Soldering 101

Colorado Space Grant Consortium

Caution:

- Soldering is dangerous if not respected

- Be mindful of where you are and where the soldering iron is

- Eyes and liquid solder

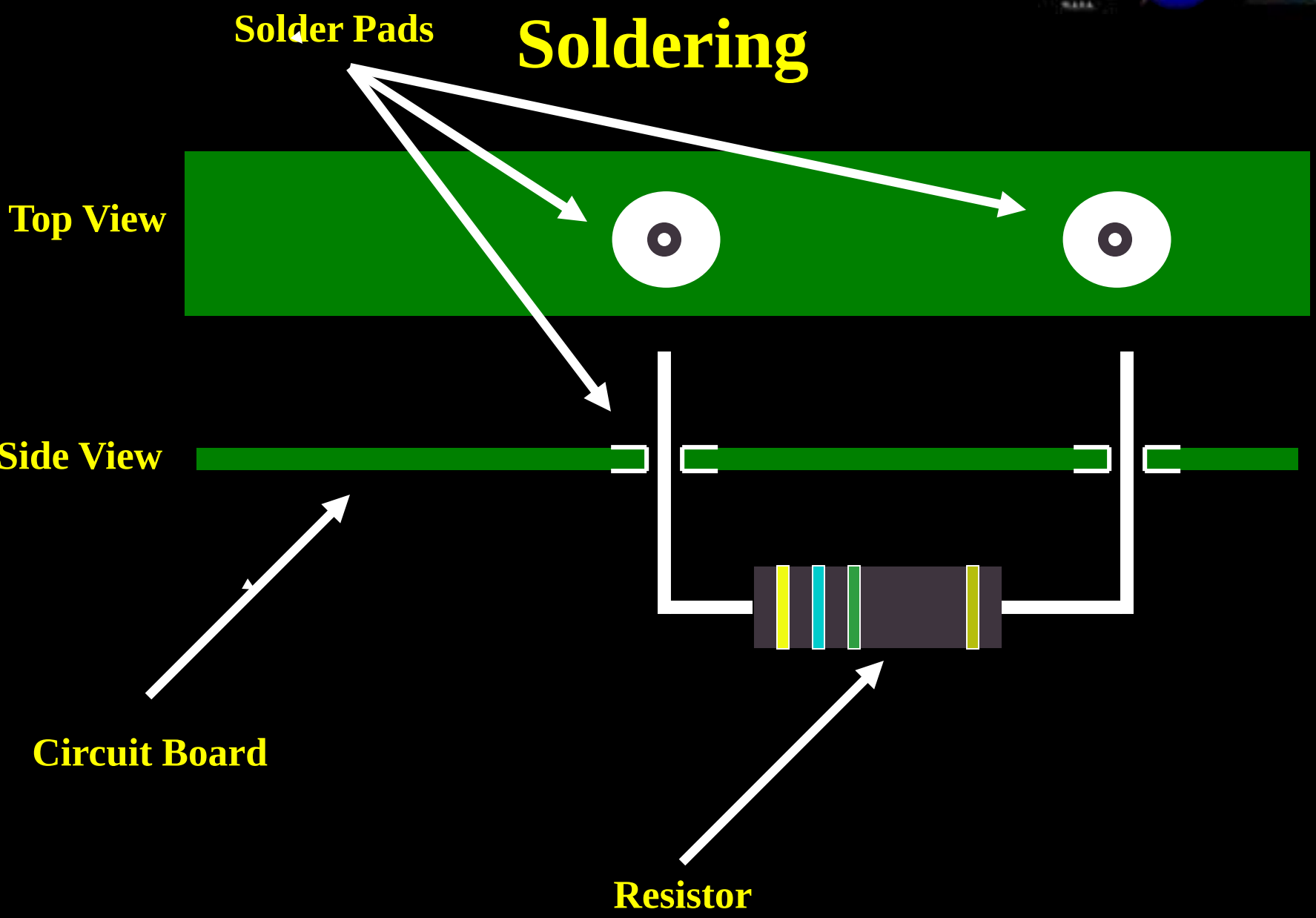
- Everyone is expected to solder

- If you get burned…

- Stay together, don't work ahead

PCB – printed circuit boards

Soldering

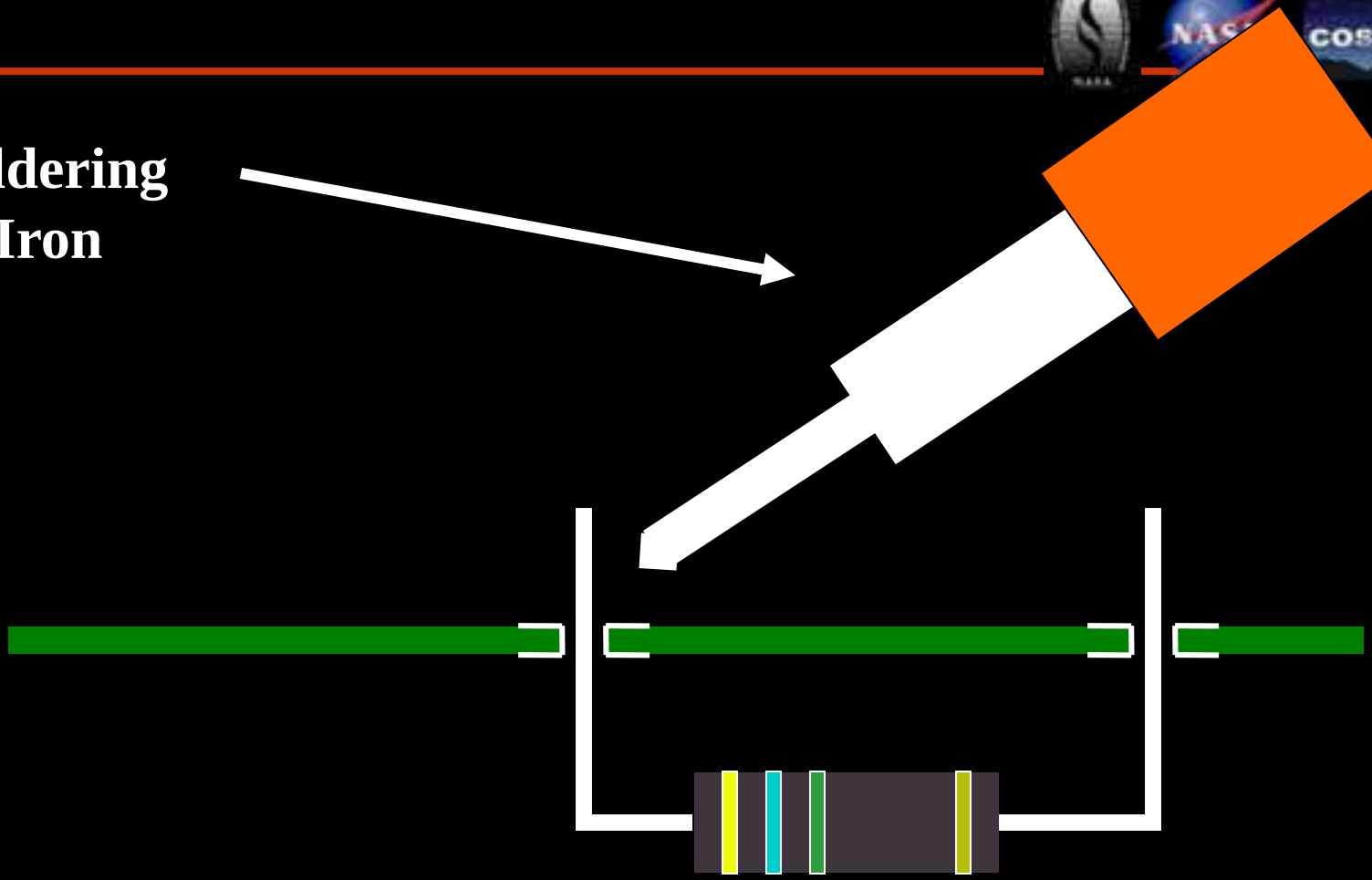


