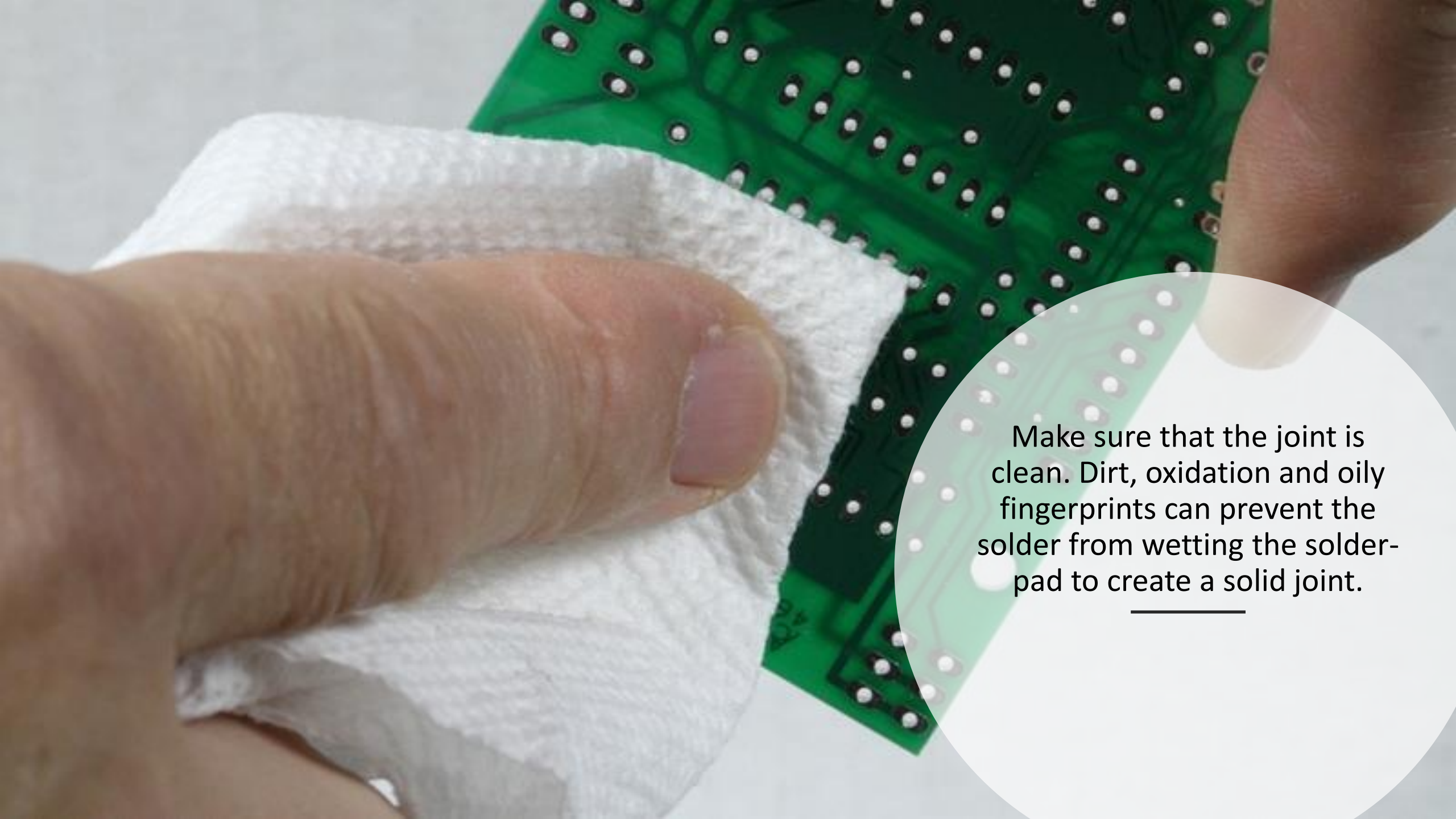


Capacitors

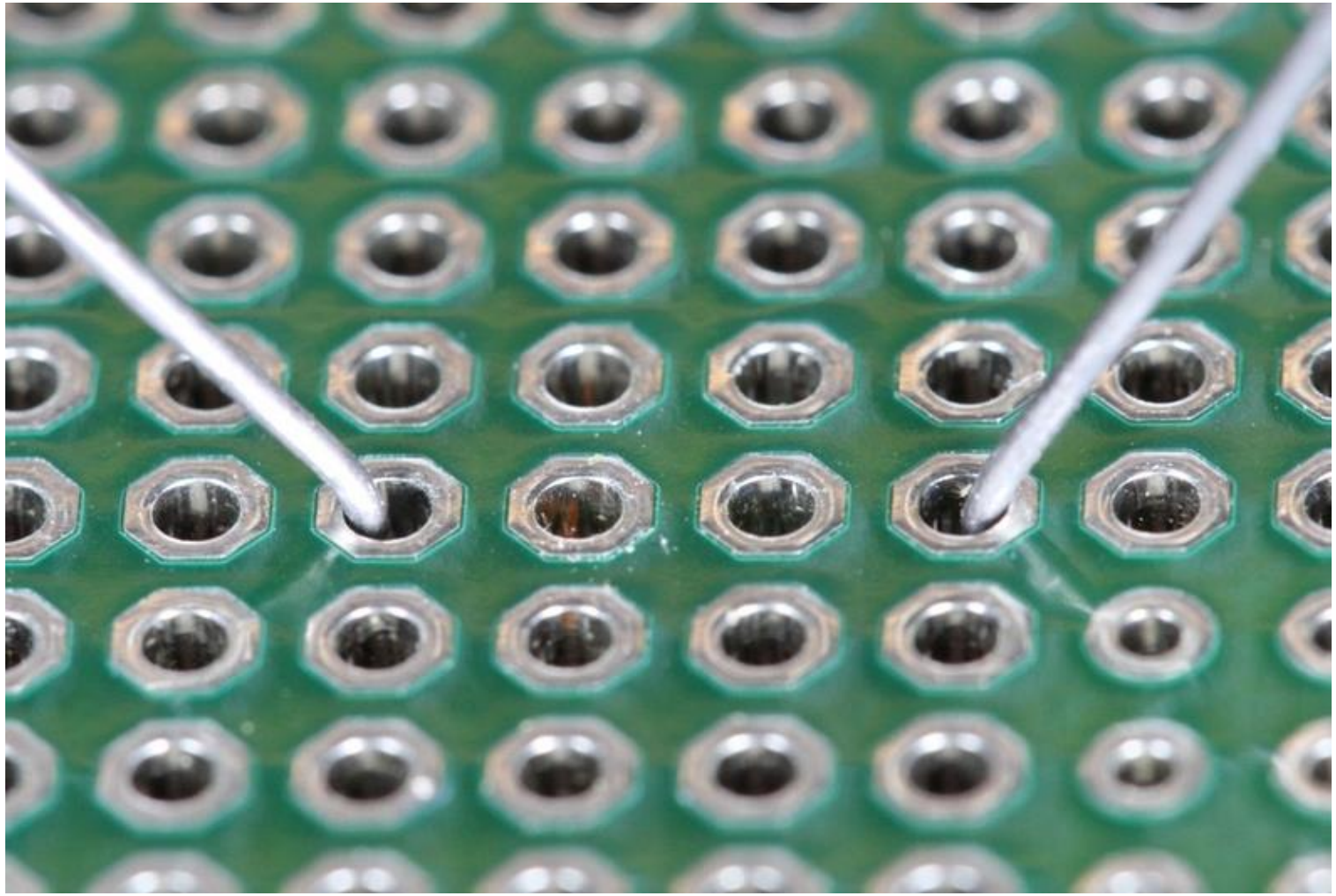
Preparation


Clean the tip on a wet sponge

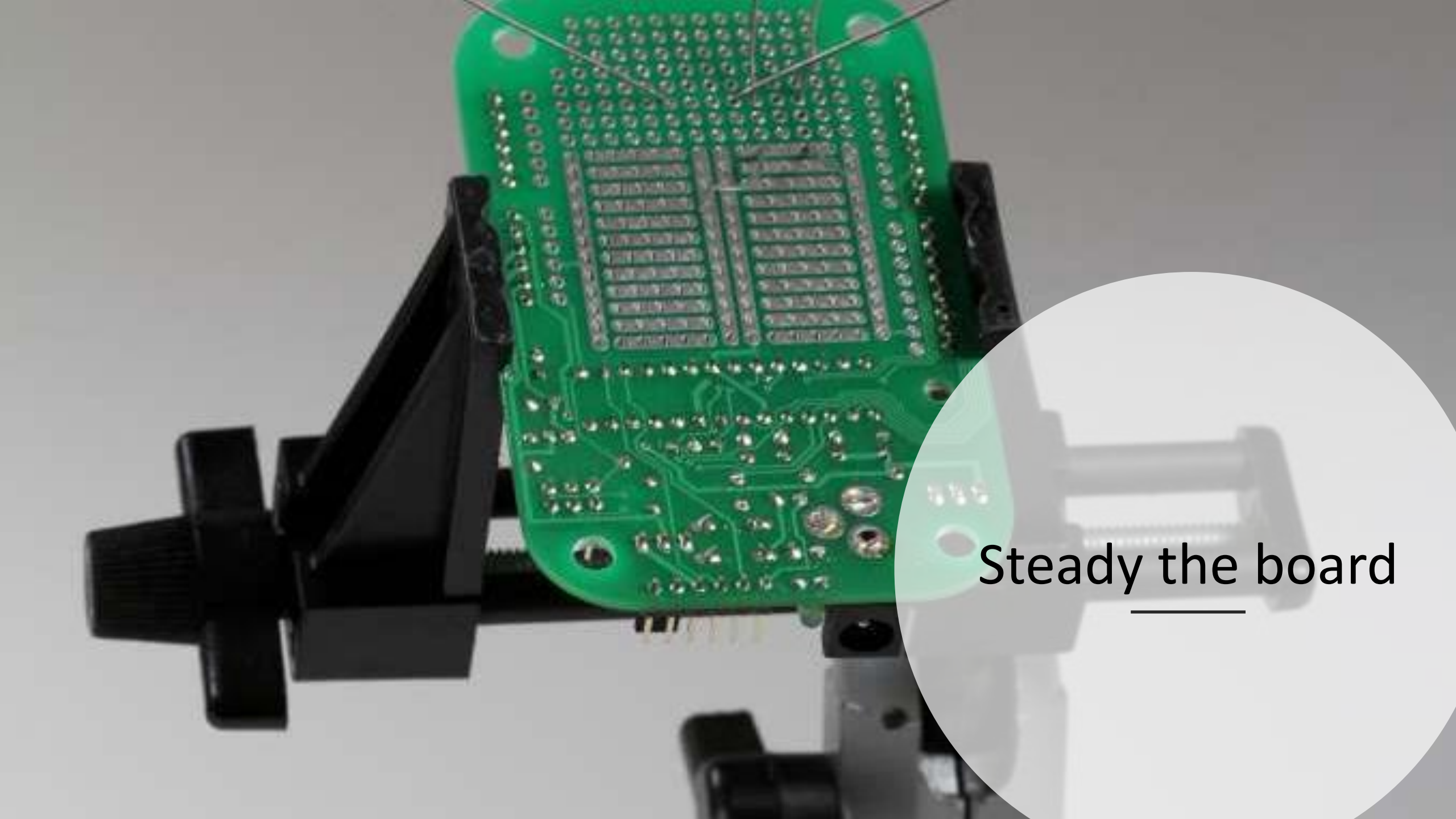
Apply a small amount of solder to the tip and wipe again to tin the tip. You should have a thin, shiny layer of molten solder on the tip of your iron.



Make sure that the joint is clean. Dirt, oxidation and oily fingerprints can prevent the solder from wetting the solder-pad to create a solid joint.

