



Soldering Is Easy!

Mitch Altman

Chief Scientist, **Cornfield Electronics**, San Francisco, CA
Inventor of **TV-B-Gone** universal remote controls
Author of **The Brain Machine** in MAKE Magazine #10
Co-founder of **Noisebridge** (San Francisco hacker space)

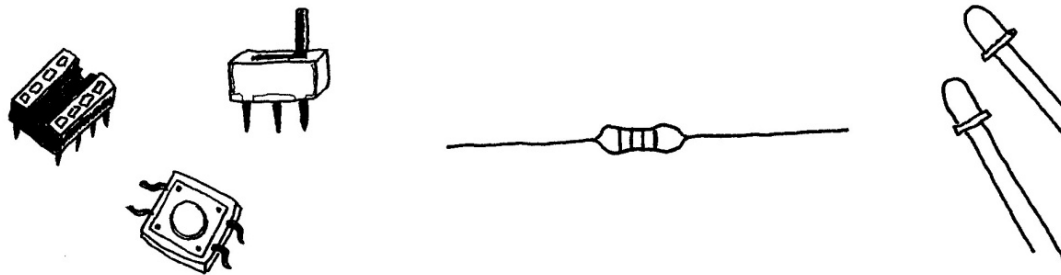
email: mitch@CornfieldElectronics.com

site: www.CornfieldElectronics.com

twitter: [@maltman23](https://twitter.com/maltman23)

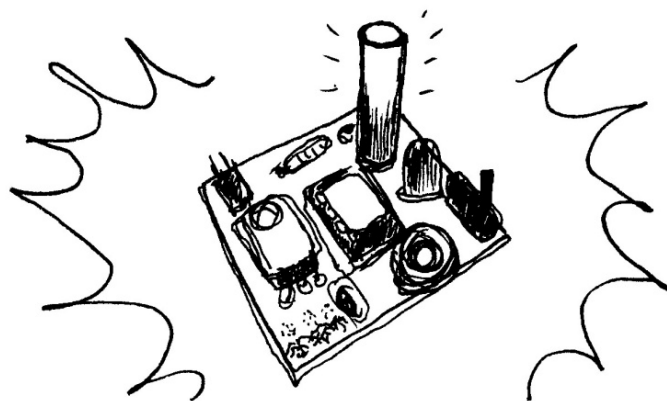
phone: **+1 415-377-5993**

+381 62 842 9950



SOLDERING IS EASY

HERE'S HOW TO DO IT



BY: **MITCH ALTMAN**
(*SOLDERING WISDOM*)

ANDIE NORDGREN
(*COMICS ADAPTATION*)

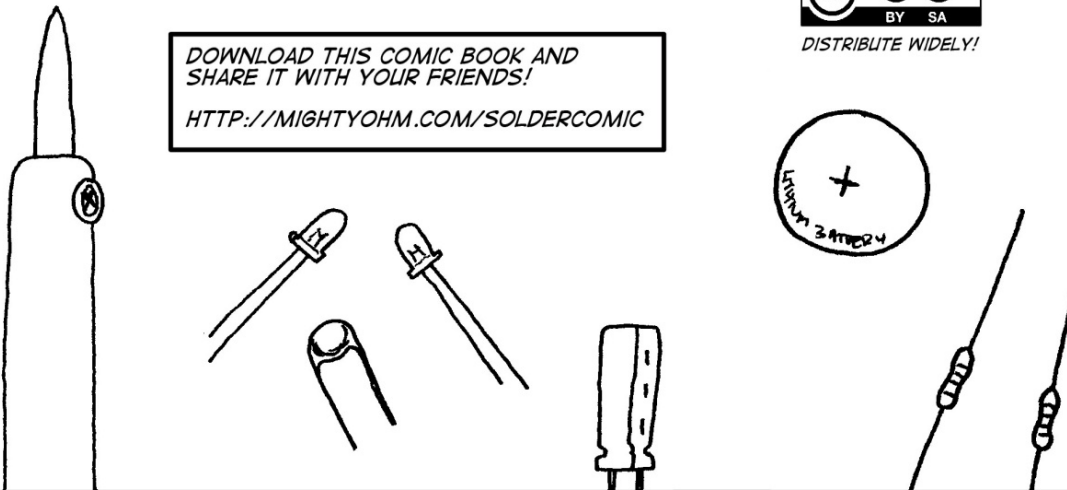
JEFF KEYZER
(*LAYOUT AND EDITING*)

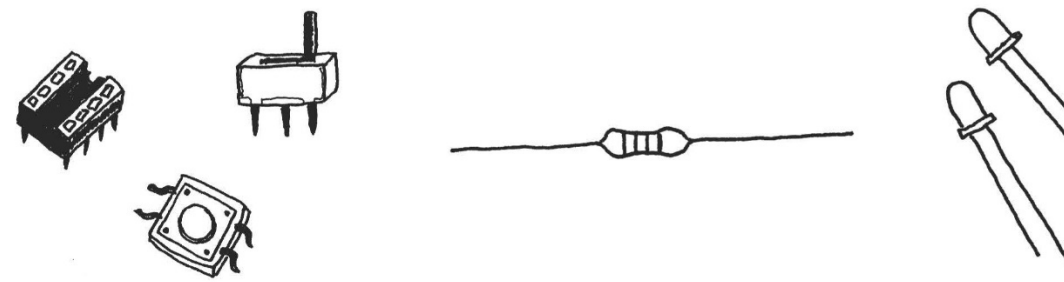


DISTRIBUTE WIDELY!

DOWNLOAD THIS COMIC BOOK AND
SHARE IT WITH YOUR FRIENDS!

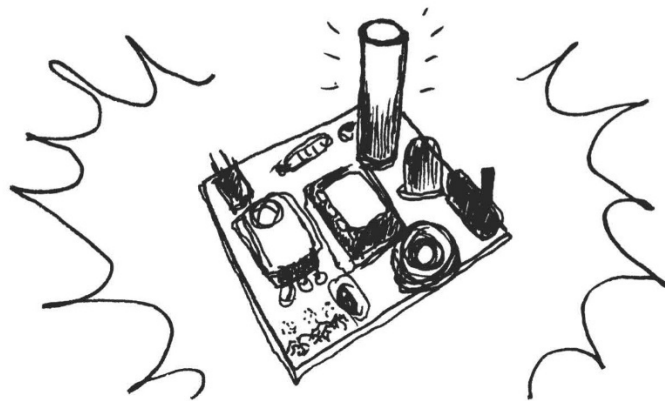
[HTTP://MIGHTYOHM.COM/SOLDERCOMIC](http://mightyohm.com/soldercomic)





SOLDAR ES FÁCIL!