Prep Step 4: Tinning the iron

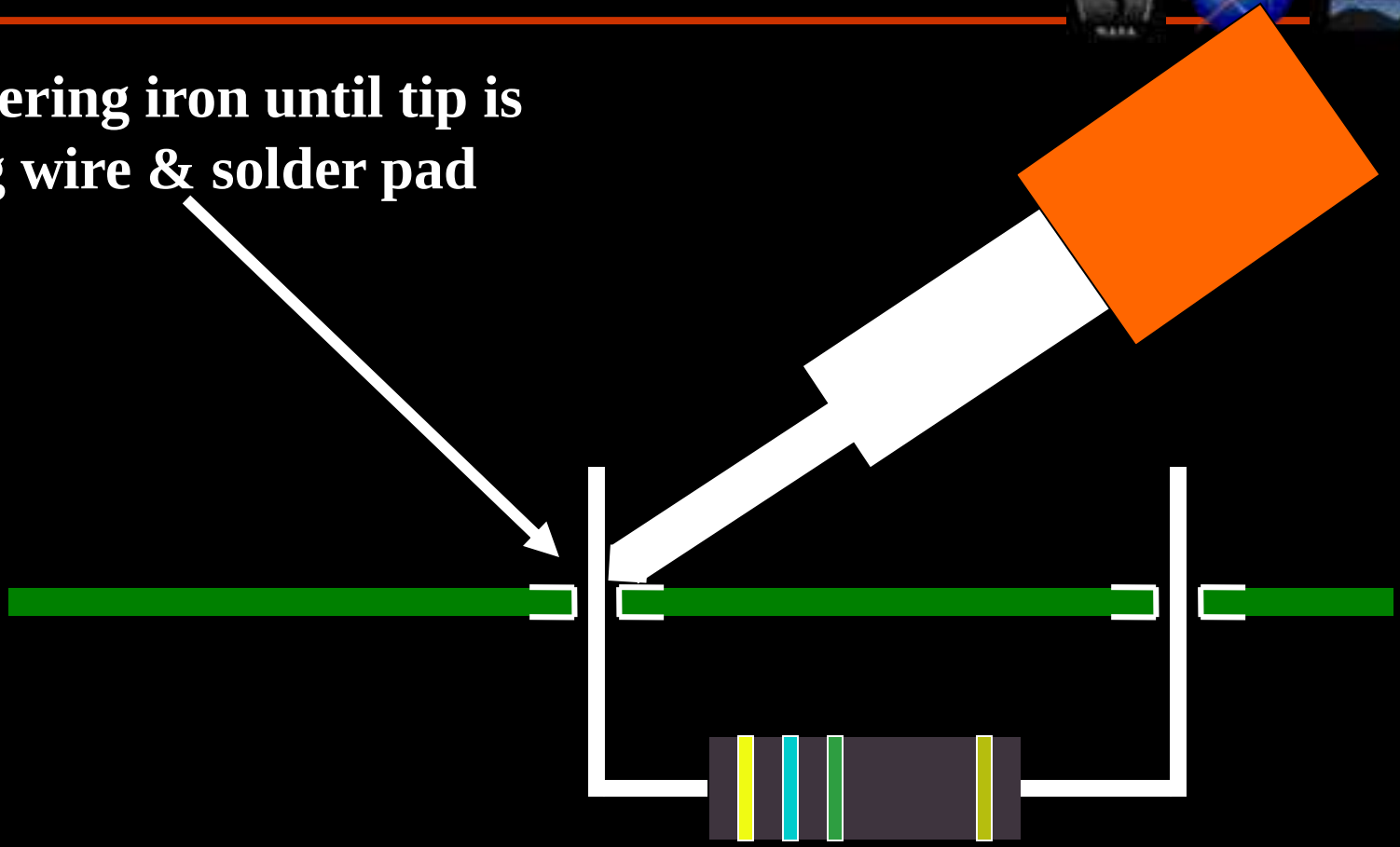
- Tin the tip of the soldering iron by melting an inch or so of solder on the tip.
- The iron will now look shiny on the tip.
- Then wipe any excess solder on the golden sponge.
- Now place the iron back into the holder. Tinning your soldering iron in this manner will aid in future soldering.

