Soldering tips and tricks

by **Mr. M** on July 12, 2007

Table of Contents

intro: Soldering tips and tricks

tips and tricks to keep your soldering fun and frustration free!

Visit my site at electronic projects
(http://elec.projects.googlepages.com/home)

If you enjoy this instructable please digg it!

step 1: soldering iron tip

One day you decide to do some soldering. But to your horror, the soldering iron just wont melt any solder, no matter how long you wait. Chances are you have a dirty soldering iron tip. Lets go offer some solutions

1 get a new tip. depending on what type of soldering iron you have, you can get new tips. There are many different kinds you can get.

2 clean the tip. if you don't already have one, it's a good idea to invest in a tip cleaning sponge. after each soldered connection, clean the tip on the sponge (after getting the sponge damp). You can also buy soldering iron tip cleaners. you put your hot soldering iron tip in them and it will clean the tip, but there will be a lot of smoke.

Image Notes
1. soldering iron tips

Image Notes
1. dirty soldering iron tip

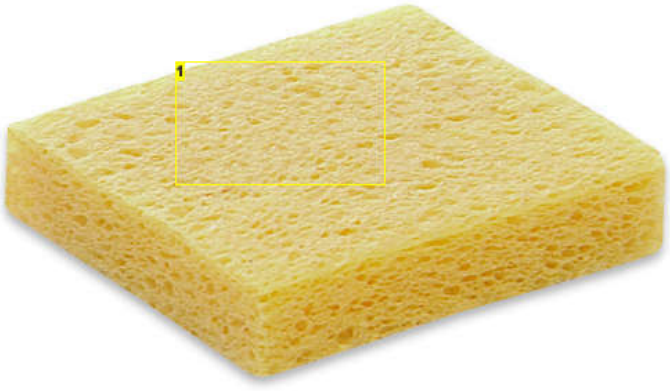
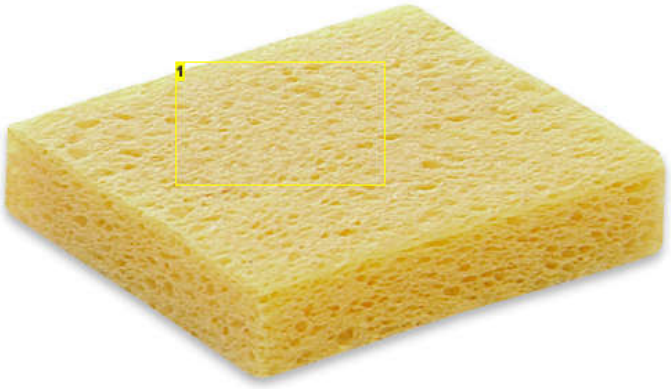


Image Notes
1. soldering iron tip cleaning sponge



Soldering Iron Tip Cleaner

step 2: step 2

Whew! now your soldering iron tip is clean again. time to start soldering. Oops! Oh no! you made a mistake and have to remove some solder. but how?

1 You can buy solder removing wick. It's a metal wick that when placed over solder and heated with a soldering iron, removes solder.

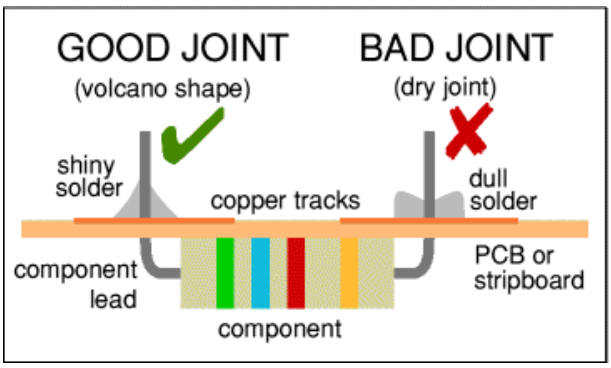
2 You can buy a solder removing vacuum tube! Yay! after heating the solder to its liquid form, you can use the tube to suck up the solder.

Image Notes
1. solder removing wick

Image Notes
1. solder removing vacuum tube

step 3: step 3

Now that the soldering error has been fixed you start soldering again. you solder a connection, but cant tell if its a good one or not. what can you do? Look at the diagram!



step 4: step four

So now that you know how to make good solder joint connections, you start to solder again. Hmm you think. I wonder if there is more than one type of solder?

1 Yes, there is! There is lead and tin solder, which is 60% tin and 40% lead, and there is lead free solder which is usually tin and silver

Yay! I'm going to use lead free solder, you think to yourself! So you go out and buy some, but for so reason your soldering iron just cant seam to melt the solder. How come?

1 lead free solder requires more heat to melt, so your soldering iron might not be strong enough. 40 watts is enough to melt it, so you can get a 40 watt soldering iron, or higher

2 still not melting? Refer to step one.

