

Using Chip Pullers

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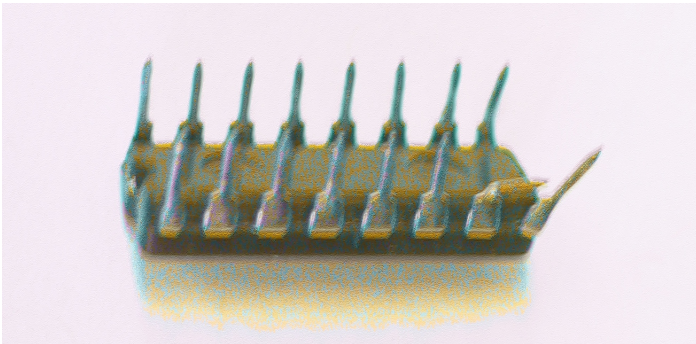
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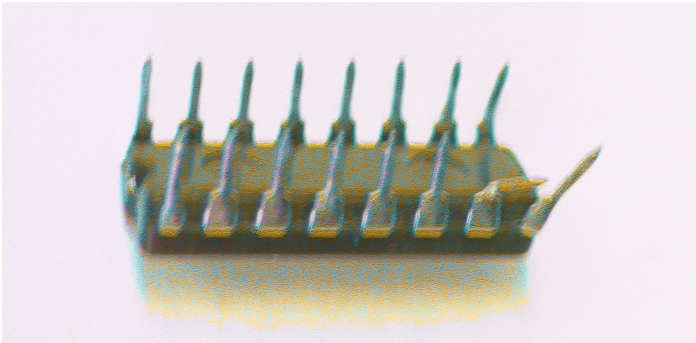
(If it weren't, chips could fall out or have poor connections.)

If this is done by hand, damage can occur.

Here's a chip removed by hand:

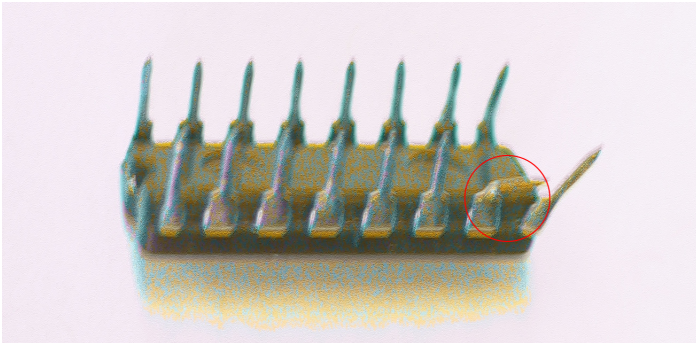


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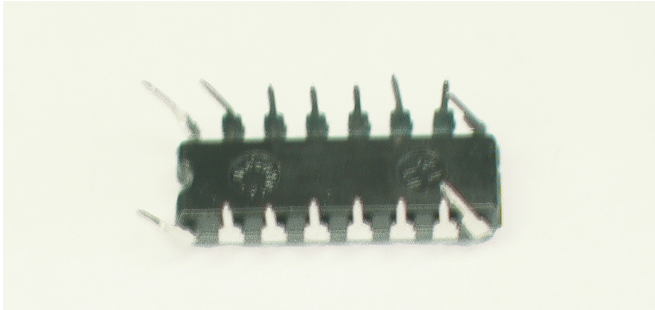
Notice the bent pin.

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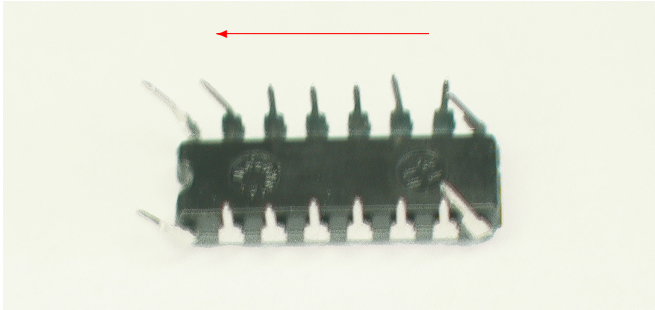


Notice the bent pin.

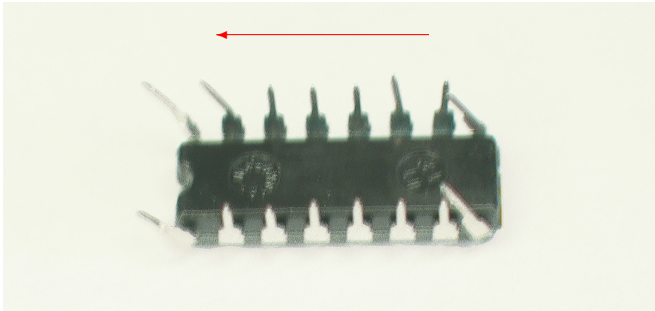
Note all of the pins bent in one direction.