Prep Step 4: Tinning the iron (close-up)

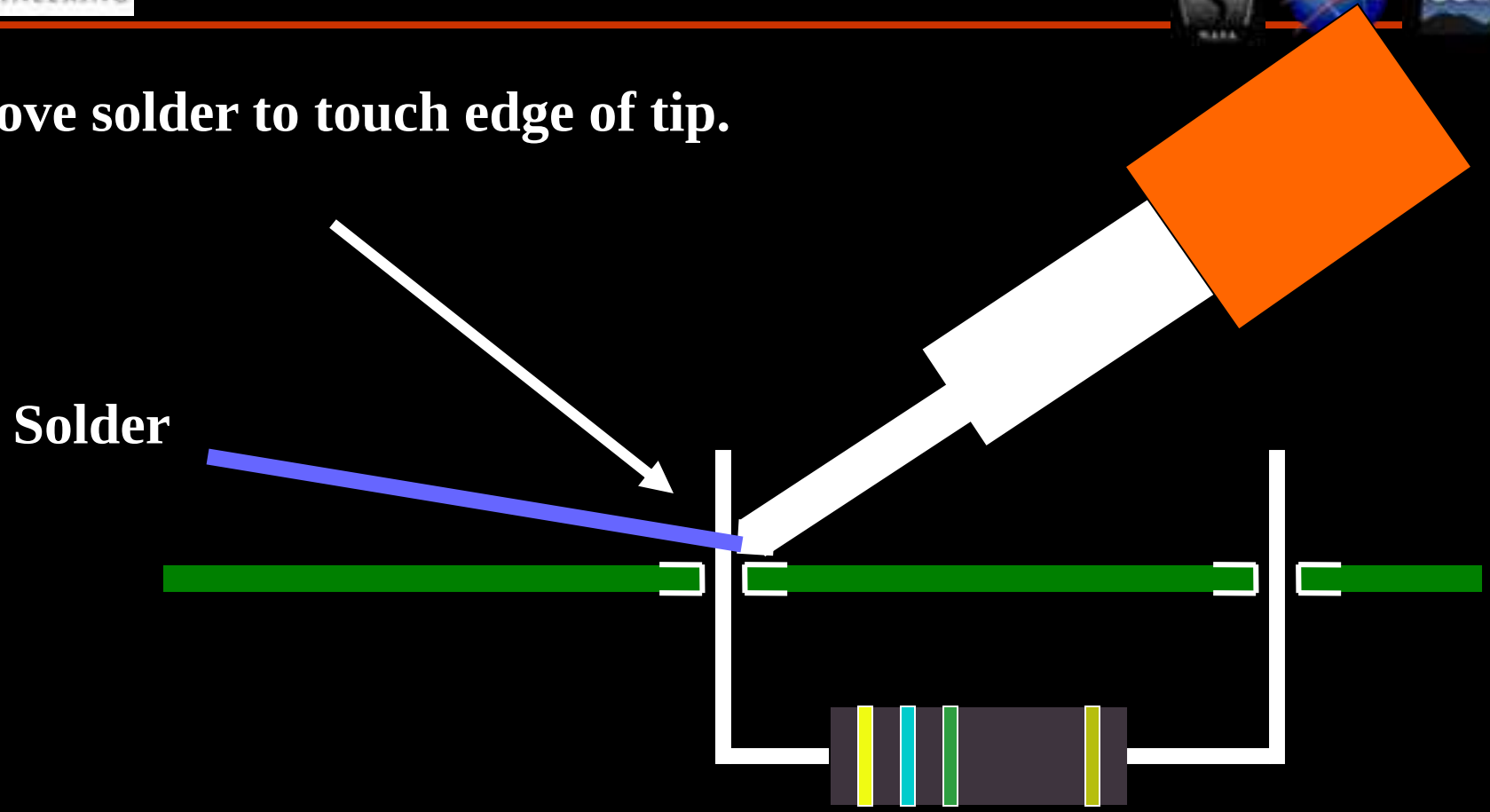
Soldering Iron



Move soldering iron