Broken Mac? Fix it with these simple troubleshooting tips

Got a Mac that's misbehaving and not doing what you expect it to do? Here are some simple things you should try before taking it to a Genius at your nearest Apple Store.

By Adrian Kingsley-Hughes for Hardware 2.0 | March 7, 2018 -- 13:33 GMT (05:33 PST) | Topic: Hardware - ZDNet

When it comes to troubleshooting, I always try the simplest things first, and these tricks have been successful in solving some 90 percent of the Mac problems I've encountered.

I've used these to solve a wide variety of weird Mac issues, ranging from poor performance and systems not wanting to boot up (or are taking a long time to boot) to the fans running crazy or the screen being blank.
The following is information that all Mac owners should know, and it can help prevent you from having to take an unnecessary trip to see a Genius at your nearest Apple Store.

Reset the SMC (System Management Controller)
This [one tip can fix a whole raft of Mac issues](). However, how you go about doing it depends on which Mac you have:

- **Desktop systems (iMac, iMac Pro, and Mac Pro)**: Disconnect the power cord, wait 15 seconds, plug it back in, and then wait a further five seconds before turning the Mac on again.
- **Laptops with non-removable batteries (newer MacBook systems)**: With the system plugged to a power supply, press and hold **Shift** + **Option** + **Control** and then press the power button (it helps if you have three arms or an assistant). Hold for a few

seconds and then simultaneously release all the buttons before starting the Mac as normal.
- **Laptops with removable batteries (older MacBook systems)**: Disconnect the system from the power supply and remove the battery. Then press and hold down the power button for five seconds. Refit the battery and restart the Mac.

Apple leads owners through a whole list of things to try before resetting the SMC, but since there doesn't appear to be any downside to doing this, and it's simple to do, I tend to just jump straight into giving it a go.

I always recommend resetting both SMC and NVRAM/PRAM when troubleshooting.

Reset the NVRAM (NonVolatile Random-Access Memory)/PRAM (Parameter RAM)
Here's another time where a spare arm or an assistant comes in handy.
- To reset the NVRAM/PRAM, you need to simultaneously hold down **Command** + **Option** + **P** + **R** while powering on the system. (Yes, that requires some finger dexterity!)
- Keep holding down the four buttons until you hear your Mac emit the "WALLe" startup chime and then keep holding them down until you hear it for a second time.

- Note that, for the iMac Pro, there is no startup sound, and you release the keys after the Apple logo appears and disappears for the second time.

If you have a firmware password set, you'l need to disable this first.

If you're finding that this doesn't work, then you might need to either disconnect all your USB devices or, if you are using a Mac with a wireless keyboard, you might need to go old-school and use a wired keyboard (any USB keyboard will work with a Mac, it just won't be as stylish). Once you're done with the reset, you can go back to your wireless keyboard.

For more information about resetting the NVRAM/PRAM, check out [Apple's support documentation](#).
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Run Disk Utility

If your system won't boot, a very likely cause is a disk issue. Hopefully, it's some data damage that can be fixed, but sometimes, it's something a lot more serious.

- Hold down **Command** + **R** while booting your Mac (for older systems running Snow Leopard or earlier, you'll need to dig out your installation disc, then pop that into the optical drive, and reboot your computer while holding down **C**).

- From the startup screen select **Disk Utility**.
- Select the hard drive, then choose **Verify**, and allow that to run.
- If problems are detected, next choose Repair Disk. If no problems are detected, choose **Repair Permissions**.
- Try rebooting the system again.

Run Apple Diagnostics
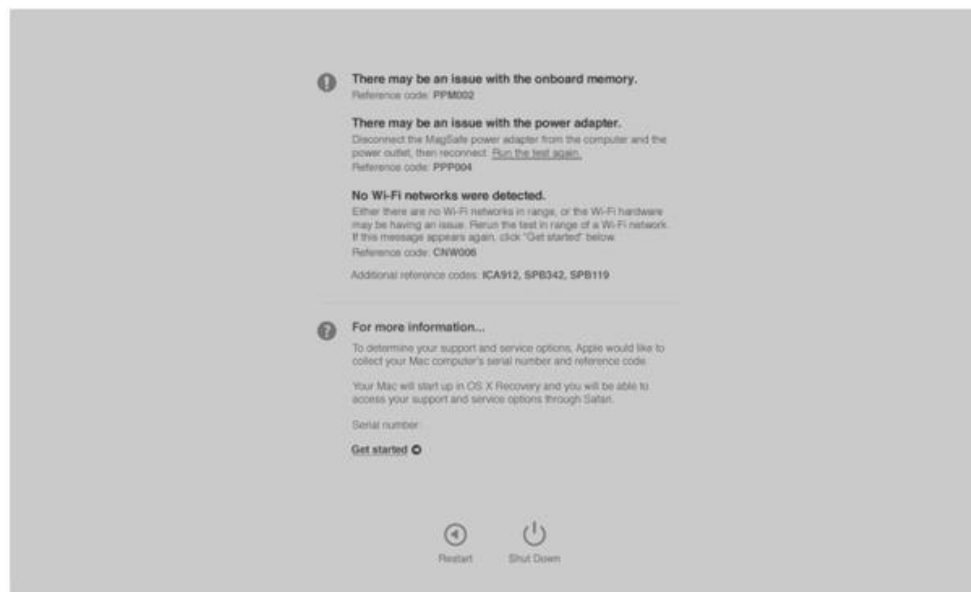
Apple Diagnostics screen.

- Boot up your Mac while holding down **D**, and then keep holding it down until asked to choose a language. Note that, if this doesn't work, you should reboot your system while holding down **Option** + **D** to carry out start Apple Diagnostics over the internet. (You will need to a Wi-Fi connection or Ethernet connection.)
- The utility will automatically check your system.

- If any problems are found, the test will show you reference codes and suggest solutions.

Note that, on older systems, this test is called **Apple Hardware Test**.

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