# Using Chip Pullers Wilfrid Laurier University

Terry Sturtevant

Wilfrid Laurier University

February 11, 2014

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# Why use a chip puller?

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# Why use a chip puller?

When removing chips from a breadboard or a socket on a printed circuit board,

a fair amount of force is sometimes required.

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# Why use a chip puller?

When removing chips from a breadboard or a socket on a printed circuit board,

a fair amount of force is sometimes required.

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

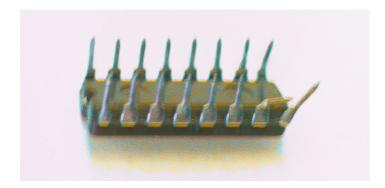
# Why use a chip puller?

When removing chips from a breadboard or a socket on a printed circuit board,

a fair amount of force is sometimes required.

(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:

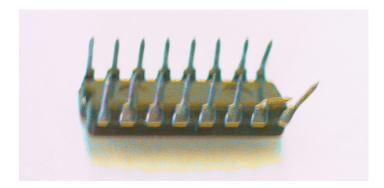


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Here's a chip removed by hand:

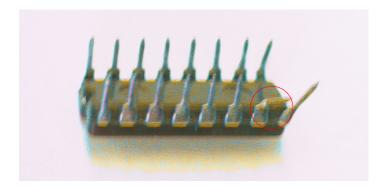


Notice the bent pin.

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Here's a chip removed by hand:

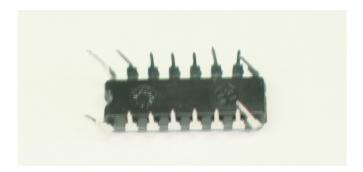


Notice the bent pin.

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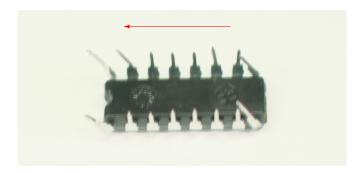
### Note all of the pins bent in one direction.



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### Note all of the pins bent in one direction.

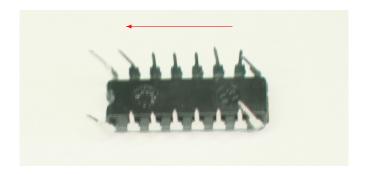


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Note all of the pins bent in one direction.

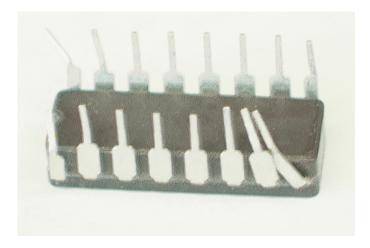


This indicates which way the chip was removed.

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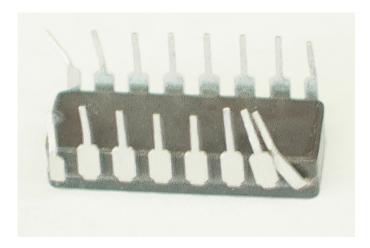
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### Here's another example:



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#### Here's another example:

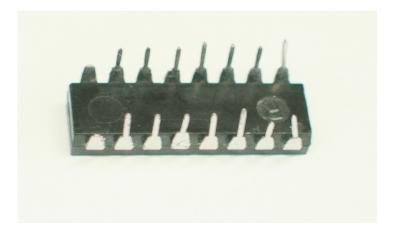


Again, the direction is clear by the way the pins are bent.

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

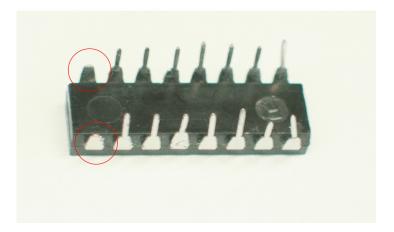


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If bent enough, pins may break off when being straightened.

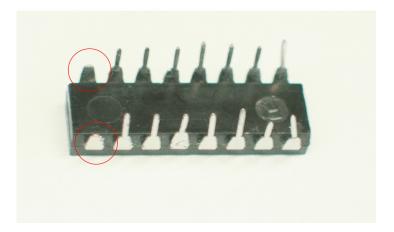


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If bent enough, pins may break off when being straightened.



The chip may still work, but is unusable.

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## What is a chip puller?

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## What is a chip puller?



This is a chip puller.

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There are different styles.

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There are different styles.



This is another chip puller.

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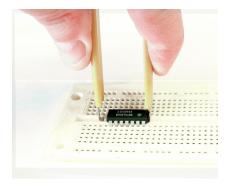
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How to use a chip puller (Step 1):

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### How to use a chip puller (Step 1):

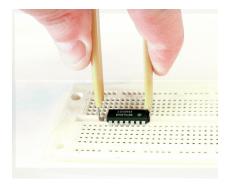


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### How to use a chip puller (Step 1):

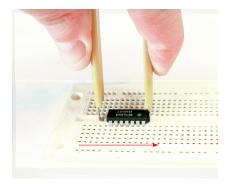


#### Put the jaws of the chip puller over the ends of the chip.

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### How to use a chip puller (Step 1):

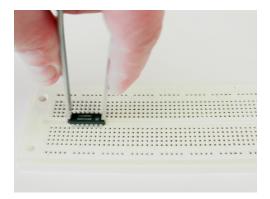


Put the jaws of the chip puller over the ends of the chip.

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### How to use a chip puller (Step 2):

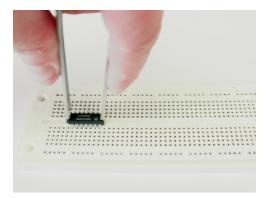


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### How to use a chip puller (Step 2):

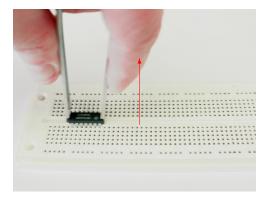


Pull straight up, evenly, to protect the pins.

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### 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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# Summary

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

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