

Forum:[Hack Forums](#)

Thread: [Guide to Troubleshooting your Mac](#)

Harbo5 - February 17, 2015, 7:59 pm

This guide describes the basic steps to troubleshooting OS X issues. It is written chronologically, follow the steps in order of the post.

Start off by doing the following preliminary steps: Make sure all software is up to date and make sure you've installed all OS X updates.

If you're on a developer beta or any beta, downgrade and see if the issue is still present.

Deciding If The Issue is Hardware or Software:

Generally speaking, there are two kinds of issues, software and hardware. Some examples of software issues are Safari crashing every time you go to web page X, not being able to boot up OS X, a program crashes upon opening, etc. Software issues can range from easy fixes to un-fixable, it really is an issue specific thing. Hardware issues are a little bit more systematic, some examples would be RAM failure, corrupted hard drive, broken disk drive, etc. Hardware issue can be very difficult to resolve yourself and it's likely you'll need to take a trip to the Apple Store.

Once you've decided what kind of you issue have, follow the steps for your issue below:

Troubleshooting Hardware Issues:

As mentioned above, hardware is a difficult thing to troubleshoot. Before you begin troubleshooting, be aware that opening your laptop's case voids the warranty, that being said, I strongly advise against opening your laptop.

Verifying your disk:

Not matter what your issue is, it never hurts to make sure you hard drive is error free. You can verify your disk by doing the following:

Turn your computer totally off

Turn your computer on while holding CMD(?) + R to boot to your Recovery Partition

Open Disk Utility

Click the First Aid tab

Click Macintosh HD (Or whatever you named your disk)

Click Verify, and if any errors, hit repair. If you can't boot up to Recovery Partition, try holding CMD(?) + Option + R, this will boot to OS X Internet Recovery, which is a fresh install of Recovery Partition. Make sure you have an Ethernet cable hooked up or make sure you're in the area of a WiFi network that you've connected to before. Once you boot up, run Disk Utility using the above steps.

If you can't boot up to either, try an SMC reset and a PRAM reset (Steps below). If after those, you still can't boot-up, schedule a Genius Bar appointment at Apple:

<https://www.apple.com/retail/geniusbar/>

Resetting the PRAM and NVRAM:

Resetting your Mac's PRAM can sometimes resolve issues with your hardware. Follow the below

steps to reset your PRAM:

Turn your Mac off

Turn your Mac on and hit CMD(?) + Option + P + R as soon as you hit the power button. You have to hit the keys before the gray screen appears.

Hold those four keys until you hear the boot-up tone a second time. If this doesn't resolve your issue

Resetting the SMC (System Management Control):

Performing an SMC reset can sometimes fix hardware issues. The SMC controls fans, keyboard, lights, displays, battery management, the ports on your computer, CPU management, manages the launching of CPU processes, and a few other things. An SMC reset can sometimes fix software issues, so if you're experiencing one, it might not hurt to try.

MacBooks made during 2009 and onward and all MacBook Airs:

Shut down the computer.

Plug in the MagSafe power adapter to a power source, connect it to your Mac if it's not already connected.

On the built-in keyboard, press Shift + Control + Option and the power button at the same time.

Release all the keys and the power button at the same time.

Press the power button to turn on the computer. MacBooks made before 2009:

Shut down the computer.

Disconnect the MagSafe power adapter from the computer, if it's connected.

Remove the battery.

Press and hold the power button for 5 seconds.

Release the power button.

Reconnect the battery and MagSafe power adapter.

Press the power button to turn on the computer. Mac Pros (The desktop), iMacs, and Mac Minis:

Shut down the computer.

Unplug the computer's power cord.

Wait fifteen seconds.

Attach the computer's power cord.

Wait five seconds, then press the power button to turn on the computer.

Testing your Hardware:

Once you've finished verifying your disk and doing the above resets, you should run Apple Diagnostics. Apple has kindly built in a diagnostic test that you can easily run to check all of the hardware components within your Mac. You can run Apple Diagnostics by doing the following:

Macs made after June 2013:

Shut down your computer

Press the power button to turn on your computer.

Immediately press and hold the D key until Apple Diagnostics begins.