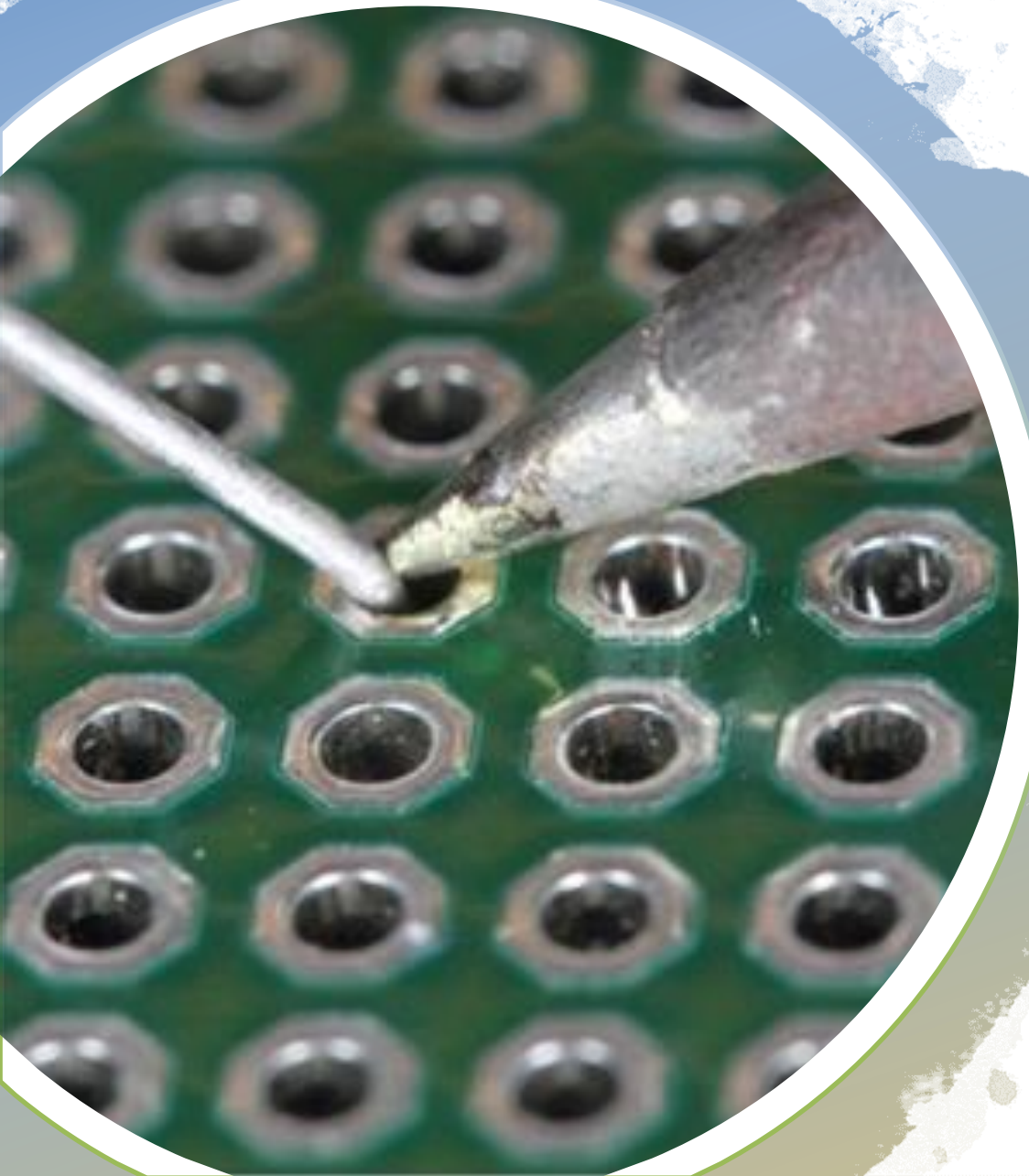


Immobilize the joint. The parts being joined must not move during the soldering process. If there is any movement as the molten solder is solidifying, you will end up with an unreliable 'cold joint'.