Image Notes
1. lead and tin solder

step 5: The end.

I hope you have enjoyed and found my instructable useful! Happy soldering!

Related Instructables


How to solder by noahw


Circuit Building 101 by CuriousInventor.co


Build a World's Smallest Electronic Shocker! by Plasmana


Mini RGB Light Cube! by zachninme


Make a Brass Soldering Iron Tip (, How I ...) by VIRON


What not to do when soldering by Ghondi


How to Solder Videos: Why is soldering difficult sometimes? by CuriousInventor.co


Salvage Printed circut boards on the cheap by digitalenigma

Comments

33 comments **Add Comment**

llama lord says: Sep 7, 2008. 1:40 PM **REPLY**

what soldering iron is best? I've been using the generic radio shack pencil irons, but I'm looking for something with a bit more... quality. I've heard Weller is good... what do you think?

Derinsleep says: Jun 24, 2008. 4:51 AM **REPLY**

also when soldering to components act like you will start an arc

example:first touch the iron to the solder then pull them apart after $1^{1}/_{2}$ counts

fini2 says: Mar 12, 2008. 12:53 PM **REPLY**

cool dude, i made a pnumatic cannon with copper pipes, this helped alot to "seal the deal". ...ok bad pun...

handson says: Oct 4, 2007. 4:55 PM **REPLY**

Thanks for your tips and tricks on soldering!
My Toshiba Satellite A20/A25 Loptop's back light is out, I'll try to fix it myself(first time hands on it, yeah, a little shaky). I wonder what type of solder and solder wire should I purchase? Thanks!

Mr. M says: Oct 5, 2007. 7:58 PM **REPLY**

Sorry for lack of reply, been really busy lately. Depends what type of soldering iron you have. I'd go with lead/tin just to be safe. Make sure you get some practice soldering first.

handson says: Oct 12, 2007. 6:18 PM **REPLY**

I tried(solde) to replace my laptop backlight, but after I solded lightbulb onto the White and Pink wires, I tried the light bulb, it lit up, but soon I smelled a burning odor and saw a little spark at the connection where the pink wire was soldered to the lightbulb, then the light went out. So I soldered again, then turned the lightbulb on, it was fine. I put the light bulb back into the lightbulb holder and retaped it on the bottem. Next, I turned on the computer again, everything seemed fine and the screen was working, but then I smelled the little burning odor again, and the screen turned dark. So I untaped, and saw the pink wire was burned out again, (this time, the whole tip of the wire). When I tried to take out the backlight bulb I broke it :(. Before I order another one, I need some help!
Do you have any idea why the pink wire would cause this burnout? Also, after soldering, do I need to tape the soldered point, or just leave it like it? The small silicon rubber cap at the connection point of both the pink and white wires and the lamp broke when I first disconnected it...could this be the problem?
You're a specialist, can you please tell me why this happened...thanks so much for your help, I'm pulling my hair out!!
Sophia

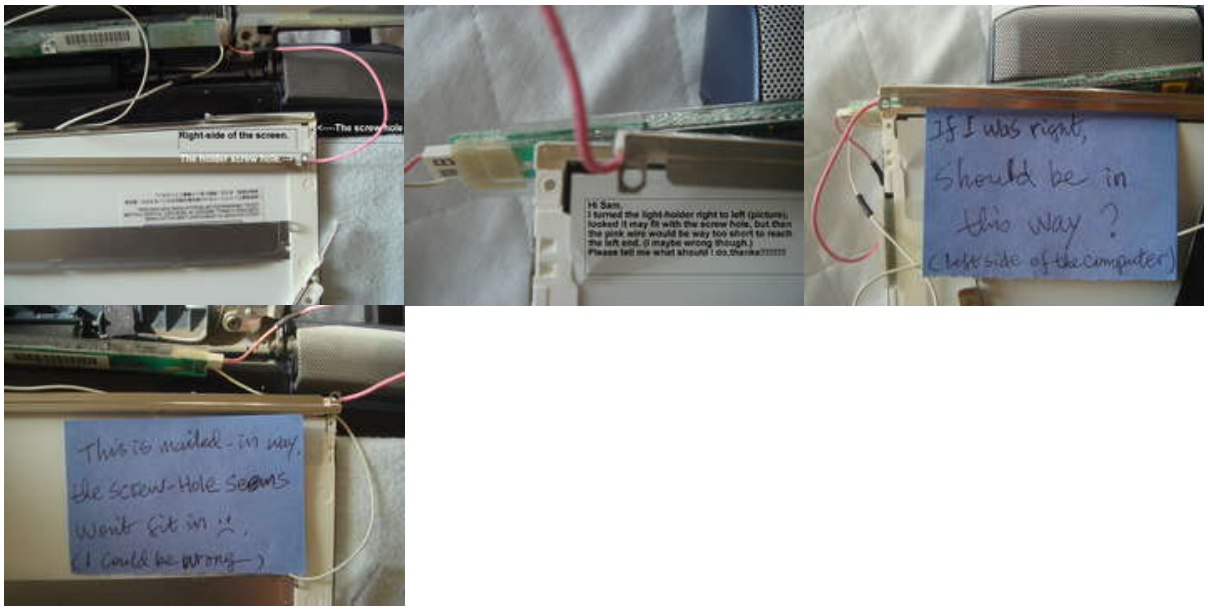
Mr. M says: Nov 12, 2007. 9:06 PM **REPLY**