until tip is touching wire & solder pad

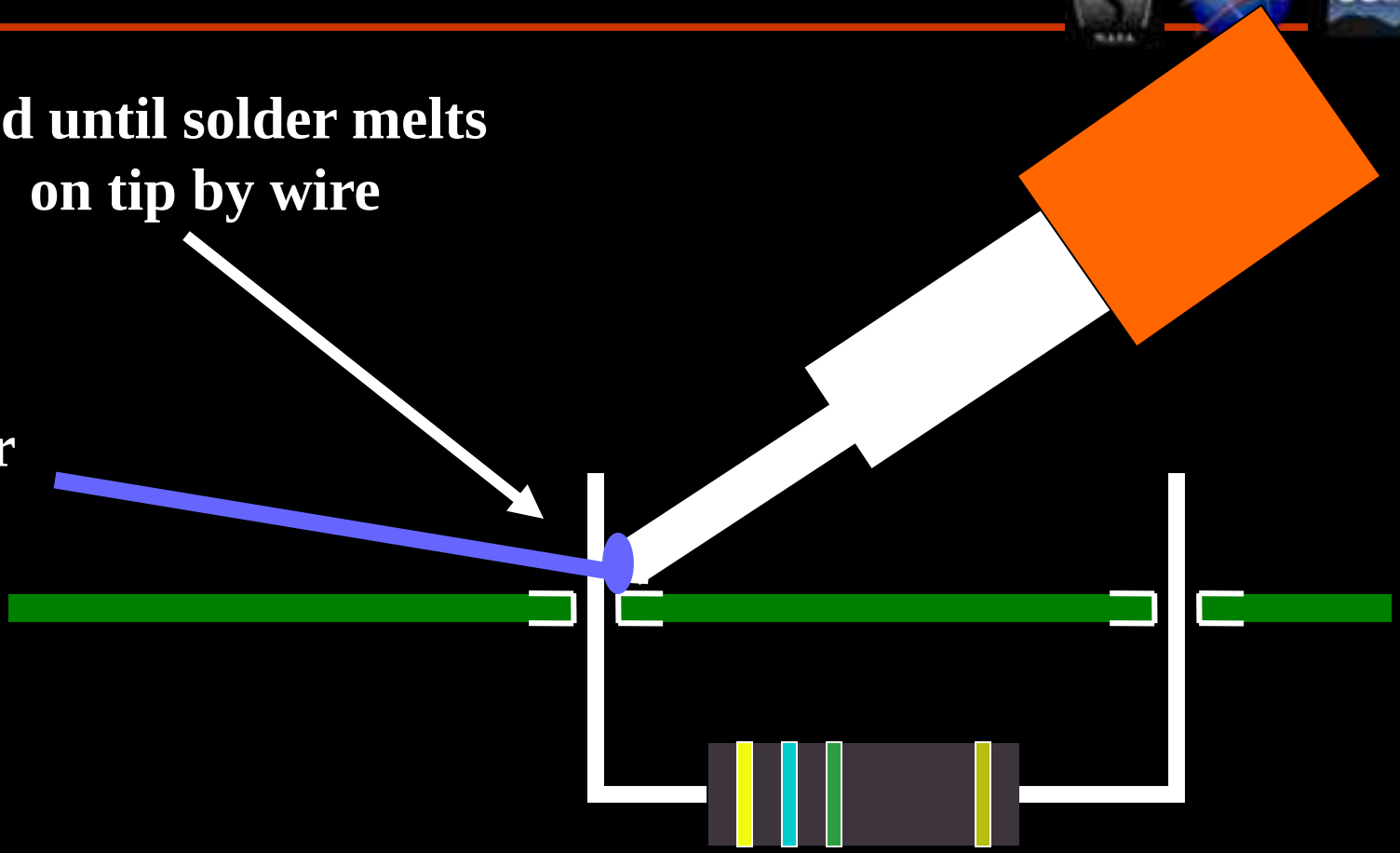


Move solder to touch edge of tip.