Steady the board

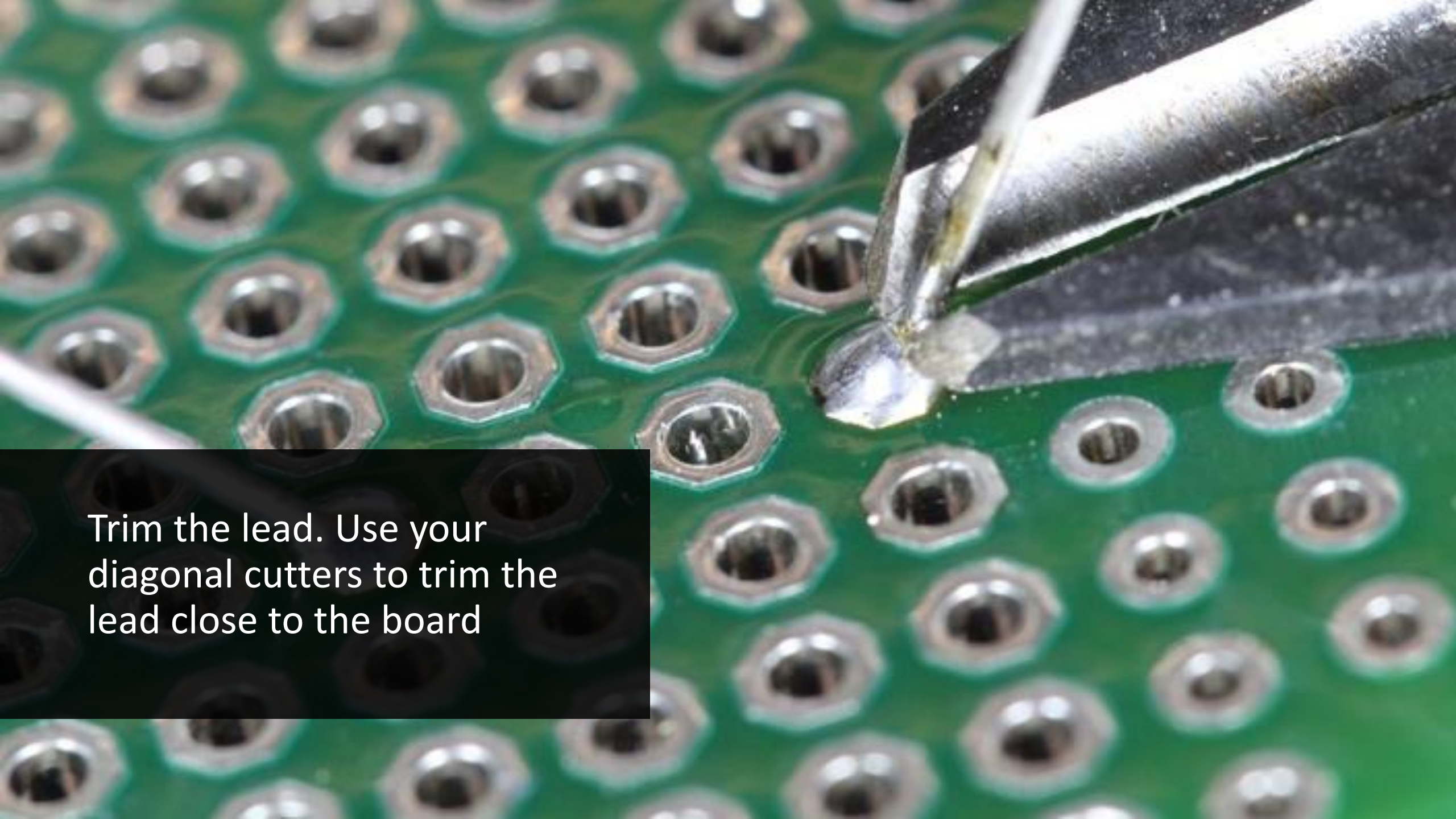
Making a good soldering joint



Heat the joint with the tip of the iron. Be sure to heat both the solder pad and the component lead or pin.

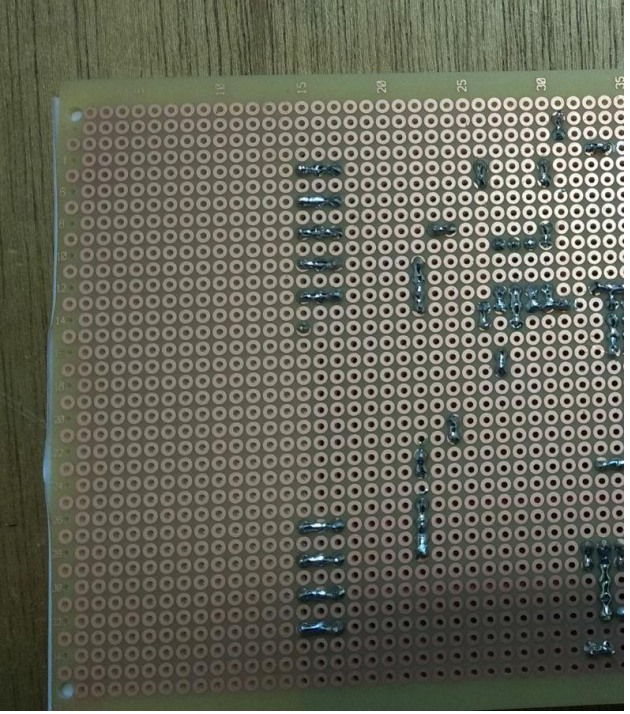
Apply the solder. Touch the end of the solder to the joint so that it contacts both