

# Is your laptop overheating?

Since a laptop running hot can quickly lead to a laptop not running at all, which in turn becomes buying a new laptop, I decided to take a look to see what was going on. Fortunately, it was a quick and easy fix.



Time to see what's going on

The patient -- in this case a late-2013 15-inch MacBook Pro -- is ready.

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Caption by: Adrian Kingsley-Hughes



## The right tools for the job

Later MacBooks are held together with P5 pentalobe screws. Earlier MacBooks used small Phillips screws. Either way, get the right tools to remove them. Here I'm using my [trusty iFixit Manta driver kit](#) to make my way inside.



Remove the screws

Remove the screws holding down the back panel.



Here's one...

This is the larger of the two sizes holding this laptop together.



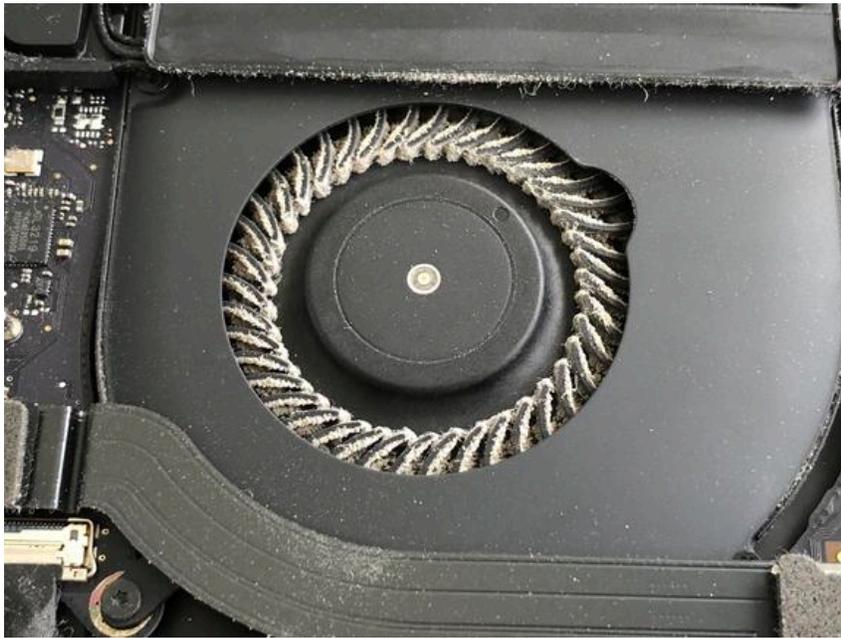
Keep them in order

Here's another... this one is tiny.

The MacBook Pro is held together with different length screws, so keep them in order!

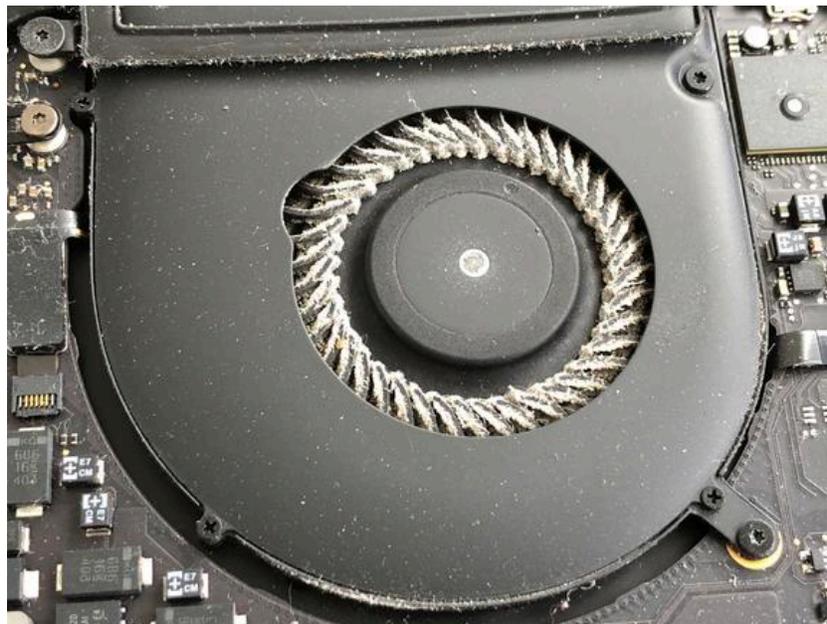


And we're in!  
An there's no shortage of dirt, dust, cat hair -- Mr Kitty! -- and random detritus inside.