APRENDE CÓMO HACERLO



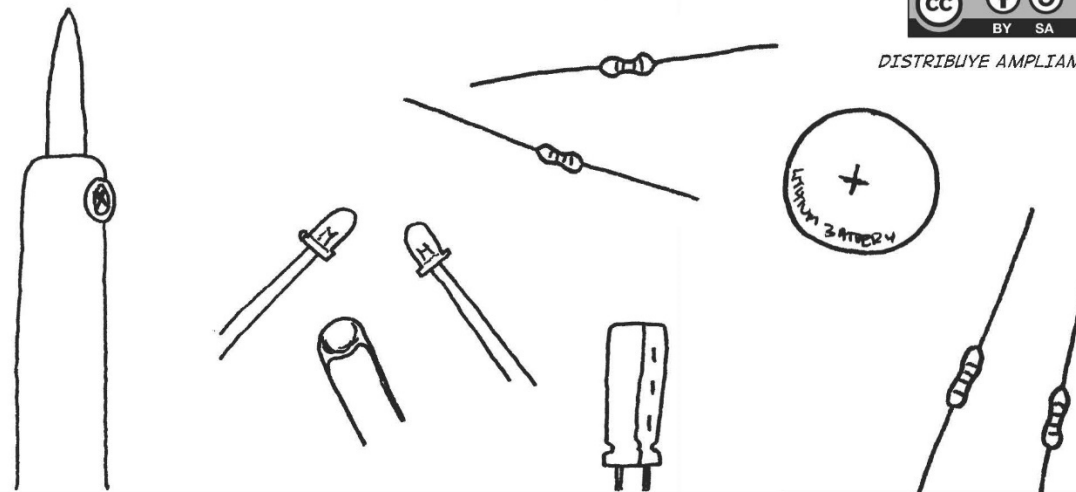
POR: MITCH ALTMAN
(SABIDURÍA EN SOLDADO)

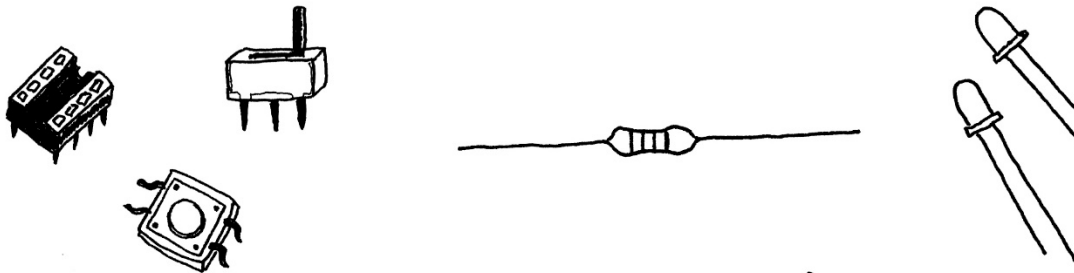
ANDIE NORDGREN
(ADAPTACIÓN A COMIC)

JEFF KEYZER
(DISEÑO Y EDICIÓN)

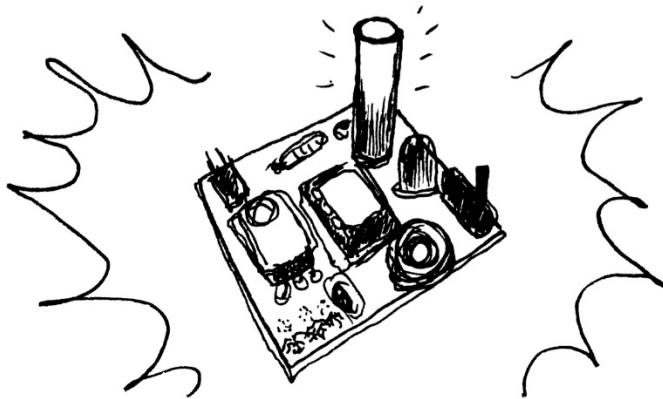


DISTRIBUYE AMPLIAMENTE!





焊接是容易的 告诉你怎么做



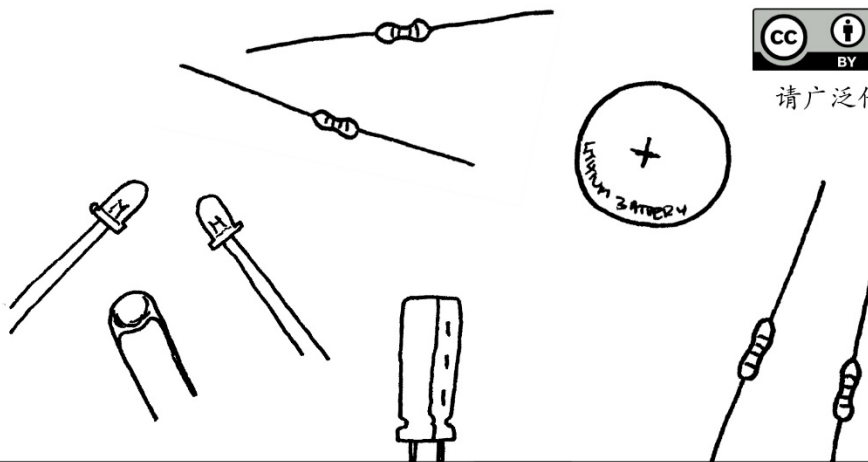
BY: **MITCH ALTMAN**
(焊接智者)

ANDIE NORDGREN
(漫画编剧)