the solder pad and the component lead or pin. It should melt and flow smoothly onto both the pin and the pad.

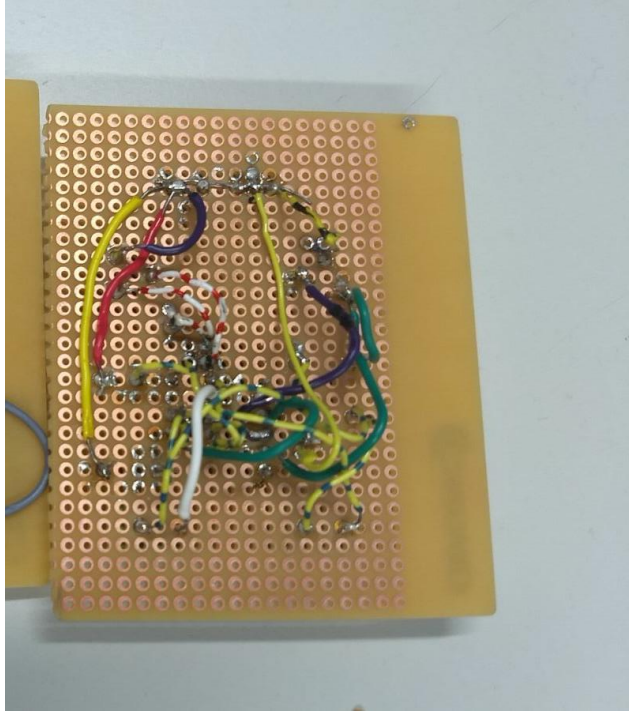
Let It flow. Keep heating the solder and allow it to flow into the joint. It should fill the hole and flow smoothly onto both the solder pad and the pin or component lead.