### Clogged fans

Here's the cause of the overheating -- clogged cooling fans.



### The other one is worse

This one is a seriously clogged fan, and this dirt buildup will drastically hamper the air flow the system needs to keep cool.



## Anti-static brush

Another example of having the right tool for the job. Here is an anti-static brush I used to brush away the dirt (another tool I got from the [great folks at iFixit](#)). It does a great job of getting into the nooks and crannies without damaging anything.

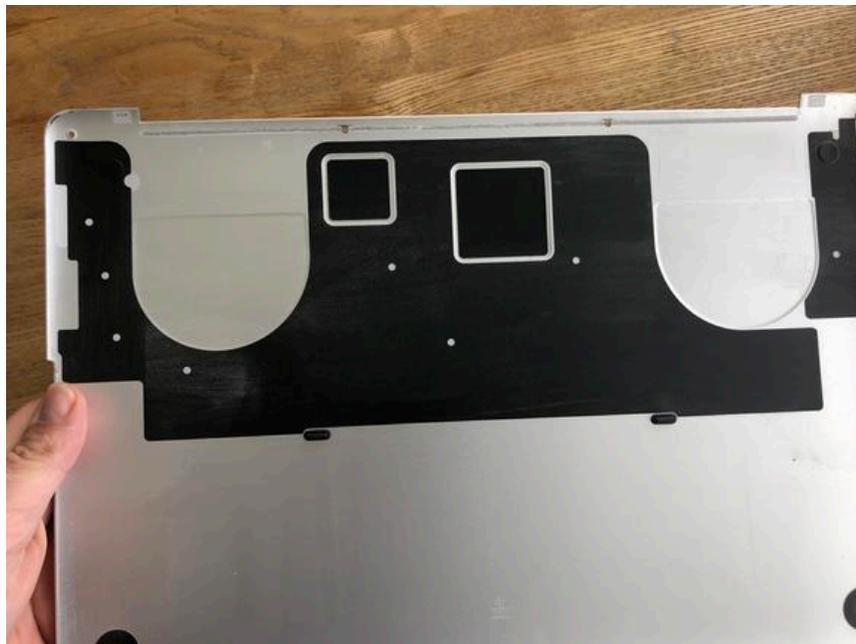
You can also [use a blower](#) to attack the dirt buildup. I don't recommend using canned air because the high-speed jet of air can damage delicately balanced fans, and I definitely don't recommend using a garage air compressor or blowing at it with your mouth.

I'd also recommend you find some way to prevent breathing in the dirt. A dust mask is a good idea, or just being upwind at the very least!



Carefully clean the fans

Take your time. Don't use excessive pressure. Let the brush do its work!



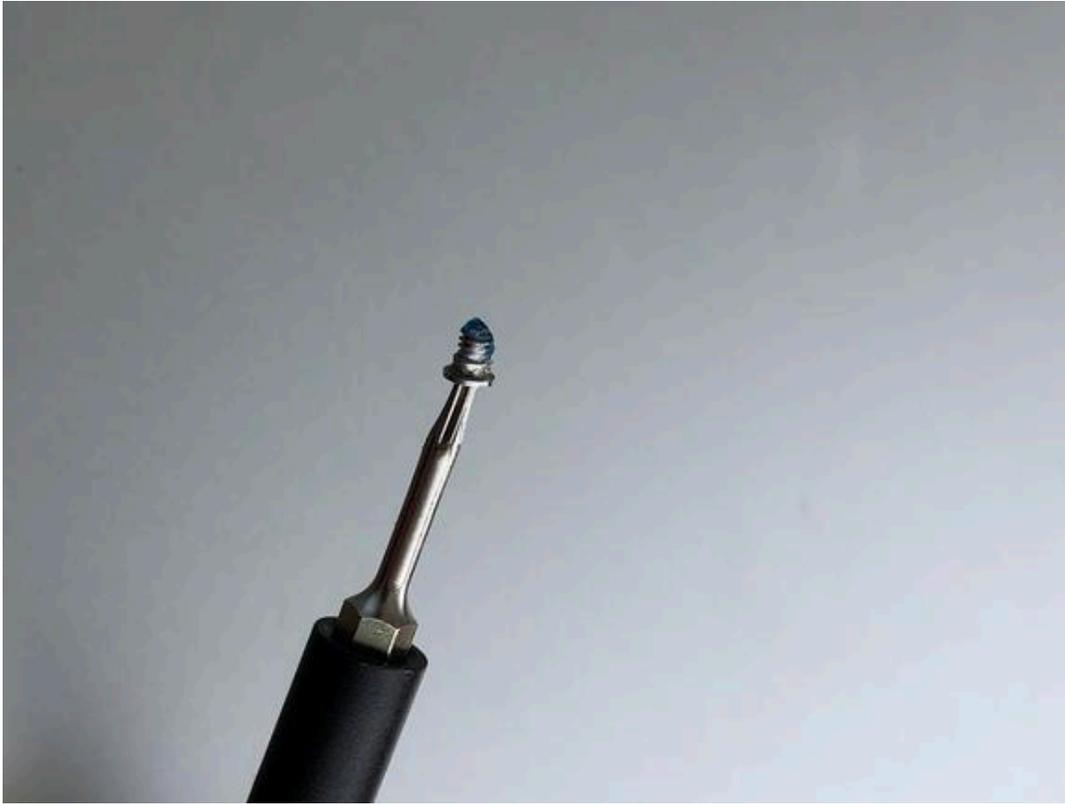
Clean the back panel too!