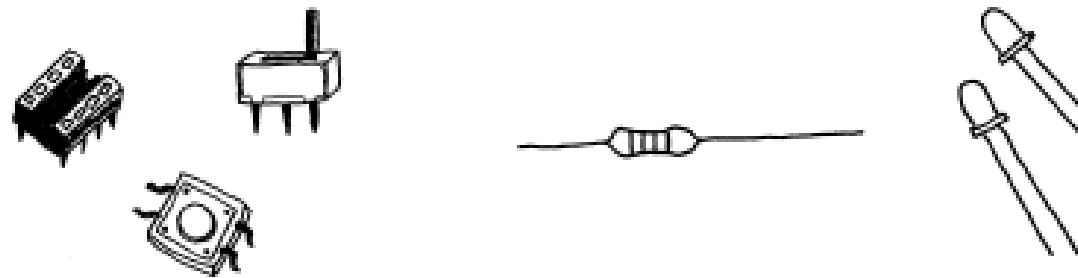
JEFF KEYZER
(排版编辑)

LINKIN LI
(中文版翻译)

MIN LIN HSIEH
(中文版编辑)

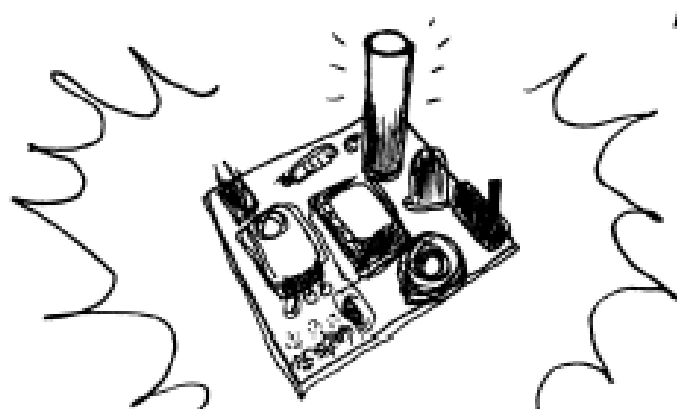


请广泛传播!



SOLDER C'EST FACILE

VOICI COMMENT FAIRE

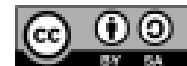


DE: ***MITCH ALTMAN***
(MAITRE SOLDEUR)

ANDIE NORDGREN
(ADAPTATION BD)

JEFF KEYZER
(EDITION, MISE EN PAGE)

SNOOTLAB
(TRADUCTION FR.)

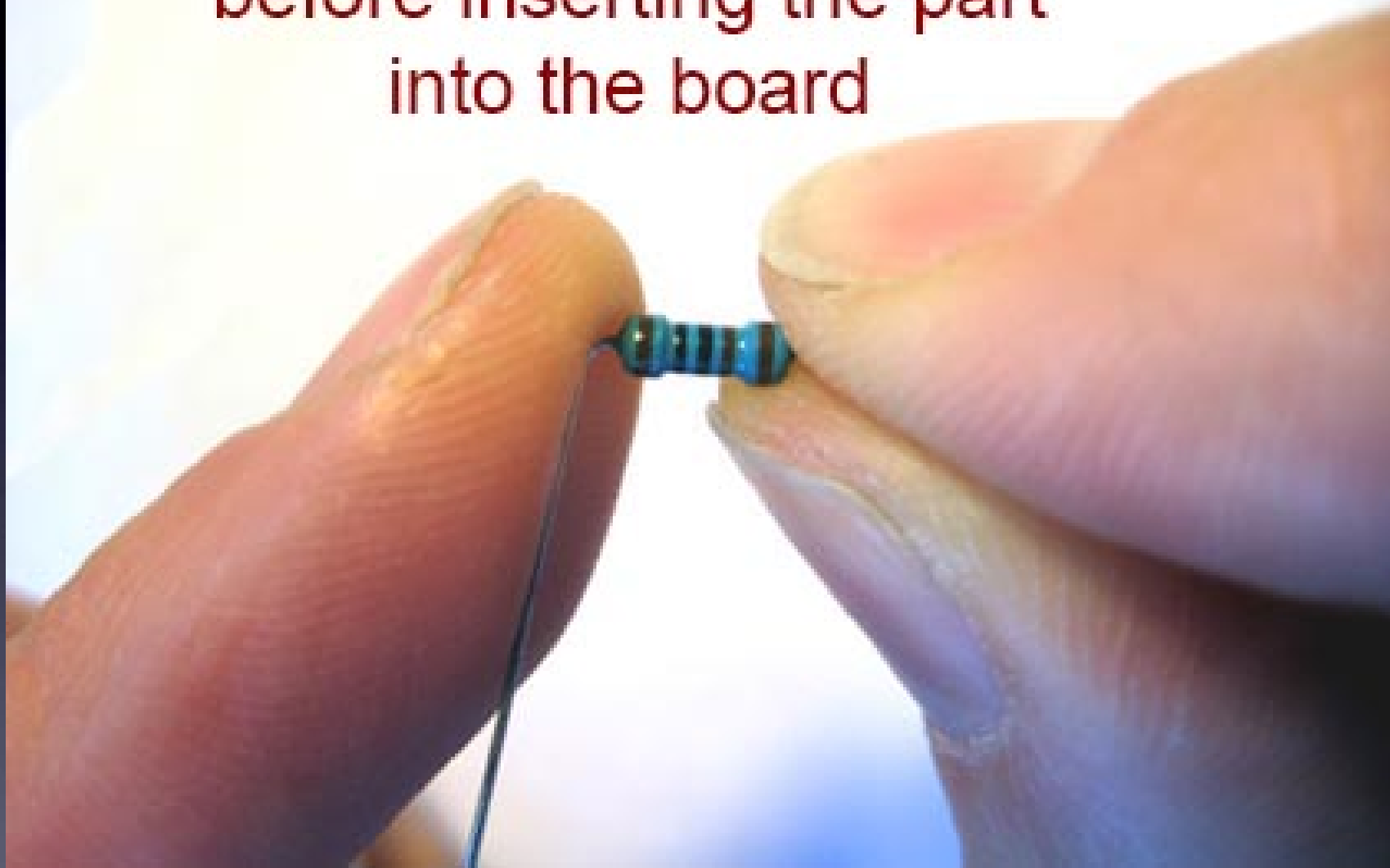


A DIFFUSER LARGEMENT !