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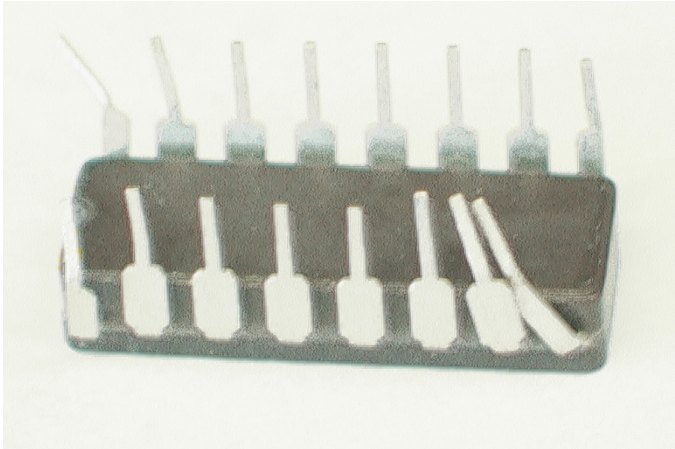


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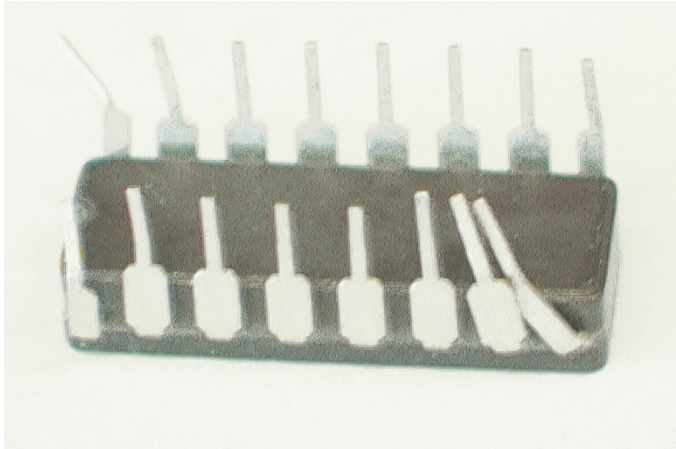


This indicates which way the chip was removed.

Here's another example:

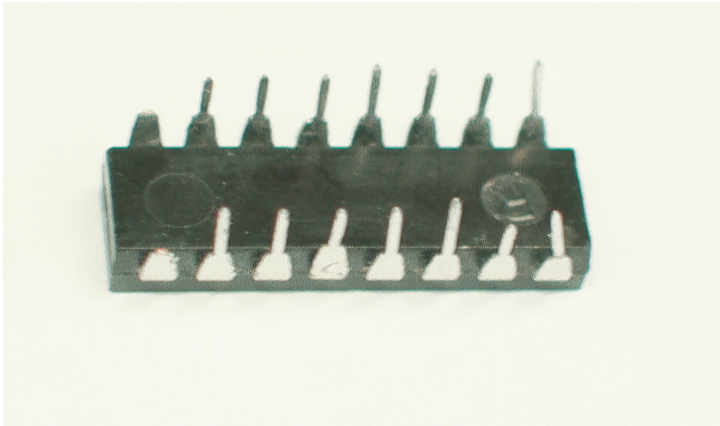


Here's another example:

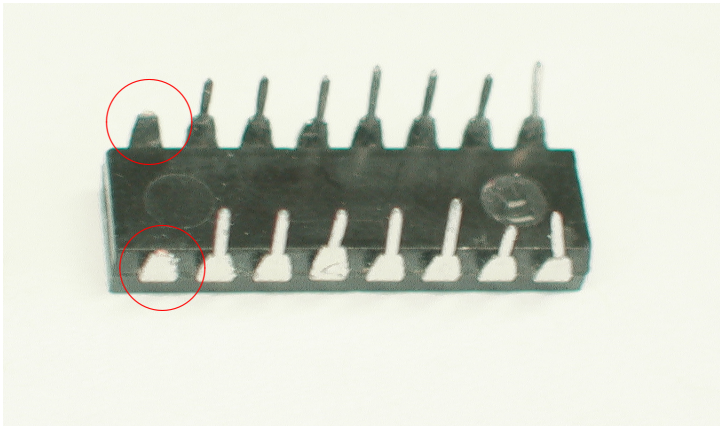


Again, the direction is clear by the way the pins are bent.