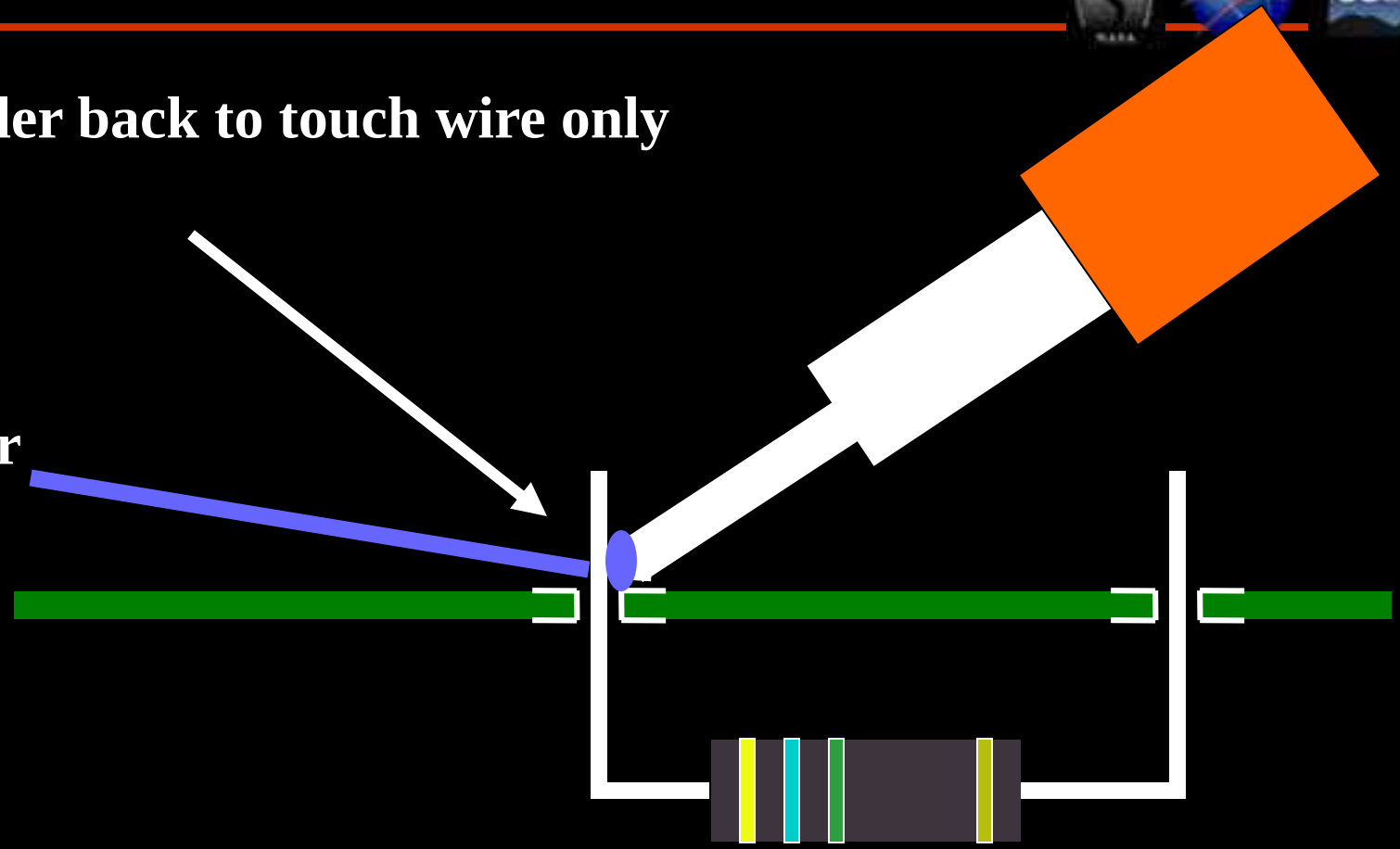


Hold until solder melts on tip by wire

Solder

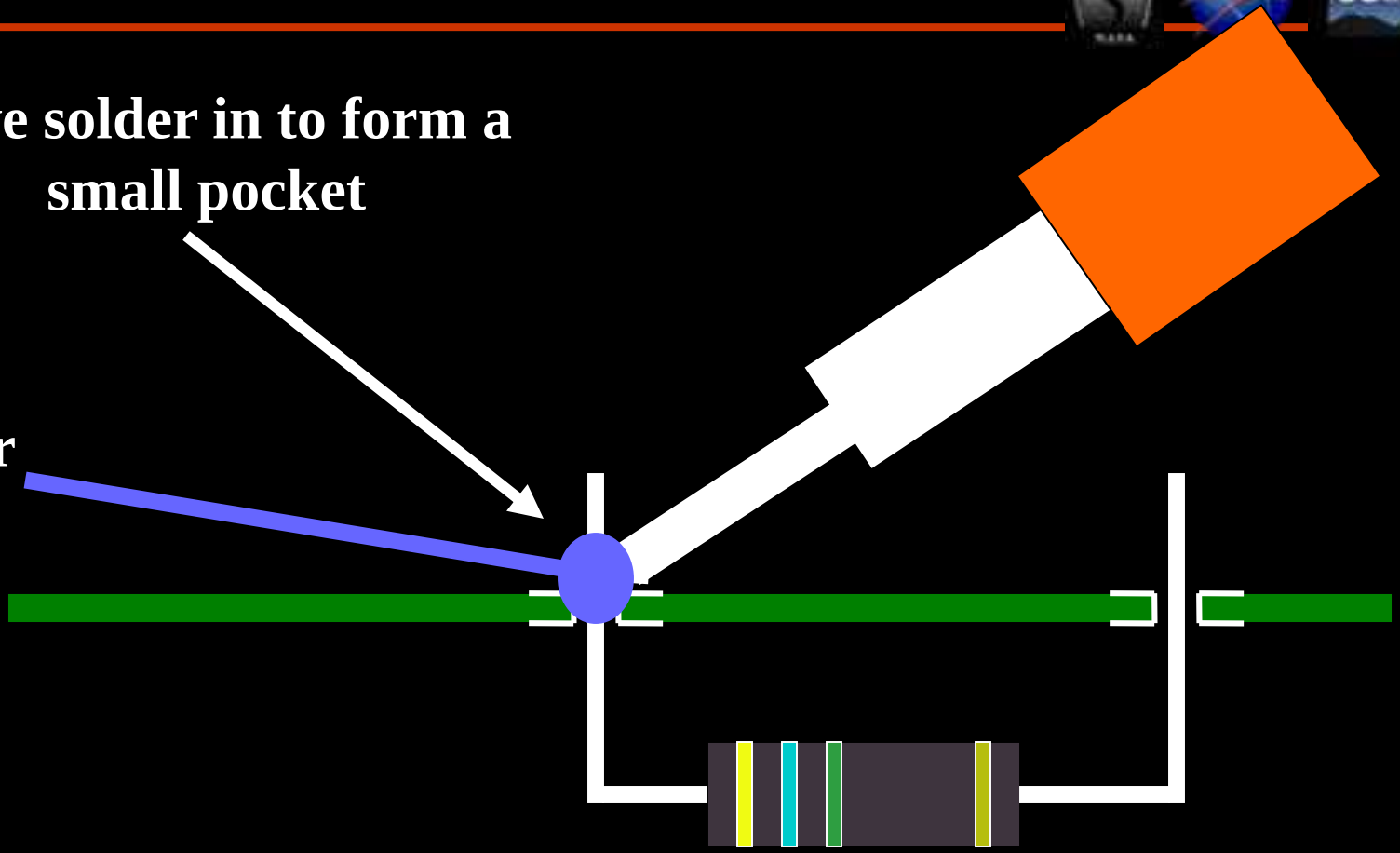


Move solder back to touch wire only

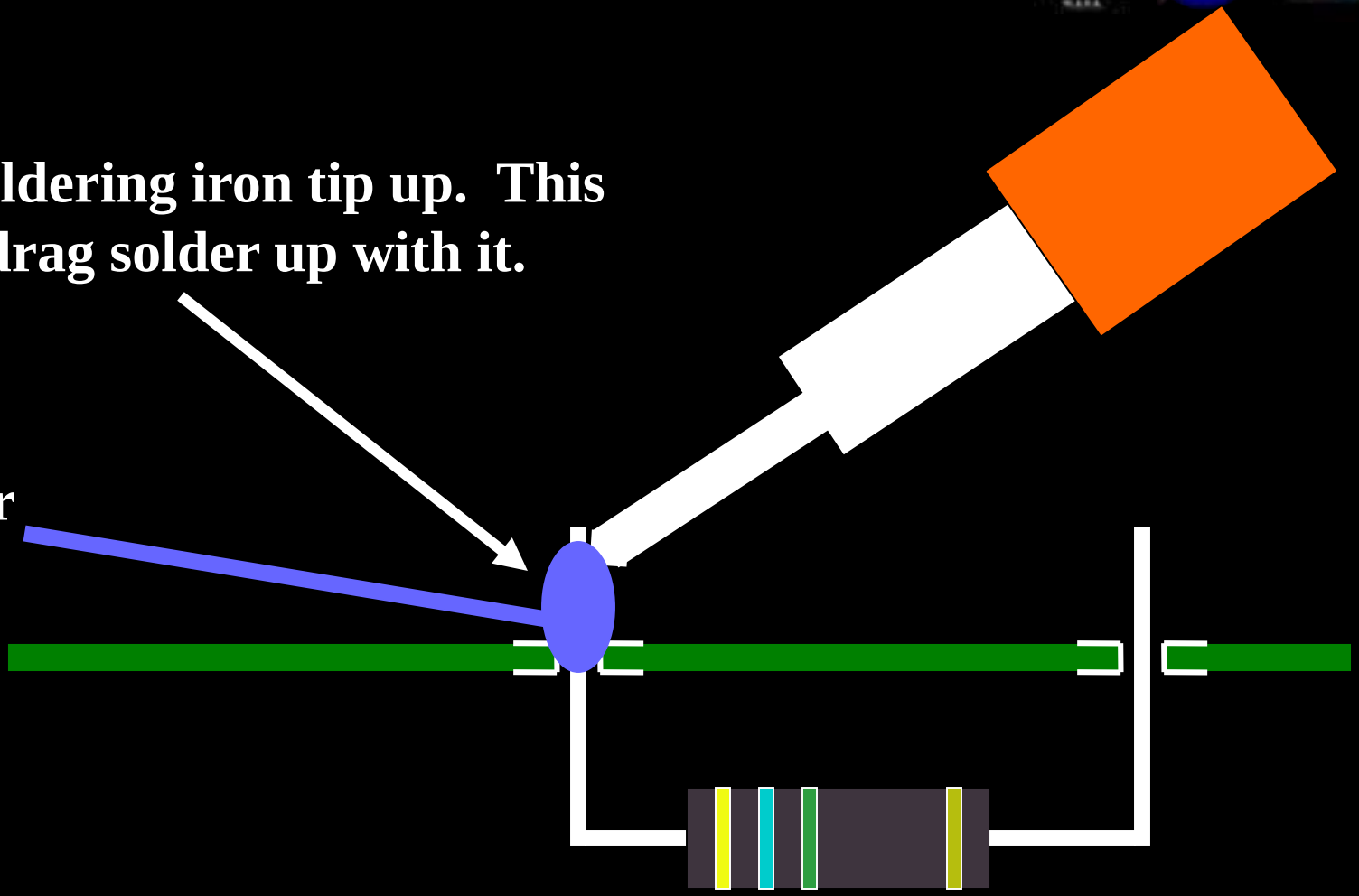