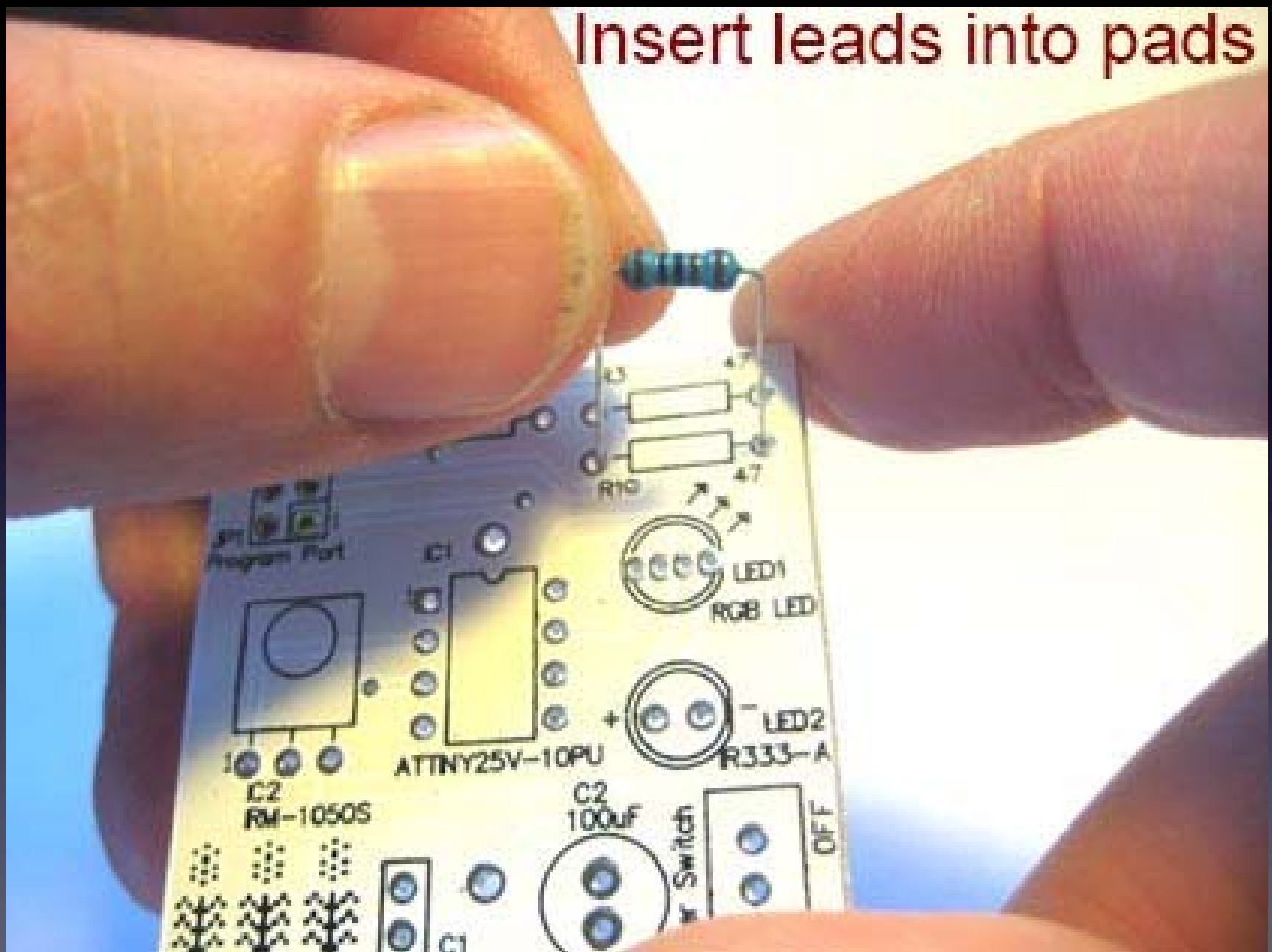
TELECHARGEZ CETTE BD
ET PARTAGEZ LA AVEC VOS AMIS !
[HTTP://MISHTYOHM.COM/SOLDERCOMIC](http://MISHTYOHM.COM/SOLDERCOMIC)



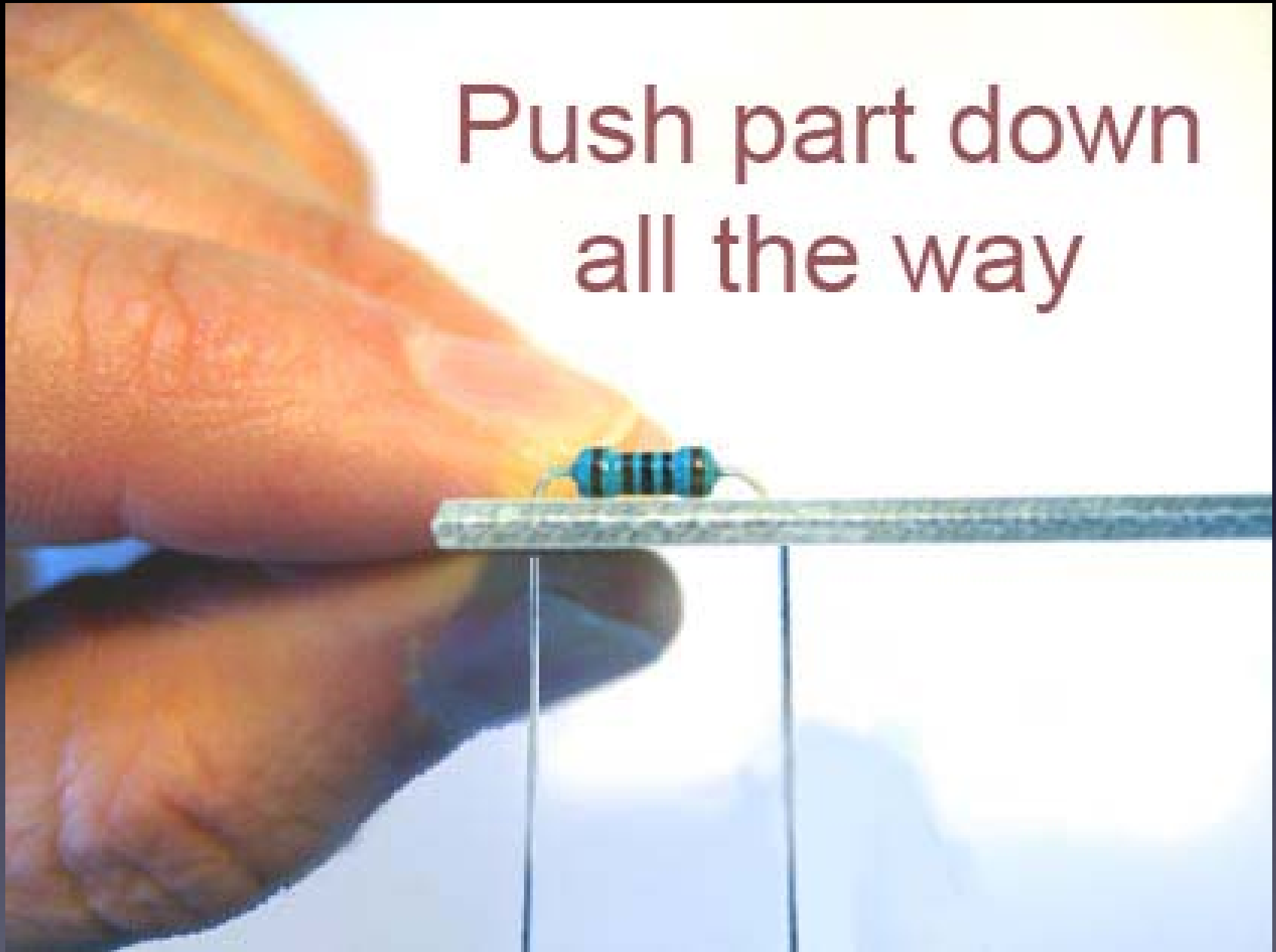
Bend leads
before inserting the part
into the board