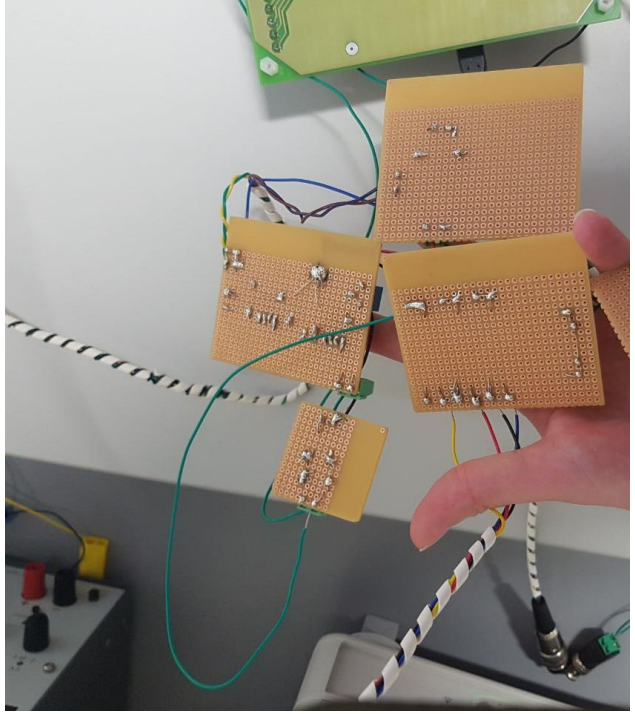


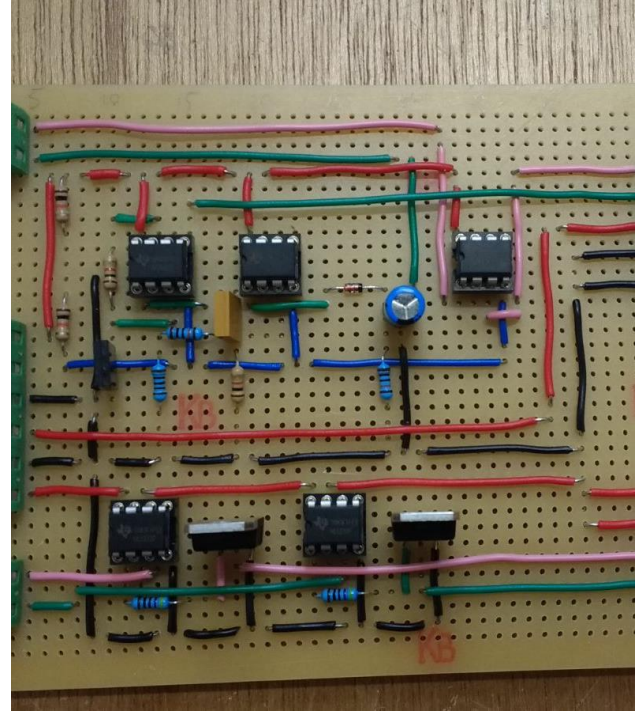
Trim the lead. Use your diagonal cutters to trim the lead close to the board