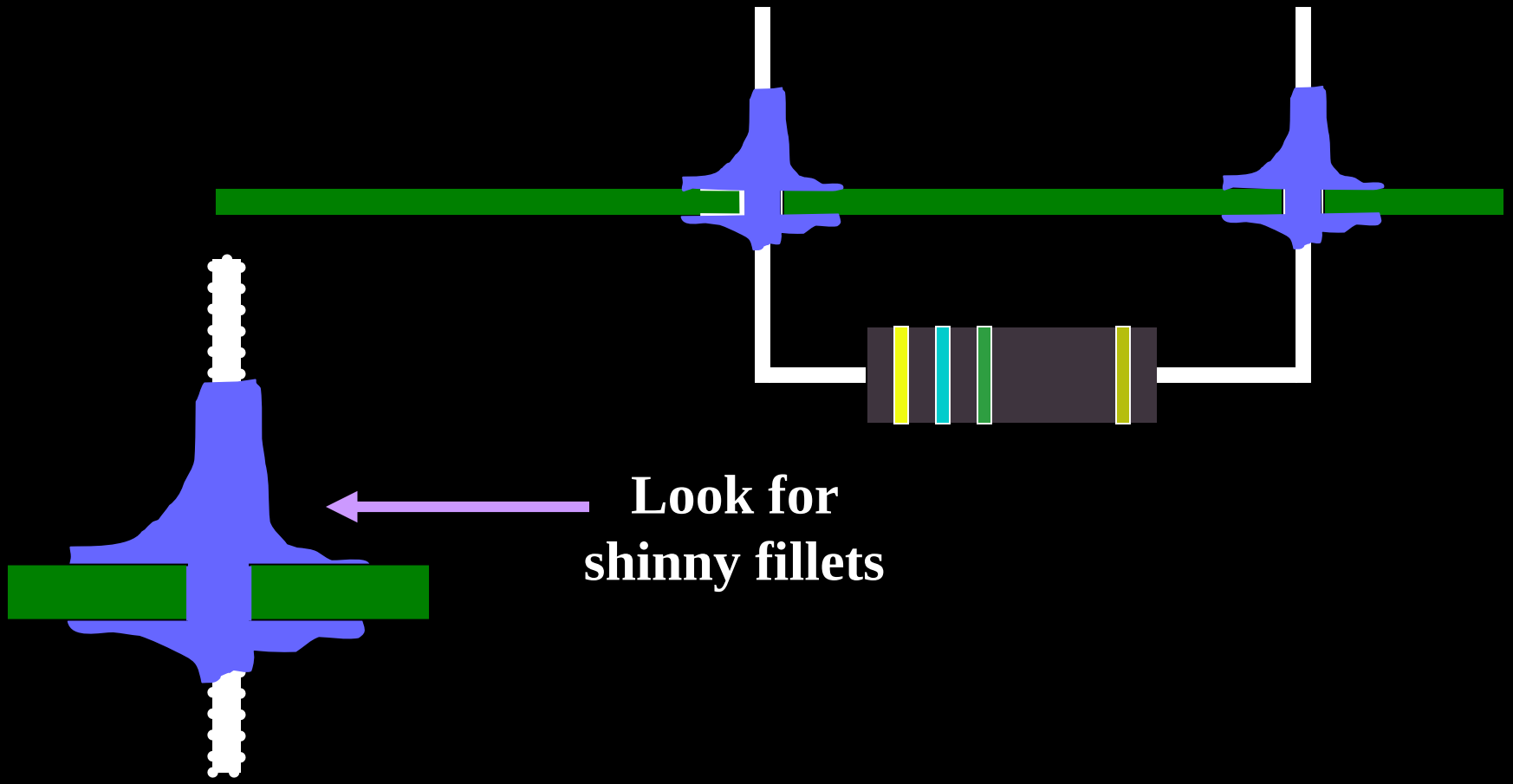
Move solder in to form a small pocket

Solder



Move soldering iron tip up. This will drag solder up with it.




Look for
shinny fillets

Soldering Tips

1. Make sure tip is hot
2. Clean & tin tip
3. Keep tip clean by using wet sponge and cloth
4. Heat until the parts are hot enough to melt solder
5. Hold until solder flashes around pad
6. Do not put too much solder on

