


# Laptop Build Checklist

The evaluation should have been completed to reach Build. Work through each step as well as you can, and ask if you have questions. Try and learn the reason for each of the steps. This knowledge will come in handy later on when, inevitably, things aren't going as smoothly. Your instructor will be able to answer questions and check your work. Never overlook the help that the builder to your right or left might be able to lend. You can also find information on the Free Geek wiki at [Laptops](#). Check with your instructor to find out what type of box to build, then work your way down this checklist.

| STEPS                                                       | NOTES AND DETAILED INSTRUCTIONS                                                                                                                                                                                                                                                                                                                        |
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| Check For Broken or Damaged Parts                           | Visually inspect laptop for broken screen, missing keys, weak hinges, cosmetic problems, etc. If in doubt, check with your instructor and make repairs as directed.                                                                                                                                                                                    |
| Look at the Keeper Label                                    | Compare to the whiteboard to make sure nothing looks out of line: e.g. there's only 256 MB of RAM or the CD Drive is read only. On the Keeper label, mark the start box on the Build line.                                                                                                                                                             |
| Get a Power Supply                                          | Grab appropriate power supply from the labeled boxes (the box labels are color-coded by brand for easy locating). Match the output voltage and amperage on the power supply to the input voltage and amps on the laptop's UL/CSA listing label.                                                                                                        |
| Install imaged hard drive                                   | To do this: <ul style="list-style-type: none"> <li>Look at the whiteboard to see what size hard drive is appropriate for the laptop, check to see if the drive is a SATA or IDE, and ask your instructor where you can get one.</li> <li>Install the hard drive in the caddy and attach an adapter if required.</li> <li>Install in laptop.</li> </ul> |
| Install appropriate optical drive (if missing or CDR only). | Check the whiteboard to see what kind of optical drive to install                                                                                                                                                                                                                                                                                      |
| <b>Power Up Laptop</b>                                      |                                                                                                                                                                                                                                                                                                                                                        |
| Enter BIOS                                                  | If you see an error message which reads something like "checksum error, defaults loaded" then your <u>CMOS</u> battery is dead. Ask your instructor what to do about it.                                                                                                                                                                               |

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| Set boot order in BIOS       | Look for the boot order in BIOS. Of the available options, the preferred order is as follows: CD-ROM boots first; Hard drive boots somewhere between CD-ROM and Network; Network boots last. Get as close as possible, depending on the BIOS, but make sure the Network boot isn't before the hard drive.                                                                                                                                                                                                         |
| While in BIOS, check the RAM | Is there at least 512 MB of RAM? If not, save and exit bios, add RAM sized to fill the available slots (2-256MB). If the laptop is High End, then it should have more than 512 MB of RAM (preferably 1 GB or more). Once the RAM is upgraded, verify the new amount in BIOS and run memtest briefly to check new ram.                                                                                                                                                                                             |
| Boot to Ubuntu               | Boot to the hard drive. Log in as "oem" (password: freegeek).                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Battery Check                | On the Ubuntu OS toolbar, a battery icon is visible when the battery is charging. Check the icon to see the percent of charge and make a note of it for use later on.<br>If no icon is visible, the battery is fully charged, not seated correctly, or possibly deceased. Mark the charging start box on the Keeper label.                                                                                                                                                                                        |
| Get wireless working.        | If there <i>isn't</i> already a wireless card installed, then install, configure and test a wifi card (to determine if wireless card is already present and working, try and access a website like Google). Internal (mini-PCI) is best, but the PCI slot may be unavailable because its filled by a modem / LAN card. PCMCIA is an acceptable second option, so provide PCMCIA wireless. For wireless advice, try the <a href="#">Wireless Tips</a> page.                                                        |
| Set freegeek.org as homepage | In Firefox, go to freegeek.org Then set this page as the home page under Edit > Preferences > Main. Alternately, you can drag the Free Geek icon (on the left of the address bar) and drop it on the "Home" icon (immediately to the left of the address bar).                                                                                                                                                                                                                                                    |
| Run <i>basiccheck</i>        | Open the command line terminal and type <b><i>basiccheck</i></b> . You will need to be connected to the wired or wireless network to test the networking step. If you encounter any errors, check with your instructor.                                                                                                                                                                                                                                                                                           |
| Test optical drive – Sound   | For each drive: <ul style="list-style-type: none"> <li>• Use a music disc to test sound. No sound? Go to <a href="#">Laptop Sound Troubleshooting</a></li> <li>• Test-read a data CD (if any data shows up in the file browser that opens, test passes).</li> <li>• If there is a DVD-Rom, use the "Free Geek DVD" to check whether a movie will play. If a popup tells you a codec is missing, allow the search and install the codec. Try playing it again.</li> <li>• Don't forget to remove discs!</li> </ul> |