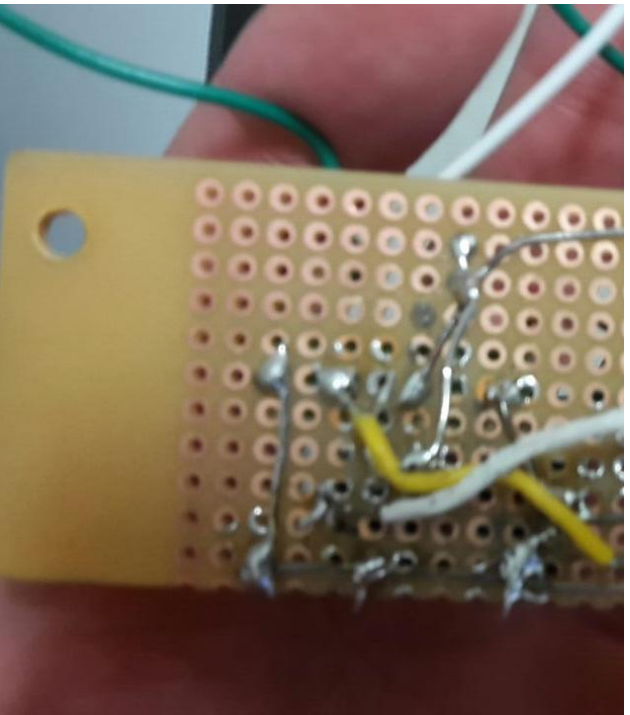
Common soldering problems

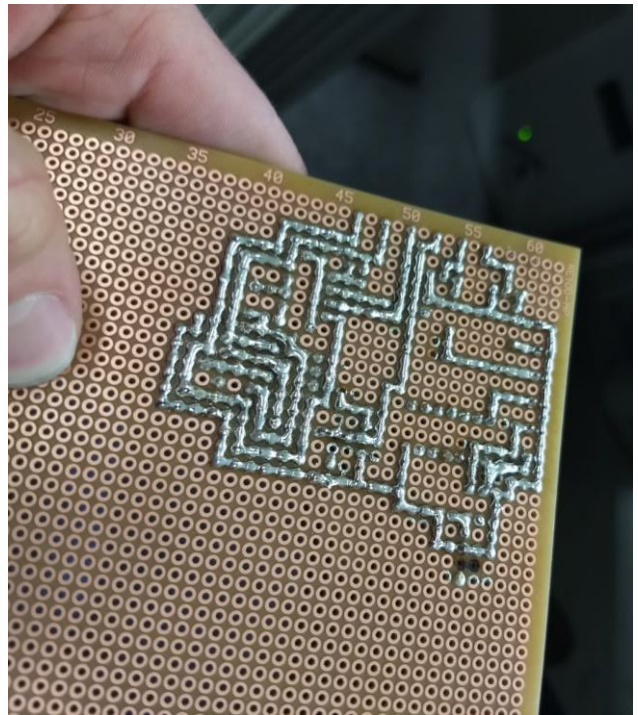






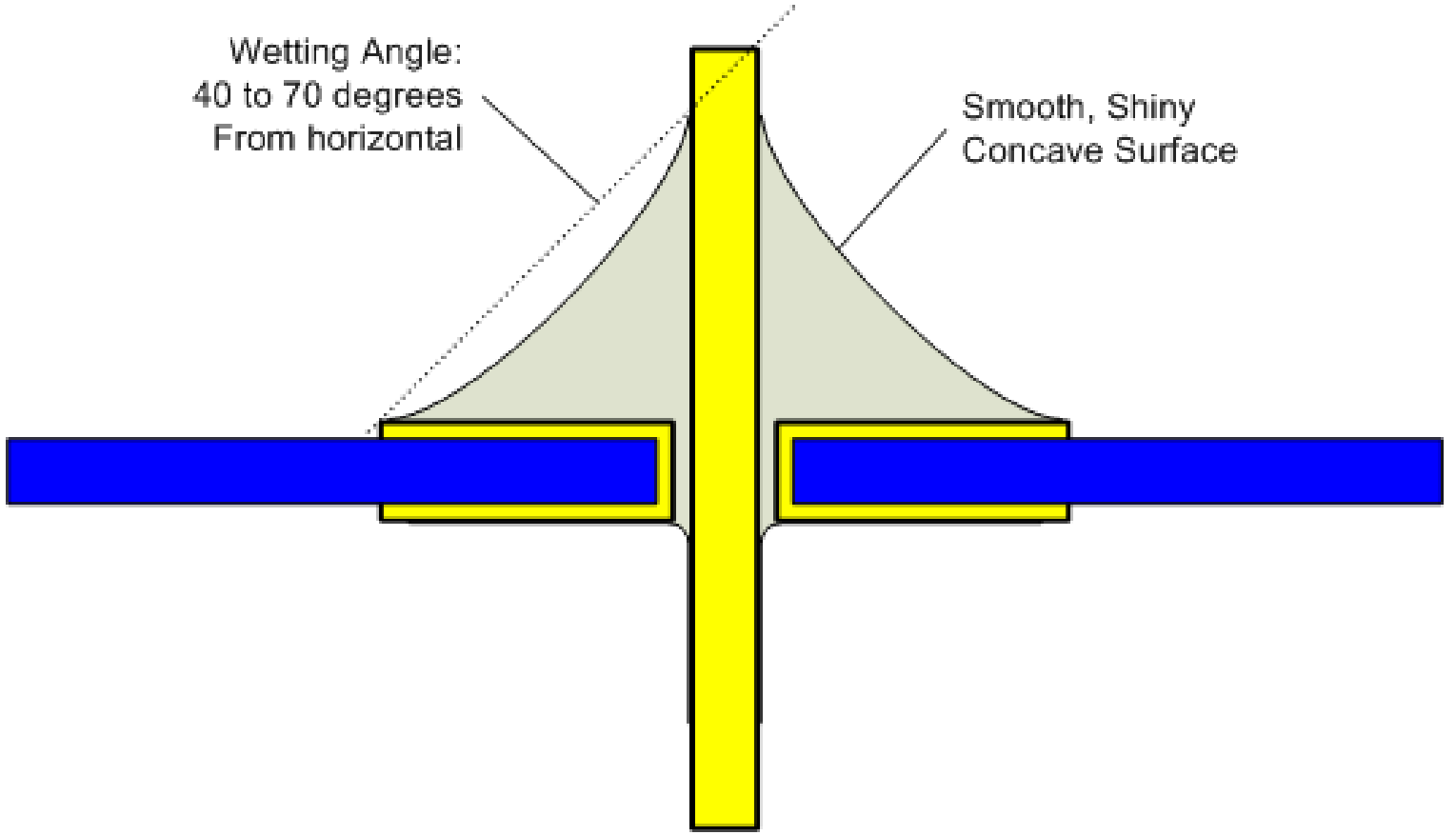






A series of examples

The ideal solder joint



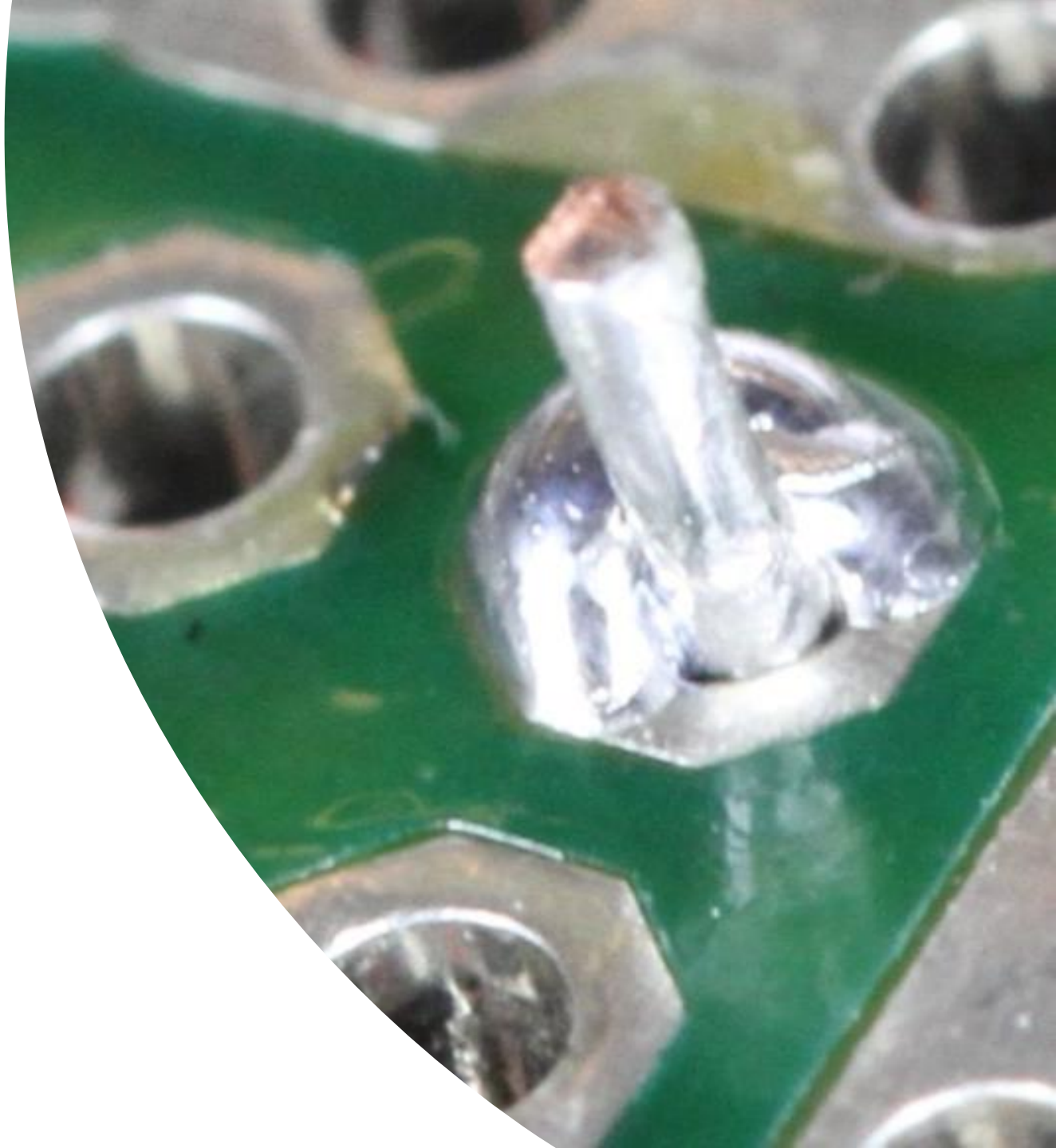
A disturbed joint.
Surface of the joint frosted, crystalline or rough.
Reheat and allow the joint to cool undisturbed

Cold joint.
The solder did not melt completely and forms a lumpy surface. Repair by reheating the joint and drawing off excess solder

Overheated joint
residue of burnt flux will accumulate.
Fixed by cleaning and careful scraping of the burnt flux.


Insufficient wetting of the pad.
Can be repaired by placing the tip of the soldering iron at the base of the joint.

Insufficient wetting of the pin.
Can be repaired by reheating the pin.



Solder starved.
Can be repaired by reheating and applying more solder

Too much solder.
Can be repaired by reheating and drawing off some of the excess solder.

Untrimmed leads. Leads that are too long are potential short circuits. Repair by trimming all leads to just at the top of the solder joint

Solder bridge.
Repair by drawing off excess solder and prevent by using only enough solder to make a good joint.

4 last tips

Work neat

Work Secure

Work methodical

Work from the floor up

Good luck !!!