Insert leads into pads



Push part down
all the way



A close-up photograph of a person's hand holding a thin metal wire. A small blue resistor is attached to the wire. The wire is bent at a 90-degree angle. The text 'Upside down' is written in red at the top, and 'Wires bent half way out' is written in red on the left side. The background is a bright, slightly blurred outdoor scene.

Upside down

Wires bent
half way
out

3 Safety Tips...

Safety Tip #1:

Hot !!

Safety Tip #2:

Lead (Pb) is toxic

Safety Tip #3:

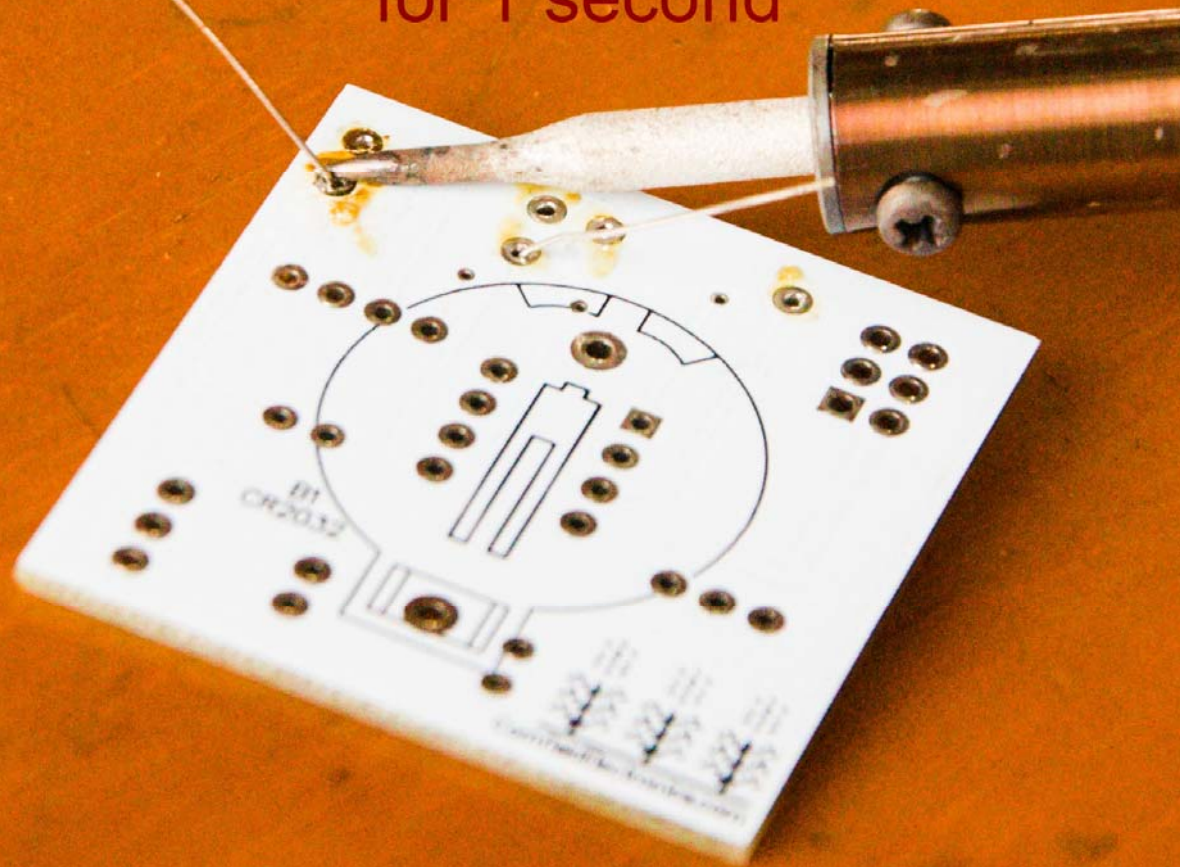
(coming soon)

2 secrets
to good soldering...