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| Test CD/DVD writing                                                                                         | Write to a CD <b>and</b> a DVD (if DVD-RW is present). You can use Brasero Disc Burning or, if this fails, install and use K3B. Put a blank disk in and drag and drop a few files from /home/oem/examples to the CD/DVD writing folder that appears. Click "Burn". When each disk, CD and/or DVD is done, verify that they contain the files you wrote to them.                                                                                                                                                                                                                                                                                                                                                                                              |
| Blank the CD                                                                                                | Using Brasero Disc Burning, select Tools > Erase. Using K3B, select Tools > Erase CD-RW. If there were problems with Brasero and you used K3B, remove the Brasero program to eliminate confusion later.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Check battery Charging percentage                                                                           | Is it almost charged or is it charging compared to last check? Make a note.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Test all USB ports                                                                                          | Using a USB mouse, make sure that the cursor moves and can interact with things. Check this on all the USB ports. If any of the ports don't work, check in with your instructor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Test Cardbus / PCMCIA slots                                                                                 | Put a wifi card in each slot -> if it lights up, then it's good.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Run <i>printme</i> from the terminal.                                                                       | <p>This will give you a System ID number. If an ID number is shown, the laptop has been through the system previously.</p> <ol style="list-style-type: none"> <li>1. You must be on the wired network</li> <li>2. From a terminal, type <i>printme</i></li> <li>3. Answer the questions printme asks, <b>NOTE:</b> Always select <b>Laptop</b> for system type. Make a note of anything special or any problems you encountered that weren't corrected and should be disclosed on the printme.</li> </ol> <p>A webpage will open with info about the system. Click "Print." Choose "Print to file." Choose the PDF checkbox and save the file to the Desktop (name the file something with the word <b>Build</b> in it, e.g. "Build Printme" or "BUILD")</p> |
| Test the battery<br><br> | <p><b>Step 1.</b><br/>Make sure battery is fully charged:</p> <ul style="list-style-type: none"> <li>• Battery icon missing indicates full charge.</li> <li>• Charge hasn't increased since the Check Battery step.</li> </ul> <p>If either condition is met, move to Step 2. If neither condition is met, move to Step 3</p> <p><b>Step 2.</b></p> <ul style="list-style-type: none"> <li>• Put a music CD in the optical drive to put a power draw on the laptop:</li> <li>• Select "Repeat"</li> <li>• Start playing the CD</li> <li>• Open a terminal and run <i>bat_check</i>.</li> <li>• Disconnect the power supply and place the laptop on the</li> </ul>                                                                                            |

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| Test the battery                               | <p>waiting rack. If it shuts down when unplugged, the battery is bad. Note that on the Keeper label and mark Build as complete. If not, mark on the Keeper label that build is complete, the Charging check has been completed and that you've started Bat Check. If you want to see for how many minutes bat check has run, open up another terminal and type <i><b>watch wc bat_time</b></i>. <u>Laptop Power &amp; Batteries</u> can provide additional information.</p> <p><b>Step 3.</b> If the charge is not complete:</p> <ul style="list-style-type: none"> <li>• Mark the keeper label Build started and completed</li> <li>• Make sure the keeper label <b>Charging</b> started box is checked.</li> <li>• Place the laptop on the waiting rack, plug it back in and let it complete charging.</li> <li>• Leave a note indicating charging is in progress.</li> </ul> |
| Clean up and check in with Laptops Instructor. | Your instructor will direct you to your next task.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Multitasking                                   | Periodically check the waiting rack and see if Charging has completed on your prior build. If yes, mark the Keeper label Charging done. Then, mark Bat Test on the Keeper label as started and complete Step 2 above (don't forget to remove the charging note).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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