I'm very sorry about the long wait! Personally, I've never had this happen to me, so I don't know what the exact problem may be. Are the wires you are using rated for the voltage you are using? If you've already figured it out, I would love to know the problem!

handson says: Nov 13, 2007. 2:00 PM **REPLY**

Hi Mr. M,
Thanks so much for your thoughtfulness. Ohhhh, I have had the longest fixing my laptop backlight process ever, I guess, because I'm still working ON IT. In fact, I almost did it - but because I was a first time solder-hands-on person, so I didn't know I need to use the electric tape to tape the soldered spot(I lost the silicon), therefore, it went short-circuit-maybe twice(at the time I didn't why it happened)... then... I broken the lightbulb :(:(. I tried to order another one but was glad told that the company also have the mail-in order which is everything all made for you that I just need to plug it in to the inverter(no solder needed). Wow, I was helped by a wonderful sales person online. After a week, I got the mail-in order backlight, but found out the plug wasn't fit in to my inverter(different size), so I had to mail it back and wait... Yesterday, I got my mail-in order again, I tried to place it back into the screen, but it seemed didn't work - I wondered the bulb holder maybe should be in a left to right position - which the screw hole on the bulb holder is in an opposite position of the screen frame screw hole(I think need to have pictures to show my wondering, you must confused, so sorry). I'm still try to contact the company - glad I have a very helpful person online and help me. I'm still waiting...

I'm so sorry for letting you wait for so long, I'm so anxiously waiting for my this painful "work" to be completed. I'm so frustrated about this longggg fixing. Well, I will finish it after all, I don't have a choice.



Mr. M says: Nov 13, 2007. 5:29 PM **REPLY**

Well, if at first you don't succeed, try again! When I started soldering I had some trouble, but once you get the hang of it it really pays off! Hopefully you will be able to fix the problem soon!

handson says: Dec 17, 2007. 9:16 AM **REPLY**

Hi Mr. M,
Happy holidays!
Taa Daa... Hooray for my lighted screen! I finally did it, I replaced my laptop screen backlightbulb! After this long journey, I'm grateful for all your support and encouragement... helped me be able to go through some difficult times.
I've learned a lot of backlightbulb, it's hard to do but it's still "fun" to do(after finished it, I can say that).
Thanks, Mr. M!!!

handson says: Nov 14, 2007. 8:27 AM **REPLY**

Thanks for your encouragement.
I will try to finish the job... when complete a project, I'm sure feels great that it may forget the struggle even happened :(:).

handson says: Oct 6, 2007. 10:32 AM **REPLY**

Thanks Mr.M!!!
I got a "RadioShack 30-Watt All-Purpose Soldering Gun yesterday", maybe too big? I'll try to practice first.
I guess I'll check the lea/tin also today in the store, thanks again!

!Andrew_Modder! says: Jul 12, 2007. 10:10 PM **REPLY**

cool, i have a question on solder, i have Bernzomatic Silver bearing Rosin Core Electrical Solder (lead free) but its still has the skull and crossbones on it, and a skelitin hand on it that says 'caution'. So is it toxic?? or are JUST the fumes toxic??

CuriousInventor.com says: Sep 3, 2007. 11:42 AM **REPLY**

Here are some links regarding fume and solder hazards. In summary, the fumes from most fluxes are bad for you, even more so for lead-free solder (like the silver solder you refer to). This is because lead-free solder often requires more aggressive flux. Rosin-based fumes are one of the leading causes of occupational asthma, according to the following link.

References: Solder Fumes and You A British health department pamphlet explaining the health hazards of rosin-based flux fumes (irritation, headaches, dermatitis, asthma) and what precautions employees and employers should take. Note the total lack of any mentioning of lead poisoning.

more explanation Click *expand* at the end of the sentence "What is exactly in solder fumes? Am I safer using lead-free solder? (no) "

!Andrew_Modder! says: Sep 3, 2007. 2:31 PM **REPLY**

so.. is there a solder that isnt bad for you? like.. plumbing safe solder? (you can use it to fix your drinking watter pipe) cause i think its all just alluminum?