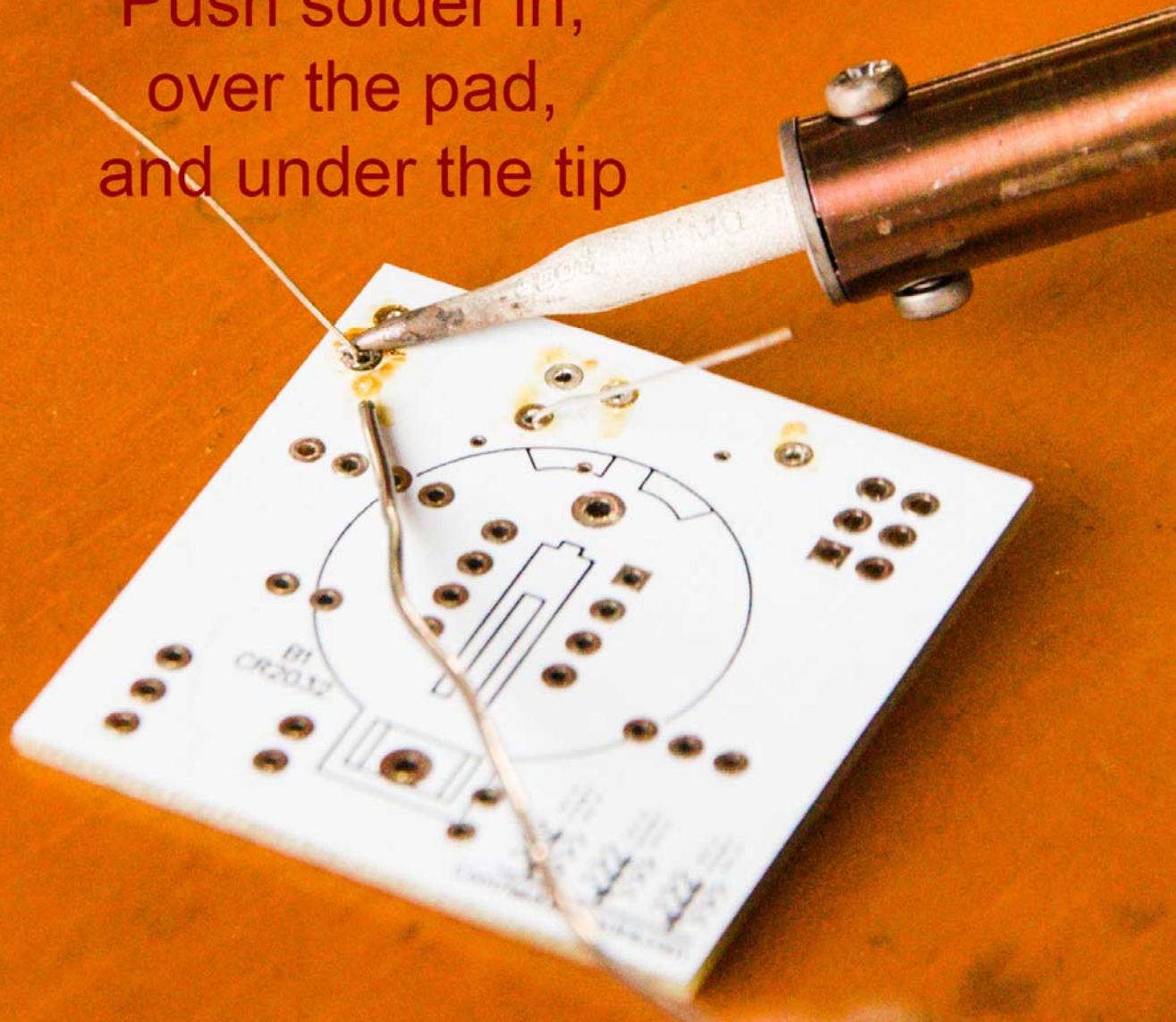
Secret #1:

Clean the tip!

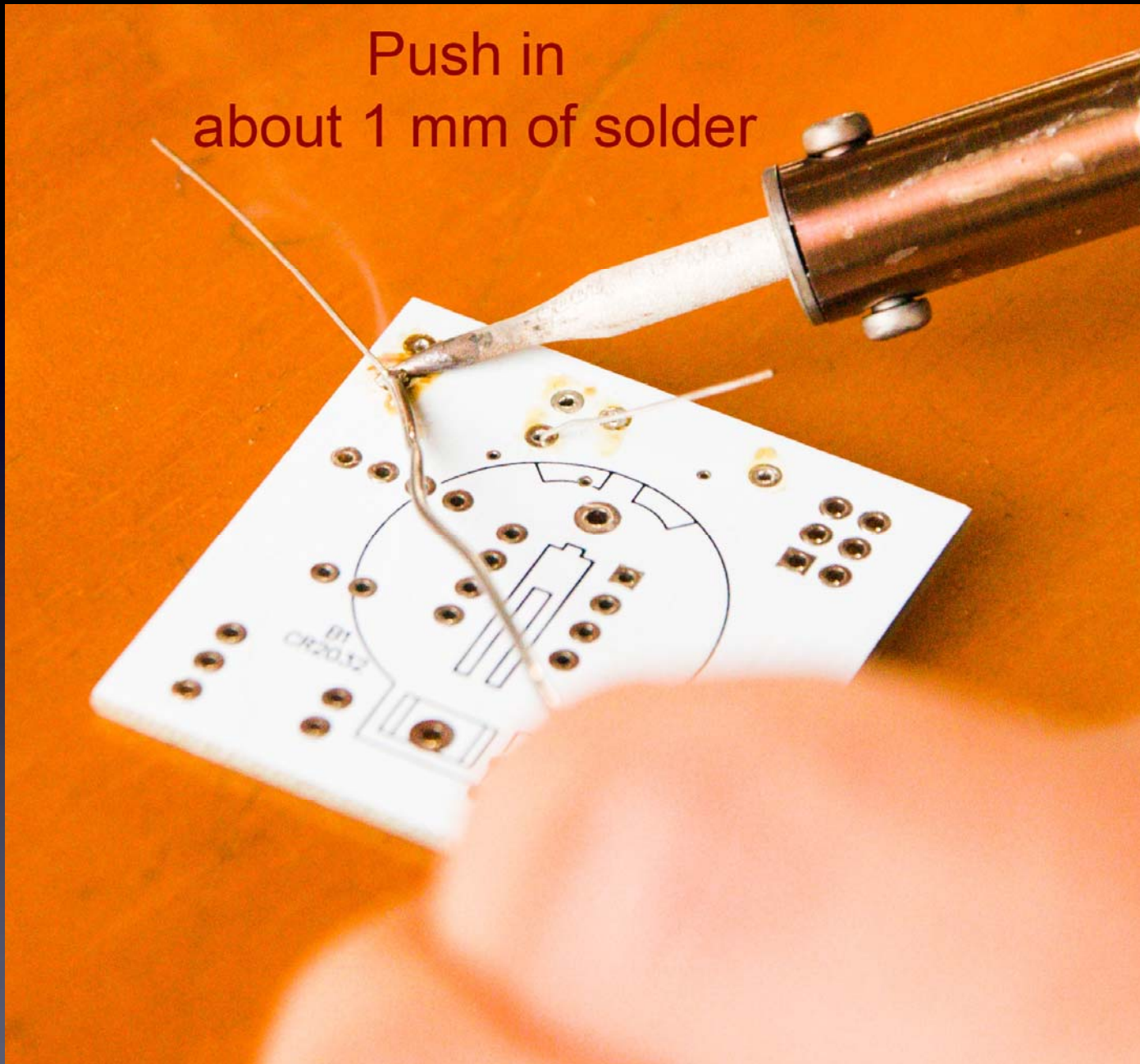
Lay clean tip across half of the pad,
touching the pad and lead
for 1 second