The basic Apple Diagnostics test takes approximately 2-3 minutes to complete. Possible results: "No issues found" - This means that it's very unlikely that you have a hardware issue. Apple Diagnostics is not flawless and it can miss some things, but if you get this, odds are you have a software issue on your hand.

If there is an issue found - If Apple Diagnostics finds an issue it will give you an error code as well as a short description of the issue(s) that it found. If you find an error, schedule a Genius Bar appointment: <https://www.apple.com/retail/geniusbar/>

Macs made before June 2013:

Macs before June 2013 do not have Apple Diagnostics, but instead have Apple Hardware Test:

Shut down your computer.

Press and hold the D key before the gray startup screen appears.

It takes a minute or so for AHT to start up and inspect your hardware configuration. While it works, it'll show an icon of a computer.

When done, choose your language. If you aren't using a mouse, you can use the up and down arrows to select a language and then press the Return key.

Select the "Perform extended testing" check box under the Test button before you click the Test button.

Click the Test button.

Your test results will appear in the window in the bottom-right of the console. Possible Results:
If no issues are found, this means that it's very unlikely that you have a hardware issue. Apple Diagnostics is not flawless and it can miss some things, but if you get this, odds are you have a software issue on your hand.

If there are errors, or it says something doesn't work, schedule a Genius Bar appointment at Apple:
<https://www.apple.com/retail/geniusbar/>

Software Issues:

If the software is a base OS X application:

Base OS X applications are sometimes difficult to reinstall since you can't easily reinstall them. I recommend looking on Apple's site for troubleshooting steps for the program in question. For example, Google "Troubleshooting OS X Mail" if you're experiencing issues with OS X mail. You can also try an SMC reset and a PRAM reset, the steps are above. If you want, you can try to reinstall OS X, but that necessarily help.

If the software issue is OS X (i.e. OS X won't boot):

The easiest thing to do is to reinstall OS X. This is very easy to do and you shouldn't lose any data. If possible, I recommend backing up your data via Time Machine or whatever you use to back things up. You can reinstall OS X by doing the following:

Turn your computer totally off

Turn your computer on while holding CMD(?) + R to boot to your Recovery Partition

Connect to a WiFi network or hook up an Ethernet cable

Click reinstall OS X

If you can't get OS X recovery to boot, hold CMD(?) + Option + R instead of CMD(?) + R.

Finally, follow all of the on-screen instructions to reinstall OS X.

If the software is a 3rd party application:

If you're experiencing issues with software you've downloaded from the Internet, re-download and reinstall the program. It would be wise to write down your settings before reinstalling a program because programs frequently reset their settings upon reinstallation. Try an SMC reset and a PRAM reset, the steps are above.

Posting here for issues you can't resolve:

The reality is that some issues are more complex than others and can't be resolved by typical troubleshooting. Feel free to post a new thread here to receive help, there are tons of members here with experience with Macs and who are more than willing to help. When you post make sure to include what steps you've tried to thus far, what version of OS X you're running (? --> About this Mac), and as much detail about the issue as you can provide.

ItsATumor - February 17, 2015, 8:12 pm

Wow...I was just going to do this one. Not kidding either, my lil stint with the hard drive inspired me to do this. Early bird gets the worm I guess.

OT: Great tut Harbo, this is a great go-to for those who are needing a push in the right direction.

Harbo5 - February 18, 2015, 5:14 pm

(Feb 17, 2015 09:12 PM)ItsATumor Wrote: [\[CITE\]](#) Wow...I was just going to do this one. Not kidding either, my lil stint with the hard drive inspired me to do this. Early bird gets the worm I guess.

OT: Great tut Harbo, this is a great go-to for those who are needing a push in the right direction. Unsurprisingly, it was actually your issue that prompted me to choose this topic.

ItsATumor - February 18, 2015, 7:59 pm

(Feb 18, 2015 06:14 PM)Harbo5 Wrote: [\[CITE\]](#) Unsurprisingly, it was actually your issue that prompted me to choose this topic.