CuriousInventor.com says: Sep 3, 2007. 3:01 PM **REPLY**

As long as you don't lick your fingers after soldering or work in a closed off room for hours on end, you're unlikely to get ill. Even when applying lead-free solder to plumbing, you still need to add flux--usually a more aggressive acid-based flux. And in fact, acid based fluxes (commonly used in plumbing) and fluxes for lead-free solder have been shown to be worse.

The first link in my previous post was written for people who have to solder day in and day out. Random hobby work shouldn't cause many problems. Note that cheap filters ($50) with carbon activated filters do not provide complete protection. You would something like what Weller talks about here that has a HEPA filter. I don't know much less safe you are with the cheaper filters.

One more fun fact: There has been no scientifically determined limit for an amount of solder fumes that aren't harmful. There's substantial evidence that fumes cause harm, but no one really knows just how much.

!Andrew_Modder! says: Sep 4, 2007. 1:14 PM **REPLY**

blahhhhhhhhh! sorry but... i am a guy that would make somthing like a .... spork. lol. is there ANYTHING that would be able to eat off of :-| lol sry bout that . heh :-Q

Mr. M says: Jul 12, 2007. 10:51 PM **REPLY**

you should still wash your hands after soldering though.

Mr. M says: Jul 12, 2007. 10:49 PM **REPLY**

It's just the fumes. The smoke from the silver also has rosin smoke in it, so it's bad to breath. I have an instructable in the works for a cheap machine that sucks away poisonous fumes.

LasVegas says: Jul 13, 2007. 4:36 PM **REPLY**

There is no poison in rosin flux fumes! Acid flux, on the other hand, could be harmful, but is rarely used in electronics. The rosin itself is unsafe to consume, as is the silver and any other metals in the solder.

Mr. M says: Jul 13, 2007. 4:52 PM **REPLY**

My bad. the smoke is still bad to breath

wklee says: Aug 21, 2007. 4:45 AM **REPLY**

how could i solder germanium with copper wire .....

what material n proper procedures needed????

faint...

Ramnosity says: Jul 19, 2007. 6:46 PM **REPLY**

Yeah, you say that if your solder doesn't melt it means that your soldering iron is dirty, but it could also mean you have a too low wattage iron or it could me you have to strong solder.

cooblades says: Jul 16, 2007. 1:38 PM **REPLY**

Concise but misleading. The article should have been named "Intro to soldering tools."

LasVegas says: Jul 13, 2007. 4:03 PM

(removed by community request)

LasVegas says: Jul 13, 2007. 4:39 PM **REPLY**

Your instructable gives no instructions about how to solder! It mentions what you need to buy to perform a given task, but nothing about how to accomplish that task. It mentions what you need to clean a tip, but nothing about actually cleaning or tinning it. It shows one (of many) example of a poor solder joint, but nothing about how to create a proper joint. It mentions that there are more than one type of solder (showing only 2 of many) but nothing about the differences in using them.

As a mater of fact, there's not one single photo demonstrating any process of soldering! Just a bunch of photos pulled off of the net. I certainly would hope that your electronic projects site merited a little more time and quality.

Sorry... Had to edit the original post.

Mr. M says: Jul 13, 2007. 4:38 PM **REPLY**

This instructable isn't a guide on how to solder, its a collection of things that are useful when soldering, and how to use them.

LasVegas says: Jul 13, 2007. 4:40 PM **REPLY**

But there's **nothing** about how to use them!

Ohm says: Jul 13, 2007. 2:59 AM **REPLY**

Is it bad when you are no longer bothered by the smell of solder fumes? Or Cyano fumes, model paint fumes,plastic and dope, and plastic model glue?:) Kinda scary but definitely solder in a well ventelated area and wash your hands afterwards the rosin crap is not fun to get into your eyes.

Ohm says: Jul 13, 2007. 3:06 AM **REPLY**

Another nice thing to have for cleaning tips is a pot of brass wool, I have one with a iron rest on it which works good since I do not have a stand. A friend of mine just has a tuna can with a bunch of the stuff in it. It works real well because the brass wool scourers the crap off the tip leaving it nicely tinned, without cooling it down like a sponge and you do not have to worry about cleaning and wetting the sponge all the time.

I personally do not like lead free solder for the simple reason that it takes more heat, which is not good for delicate IC's or germanium devices.

Mr. M says: Jul 13, 2007. 1:28 PM **REPLY**

I use both types of solder for different applications

backcountry says: Jul 13, 2007. 1:24 PM **REPLY**

I think there's an error in step 1. It says to clean the tip after soldering. I learned to always clean the tip *before* soldering. The difference being that you leave the tip dirty when you put it away. I think the idea is less oxidation of the tip, but I'm not sure.

Mr. M says: Jul 13, 2007. 1:27 PM **REPLY**

I kinda screwed up on that. I meant wipe the tip on the sponge after soldering a connection.