Push solder in,
over the pad,
and under the tip



Push in
about 1 mm of solder



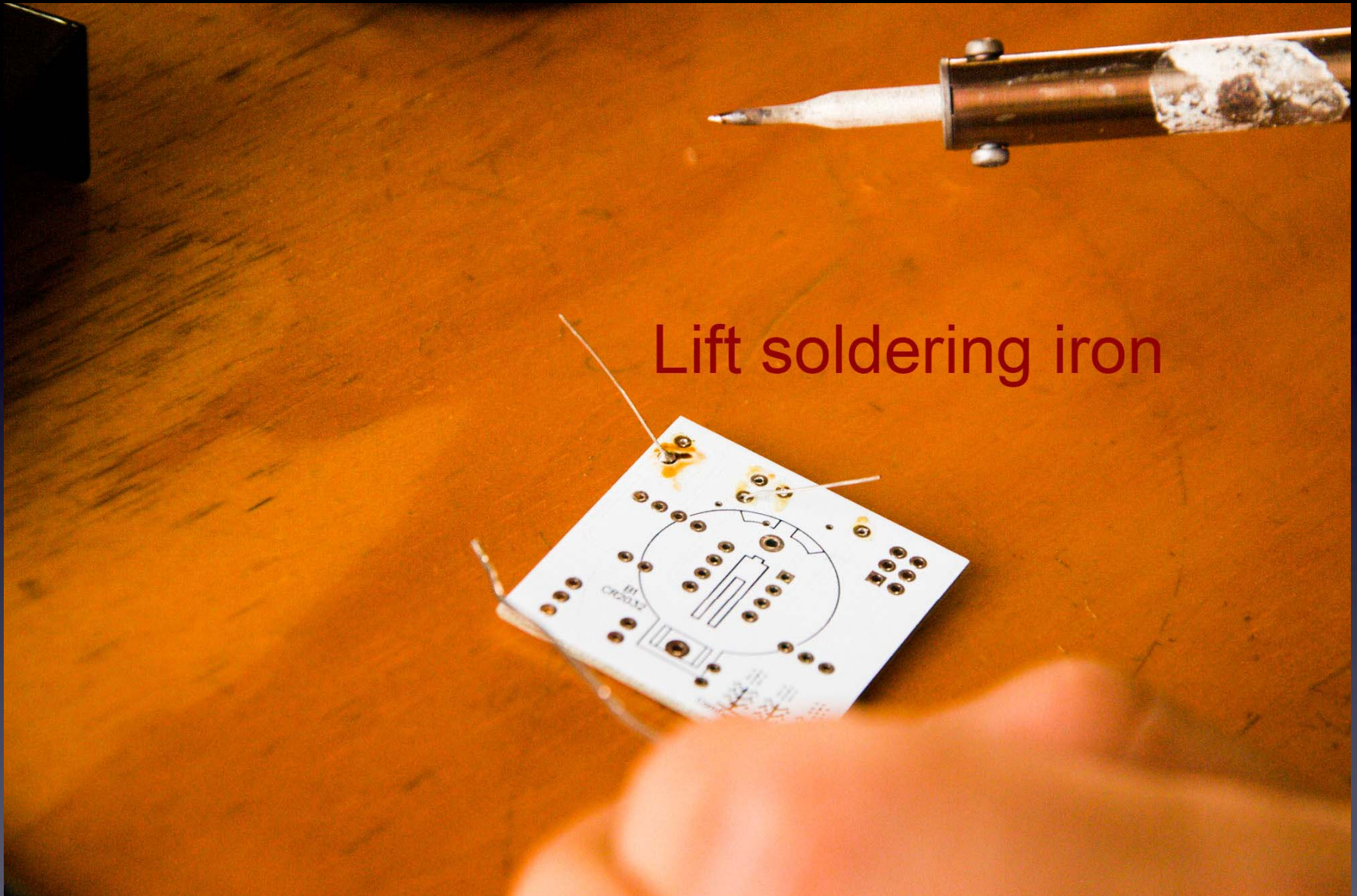
Secret #2:

Keep hot tip down
1 second
for solder to flow !!