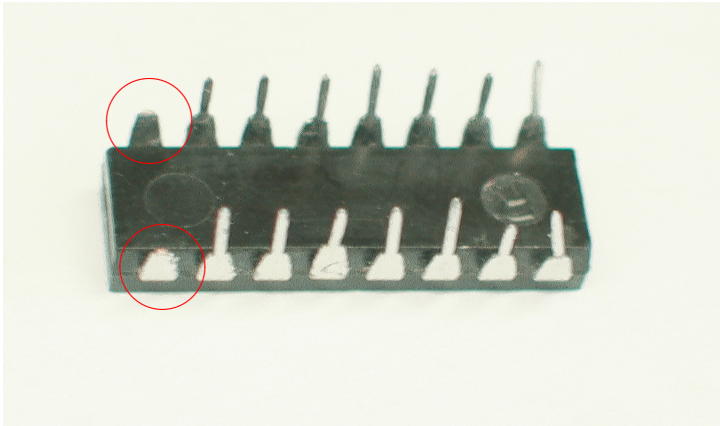
If bent enough, pins may break off when being straightened.



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The chip may still work, but is unusable.

What is a chip puller?

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This is a chip puller.

There are different styles.

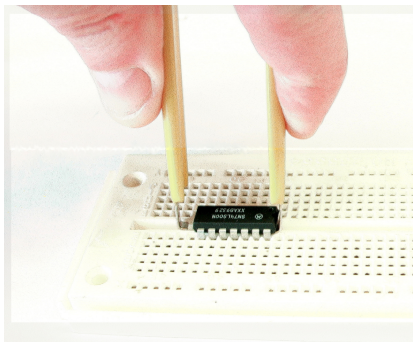
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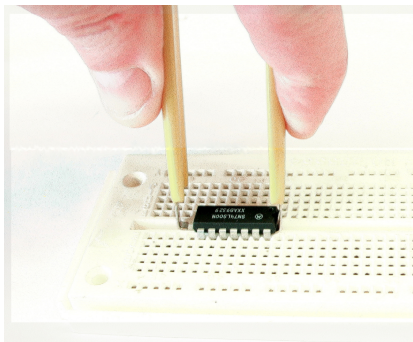
This is another chip puller.

How to use a chip puller (Step 1):

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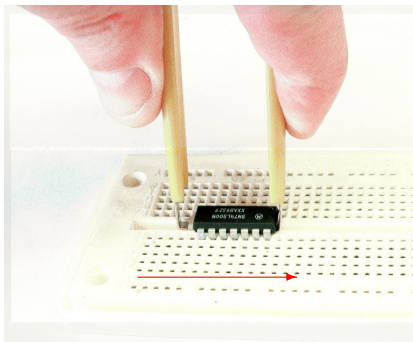


How to use a chip puller (Step 1):



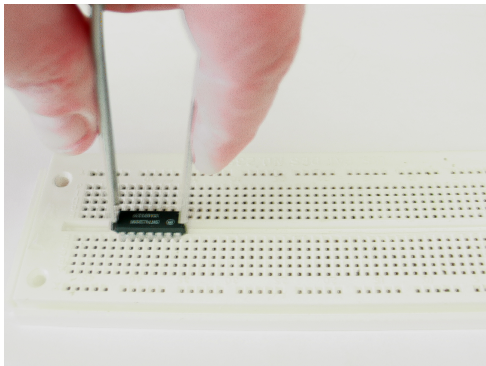
Put the jaws of the chip puller over the ends of the chip.

How to use a chip puller (Step 1):

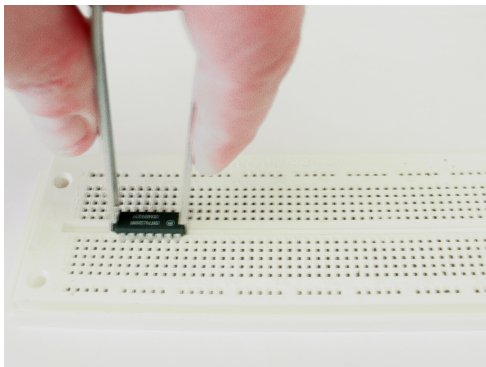


Put the jaws of the chip puller over the ends of the chip.

How to use a chip puller (Step 2):

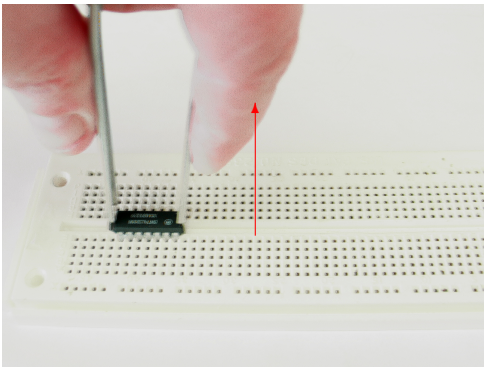


How to use a chip puller (Step 2):



Pull straight up, evenly, to protect the pins.

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Summary

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Always use a chip puller to remove a chip from a breadboard or socket.