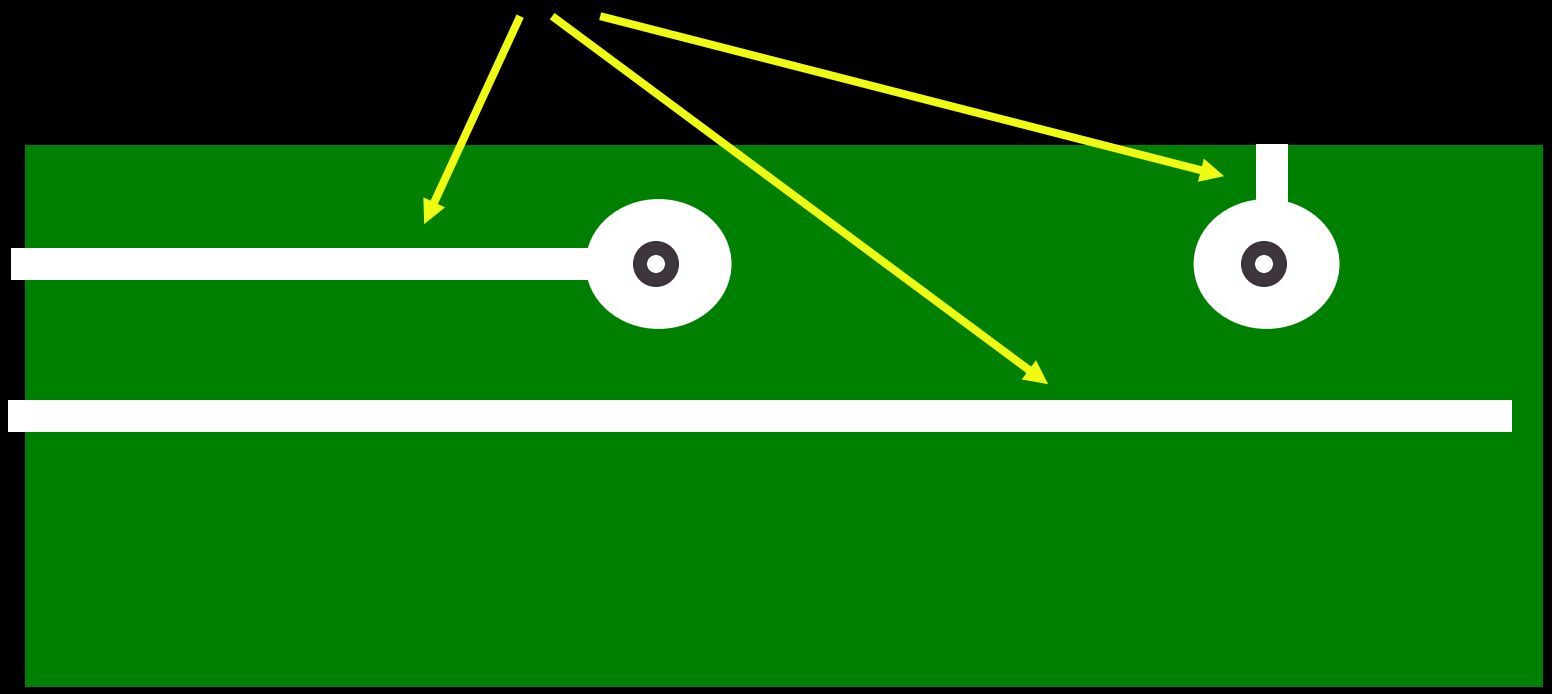
TIPS:

- Use caution when clipping leads to avoid flinging metal across the room.
- All soldering must achieve a good solder filet on the pad as shown for circuit reliability.
- Also clip the leads in this fashion.
- Bend resistors and diodes using your plastic tool as shown.

Example of a good solder filet

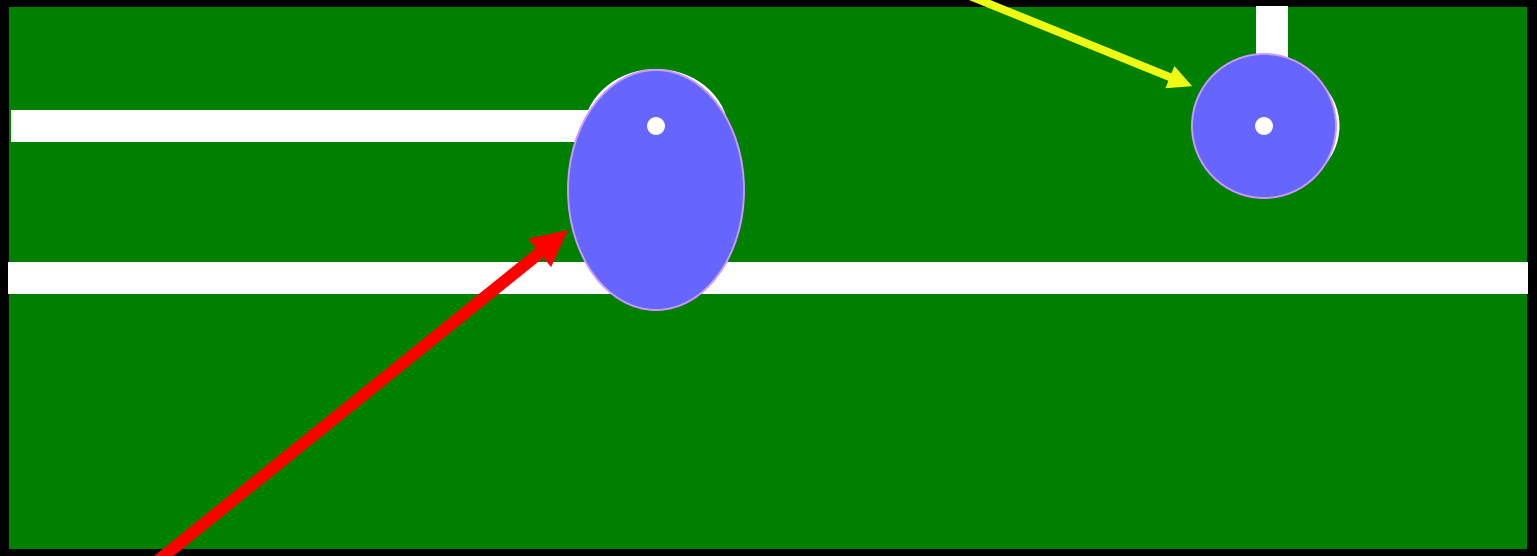
Tinned Copper Traces

Top View



Soldered

Top View



Solder bridge shorting two traces - bad, bad, bad

But, can be fixed by reheating or using solder sucker