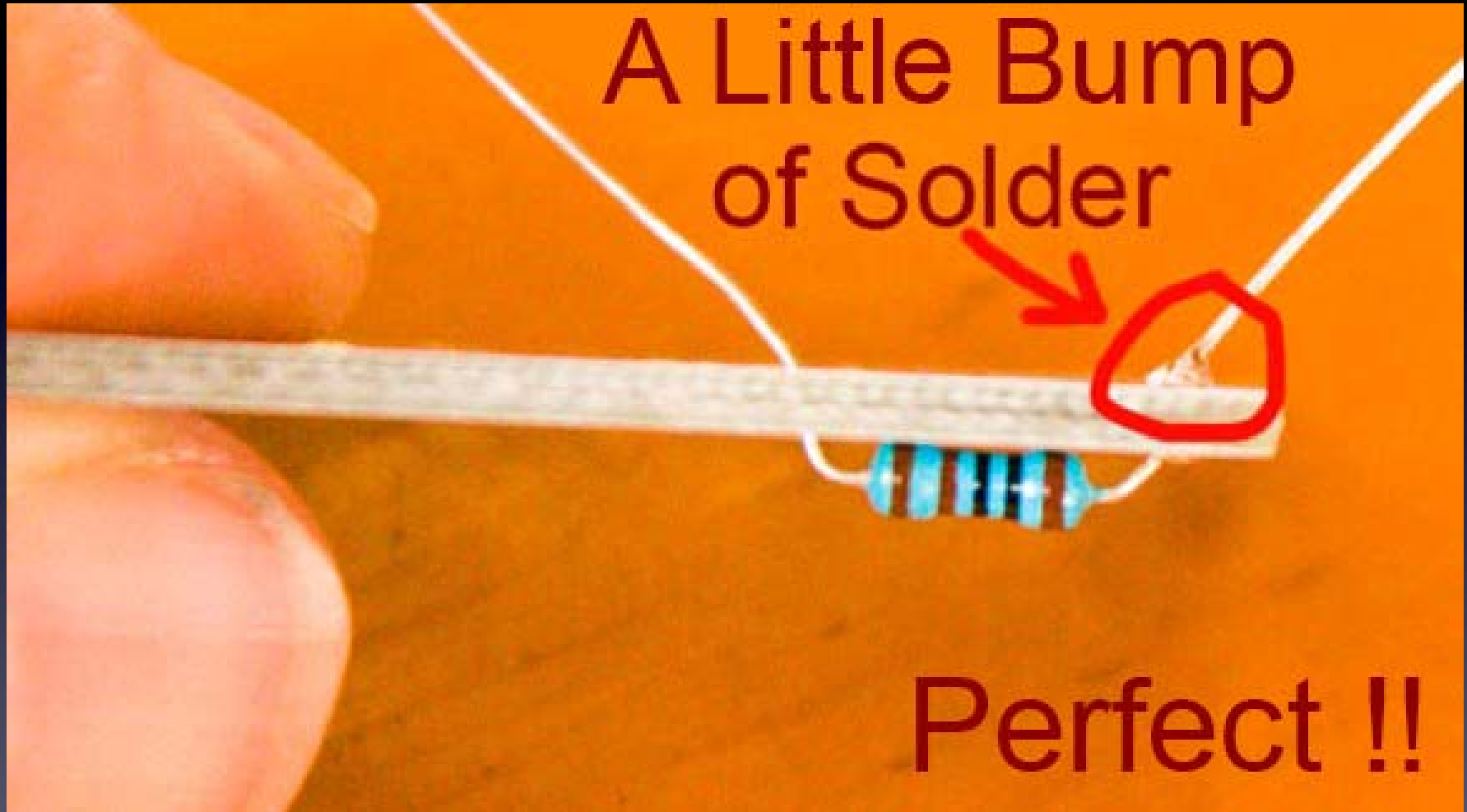


Pull solder away,
and keep holding soldering iron down
for 1 more second

Lift soldering iron

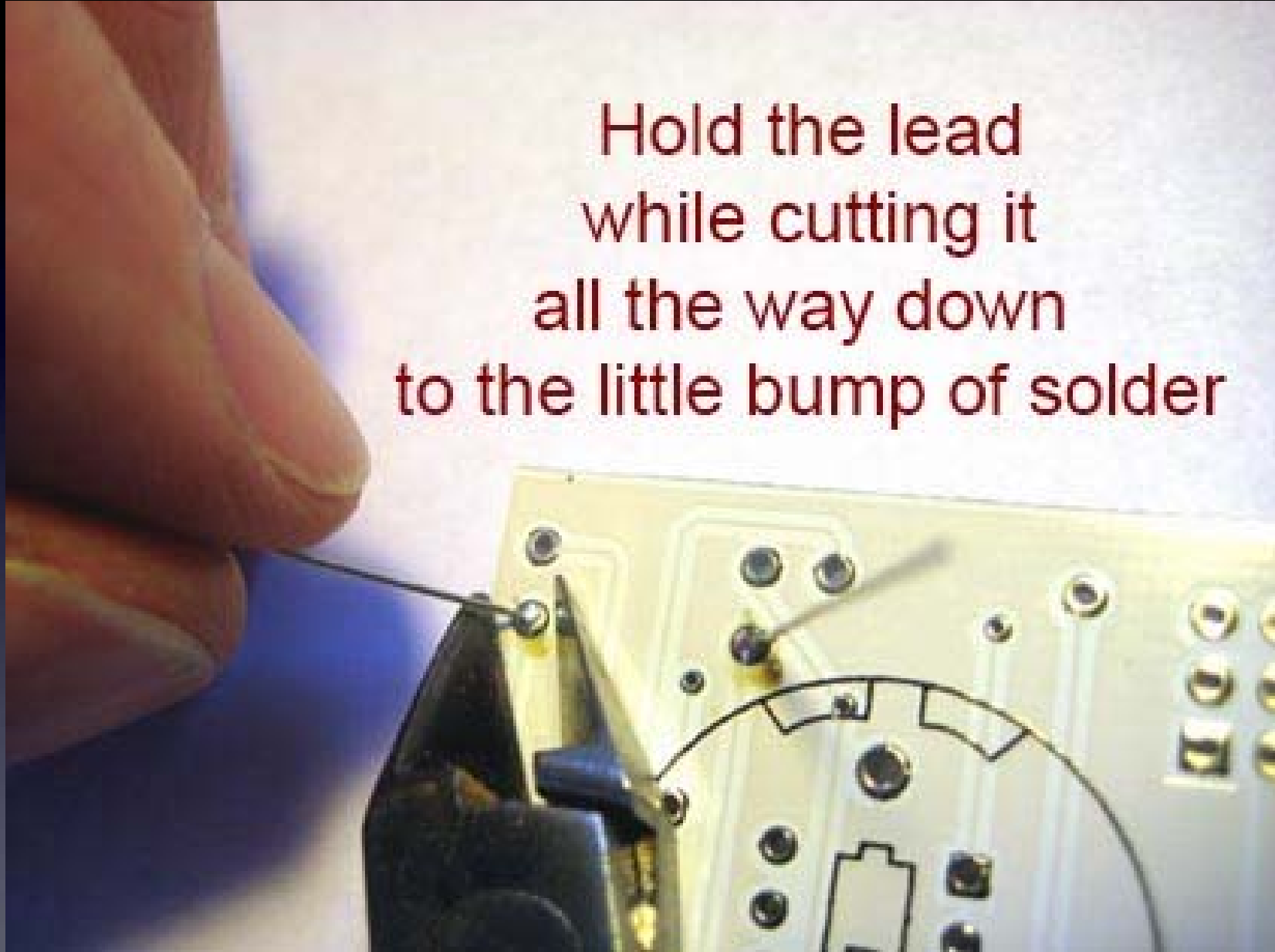


A Little Bump
of Solder



Perfect !!

Hold the lead
while cutting it
all the way down
to the little bump of solder



Safety Tip #3:

Hold or cover the lead !



All done !