Good thing I procrastinated a bit, that'd be awkward if we posted the same exact thread at the same time. I've written mine anyway on a related topic, good to know I was an inspiration.

clark.dll - February 18, 2015, 8:01 pm

Very few people on HF know as much about Mac's as Harbo5 does.

ItsATumor - February 18, 2015, 8:03 pm

(Feb 18, 2015 09:01 PM)Clark Wrote: [\[CITE\]](#) Very few people on HF know as much about Mac's as Harbo5 does.

But....clarky... Harbo knows his stuff, but I took your spot Clark as the leader of the sub sector. ?

clark.dll - February 18, 2015, 8:05 pm

(Feb 18, 2015 09:03 PM)ItsATumor Wrote: [\[CITE\]](#) But....clarky... Harbo knows his stuff, but I took your spot Clark as the leader of the sub sector. ?

I was leader? Congrats bud. Do me proud.

Harbo5 - March 28, 2015, 7:40 pm

(Feb 18, 2015 09:01 PM)Clark Wrote: [\[CITE\]](#) Very few people on HF know as much about Mac's as Harbo5 does.

Thank you, Clark. Hope this helps people.

Statesman - March 30, 2015, 3:19 am

Thanks for the troubleshooting guide but some of it is incorrect Option, Command (?), P, and R are the keys used to reset the PRAM and NVRAM.

And I will also note I don't believe there is any reason for someone to restart the computer in OS X utilities in Order to run them tests properly But I may be wrong.

Harbo5 - March 30, 2015, 3:40 pm

(Mar 30, 2015 03:19 AM)Statesman Wrote: [\[CITE\]](#) Thanks for the troubleshooting guide but some of it is incorrect Option, Command (?), P, and R are the keys used to reset the PRAM and NVRAM.

And I will also note I don't believe there is any reason for someone to restart the computer in OS X utilities in Order to run them tests properly But I may be wrong.

Thank you for pointing out that first error, you're correct. My mistake, must've gotten the two confused.

As for the later, live disc verification only works on HFS+J. So, I suggested booting to recovery mode incase someone was not using HFS+J.

SpraTtz - March 31, 2015, 2:05 pm

I really tried this one and hoped a little bit that it might work, but dont..

I still have this message in the "about this mac" that my mac, dont have a serial number. which results in that I cant use many programs on the mac..

Apple wont help, because the insurance on the mac has run out ;(

Any kind of tips or help is gladly appreciated

- SpraTtz

Harbo5 - March 31, 2015, 8:08 pm

(Mar 31, 2015 02:05 PM)SpraTtz Wrote: [\[CITE\]](#) I really tried this one and hoped a little bit that it might work, but dont..

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Apple wont help, because the insurance on the mac has run out ;(

Any kind of tips or help is gladly appreciated

- SpraTtzWhat year was you computer made and eaht model is it (i.e. iMac, MacBook Pro, etc.)

SpraTtz - April 1, 2015, 2:22 am

Hello Harbo5

My mac is a mid 2010 15" Macbook Pro (MacBookPro6,2)

You have something that i can try ? :D

- SpraTtz

Harbo5 - April 1, 2015, 5:37 am

(Apr 1, 2015 02:22 AM)SpraTtz Wrote: [\[CITE\]](#) Hello Harbo5

My mac is a mid 2010 15" Macbook Pro (MacBookPro6,2)

You have something that i can try ? :D

- SpraTtz

You can find your serial number here:

SpraTtz - April 1, 2015, 8:41 am

Hi.

Yes, and i have written it down but the problem is that OSX cant find it which results in that i cant use messages and other OSX programs

Do you have skype, then i can send you some pictures of my problem ?

ItsATumor - April 1, 2015, 6:38 pm

Sorry to thread jack, but put this line of code into terminal.

Code `ioreg -l | grep IOPlatformSerialNumber`

Does it return your serial number? This might be pointless, but repairing disk permissions usually will help.

SpraTtz - *April 2, 2015, 2:28 am*

Hi - I dont get any thing out when I put this code in terminal, but I will try repairing disk permissions
Hopefully this will get me some :D

Thanks for the help so for!

- SpratTz

Harbo5 - *July 16, 2015, 11:26 am*

Bumping this in the hopes that it will help people.