Don't forget to clean the back panel, along with any nooks and crannies you find.



Stop the screws working their way loose

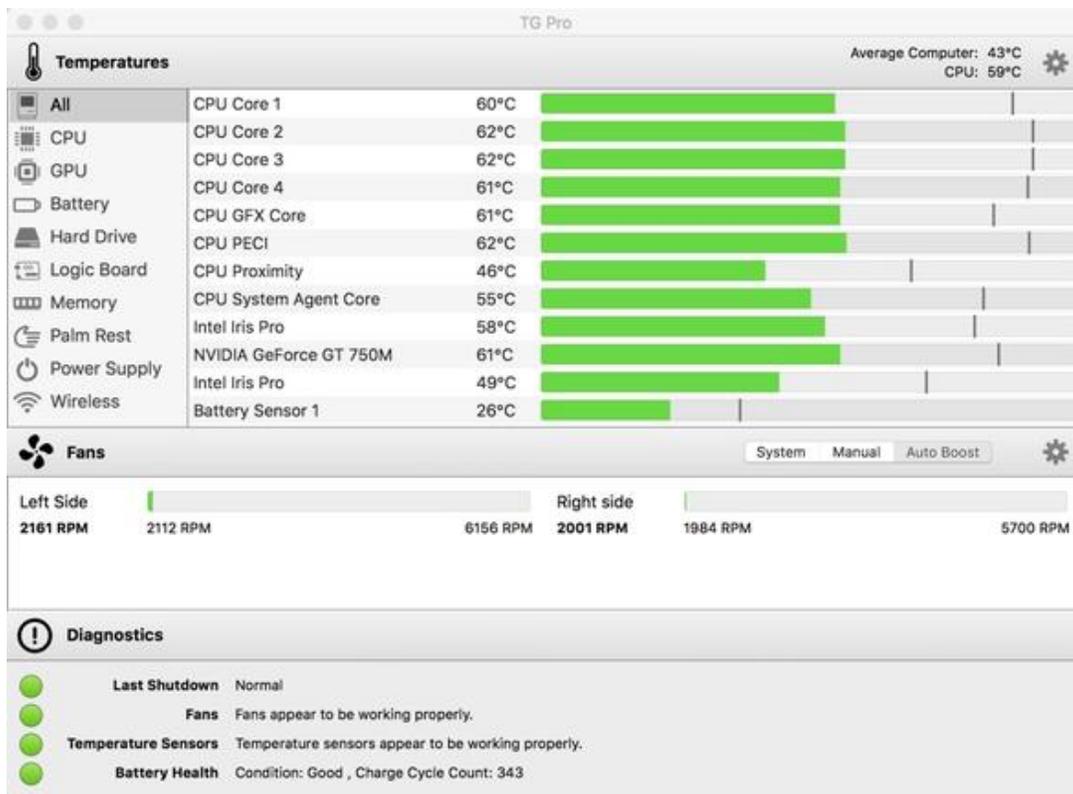
This is not necessary, but I like to use a little bit of medium-strength threadlocking compound (here I'm using blue Loctite) to prevent the screws from working their way loose over time.



## Just a dab

You only need a tiny dab of threadlocker. No need to go bananas with it.

And as for tightening up the screws, you only need finger pressure -- there's absolutely no need to go full animal on them because something expensive will break.



Mission accomplished!

The MacBook Pro is now all buttoned back up and running much cooler than before.

Here I'm using [TG Pro to keep an eye on system temperatures](#).  
Mission accomplished!