WHAT SHOULD YOU DO IF YOUR COMPUTER WILL NOT BOOT UP?:
PART 2--USING BOOTABLE DEVICES

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SUMMARY

If your computer will not boot up, here are some more advanced troubleshooting procedures using bootable CDs, DVDs, USB flash drives, and external USB hard drives.
TOPICS

• Booting with a bootable DVD or CD disc, a bootable USB flash drive, or a bootable hard disk drive
• Burning a DVD or CD disk in "Windows.."
• Boot Device Selection Menu Restore a "Windows.." computer from a "system image backup"
• Restore a Mac "OS X" computer from a "Time Machine" backup.
• Restore a Mac "OS X" computer from a "system image backup"
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD

• Two great advantages from booting up with a bootable device:
Advantage 1:
Linux-based bootable devices (CDs, DVDs, and USB thumb drives) can sometimes remove malware
Some antivirus vendors provide you with a free bootable Linux-based CD or DVD that can be used to boot up a Windows computer to remove malware.
Advantage 2: Bootable "installation media" devices (CDs, DVDs, and USB thumb drives, and USB hard drives) that are provided by Microsoft have lots of utilities for repairing the internal hard drives of "Windows.." computers.
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• During the summer of 2012 when "Windows 8" became "Release to Manufacturer" (RTM), all "Windows 8.." (and higher) computers that were sold at retail changed from the legacy "Basic Input/Output System" ("BIOS") to "Unified Extensible Firmware Interface" ("UEFI") with "Secure Boot" enabled
DEFAULT CONFIGURATION
OF ANY "WINDOWS.."
COMPUTER SOLD AT RETAIL SINCE OCTOBER 26, 2012:
"SECURE BOOT" MODULE
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• "Unified Extensible Firmware Interface with Secure Boot enabled" ("UEFI-SBe") makes booting up computers with Linux and Linux-based "Rescue Discs" almost impossible (I have only found a couple of flavors of Linux-based "Live CDs" that can boot up a "UEFI with Secure Boot" computer: "Ubuntu" and "Fedora").
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• For "Unified Extensible Firmware Interface with Secure Boot enabled" computers (= all recent store-bought "Windows 8", "Windows 8.1, and "Windows 10" computers), use a Microsoft-provided installation media DVD or make yourself a "System Repair Disc (CD-R or DVD-R)" or a "Recovery Drive" to avoid a struggle.
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

- To create a Microsoft-provided installation media DVD for "Windows 8", "Windows 8.1", and "Windows 10", download and run the respective "Media Creation Tool" from microsoft.com. Then select "DVD media" when asked.
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• To make a bootable "System Repair Disc (CD-R or DVD-R)" for "Windows 7" or "Windows 8" or to make a bootable "Recovery Drive" for "Windows 10", go to the "Control Panel". Then click on "Recovery".
Advanced recovery tools

- Create a recovery drive
  Create a recovery drive to troubleshoot problems when your PC can't start.

- Open System Restore
  Undo recent system changes, but leave files such as documents, pictures, and music unchanged.

- Configure System Restore
  Change restore settings, manage disk space, and create or delete restore points.

If you're having problems with your PC, go to Settings and try resetting it.
Create a recovery drive

Create a recovery drive to troubleshoot problems when your PC can't start.
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• Some computer documentation refers to a UEFI as a "UEFI BIOS"
• If you are inside the configuration screens of a UEFI computer, never change the status of the "CSM" (="Compatability Support Module") from "Disabled" or "Auto" to "Enabled". (If you do this, the original copy of "Windows 8", "Windows 8.1", or "Windows 10" probably will not boot again, until you return the CSM to either "Disabled" or "Auto".)
IF YOU "ENABLE" THE "CSM" (WHICH AUTOMATICALLY DISABLES "SECURE BOOT"), THE UEFI ACTS LIKE THE LEGACY "BIOS" AND THE MANUFACTURER-SUPPLIED COPY OF "WINDOWS 8", "WINDOWS 8.1", OR "WINDOWS 10" WILL NOT RUN (UNTIL YOU SET IT BACK TO "DISABLE" OR "AUTO"): 
"SECURE BOOT"
WHEN A "CSM" IS SET TO "ENABLE", YOUR "UEFI" ACTS LIKE A LEGACY "BIOS".
WHEN A "CSM" IS SET TO "DISABLE", YOU "UEFI" ACTS LIKE A NEW-FANGLED "UEFI".
WHEN A "CSM" TO SET TO AUTO, THE "UEFI" CAN ACT LIKE BOTH "UEFI" OR A LEGACY "BIOS" WHEN YOUR COMPUTER IS BOOTING UP.
If you are inside the configuration screens of a UEFI computer, it is safe for you to change the "Secure Boot" function from "Enabled" to "Disabled". This will increase the chances that you can use a Linux or Linux-based "Live CD" to boot up a UEFI computer.
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• If you to change the "Secure Boot" function from "Enabled" to "Disabled", the manufacturer-supply copy of "Windows 8", "Windows 8.1" or "Windows 10" will still be able to boot up.
IF YOU DISABLE THE “SECURE BOOT MODULE”, YOUR "POST AUGUST 2012" "WINDOWS.." COMPUTER WILL STILL BOOT. HOWEVER, IT WILL BE A LITTLE LESS SECURE IN ITS ABILITY TO RESIST MALWARE INFECTIONS.
THEREFORE, YOU SHOULD RE-ENABLE "SECURE BOOT" AFTER YOU GET YOUR COMPUTER PROBLEMS RESOLVED.
"SECURE BOOT" MODULE
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• To create a bootable, installation DVD for "Windows 8.1", download and run the Microsoft's "Media Creation Tool" by clicking on "Download Tool Now" at

BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• To create a bootable, installation DVD for "Windows 10", download and run the Microsoft's "Media Creation Tool" by clicking on "Download tool now" at
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• To make an external USB hard drive or a USB flash drive into a "Windows 8.1 Recovery Drive", follow the instructions at http://windows.microsoft.com/en-us/windows-8/create-usb-recovery-drive
BOOTING WITH A BOOTABLE DVD OR CD DISC, A BOOTABLE USB FLASH DRIVE, OR A BOOTABLE HDD (continued)

• To make an external USB hard drive into a bootable a "Windows 10 Recovery Drive" for a "Windows 10" computer follow the instructions at http://windows.microsoft.com/en-us/windows-10/create-a-recovery-drive
The free "Windows installation media" DVDs and the free "recovery drives" that Microsoft offers can repair many Windows problems. However, they are unable to remove malware and computer viruses. To remove malware and computer viruses, you need to go to the Web site of an antivirus company and download a free *.ISO file and make a "rescue DVD" to boot up your "Windows.." computer.
According to http://aztcs.org/meeting_notes/winhardsig/malware_cleanup/rescue_disks.pdf two antivirus software companies provide a free ISO file that you can burn to CD or DVD that can boot up and "disinfect" most Windows computers: Bitdefender and Norman.
1. "BITDEFENDER RESCUE CD"
   - Usually works with UEFI with Secure Boot enabled
     (If it does not, disable Secure Boot)
   - Works with UEFI with Secure Boot disabled
   - Works with UEFI with Compatibility Support Module (CSM) enabled
   - Works with BIOS
1. "BITDEFENDER RESCUE CD"
   (continued)

   o Go to
     http://www.bitdefender.com/support/how-to-create-a-bitdefender-rescue-cd-627.html

   o Download
     bitdefender-rescue-cd.iso
Start the Bitdefender Rescue CD in English
Bitdefender Rescue CD Start en Français
Start Bitdefender Rescue CD in deutscher Sprache
Inicio de Bitdefender Rescue CD en español
Türkçe Bitdefender Rescue CD Başlangıç
Inició o BitDefender Rescue CD em Português
Porniți Bitdefender Rescue CD în Română
Troubleshooting (verbose logging, EN)

Use the ↑ and ↓ keys to select which entry is highlighted.
Press enter to boot the selected OS, 'e' to edit the commands before booting or 'c' for a command-line.
Start the Bitdefender Rescue CD in English

Bitdefender Rescue CD Start en Francais
Start Bitdefender Rescue CD in deutscher Sprache
Inicio de Bitdefender Rescue CD en espanol
Türkçe Bitdefender Rescue CD Başlangıç
Inicie o BitDefender Rescue CD em Português
Porniți Bitdefender Rescue CD în Română
Troubleshooting (verbose logging, EN)
Use the ↑ and ↓ keys to select which entry is high.
Press enter to boot the selected OS, `e` to edit the
3. "NORMAN RESCUE DISK"

- Usually works with UEFI with Secure Boot enabled
  (If it does not, disable Secure Boot)
- Works with UEFI with Secure Boot disabled
- Works with UEFI with Compatibility Support Module (CSM) enabled
- Works with BIOS
3. "NORMAN RESCUE DISK"
(continued)

- Go to https://www.norman.com/us/norman_rescue_disk
- Download norman_rescue_disk.iso after giving them an email address
BURNING A DVD OR CD DISK IN "WINDOWS.."

- Burning a DVD or CD disc in "Windows 7", "Windows 8", "Windows 8.1", or "Windows 10":
  Insert a blank DVD or CD disc into your DVD/CD drive.
  Locate the *.ISO file that you downloaded.
  Right click on the *.iso file.
  Click on "Burn disk image".
  Select the appropriate DVD/CD drive, if you have more than one.
  Click on the "Burn" button.
Windows Disc Image Burner

Disc image file: Windows.iso

Disc burner: DVD R Drive (D:)

Status
To start burning the disc image, click Burn.

Verify disc after burning

Burn  Cancel
To start burning the disc image, click Burn.
Windows Disc Image Burner

Disc image file: Windows.iso

Disc burner: DVD R Drive (D:)

Status
To start burning the disc image, click Burn.

Verify disc after burning

Burn  Cancel
Windows Disc Image Burner

Disc image file:  Windows.iso

Disc burner:  DVD R Drive (D:)

Status
Burning disc image to recordable disc...

Verify disc after burning

Burn  Cancel
The disc image has been successfully burned to disc.
The disc image has been successfully burned to disc.
BURNING A DVD OR CD DISK IN "WINDOWS.."
(continued)

• Burning a DVD or CD disc in "Windows 7", "Windows Vista", "Windows XP", or "Windows 2000":
Download and install the free "CDBurnerXP" program from
https://cdburnerxp.se/
"BOOT DEVICE SELECTION" MENU

• If you attach a bootable CD, DVD, hard drive, of USB flash drive and your computer does not boot up with it, you can press a key during the initial startup of a "Windows.." computer to get to a "boot device selection screen", if your computer's BIOS or UEFI is failing to recognize a bootable hard drive
If your computer has firmware that is "Dual UEFI and BIOS" or your "Compatibility Support Module" is set to "Automatic", then your computer can act as either a UEFI or a legacy BIOS during the boot up process. If you press the key sequence to get a "boot device menu", it will give you a choice between booting up in BIOS mode or UEFI mode for the same DVD or CD drive:
"BOOT DEVICE SELECTION" MENU (continued)

- If you have legacy BIOS", a "pure UEFI", or a UEFI set in with the "Compatibility Support Module" set to "enabled" instead of "automatic"
Boot Menu

1. CD-ROM/DVD-ROM
2. Removable Device
3. Hard Drive
4. Boot to LAN

<Enter Setup>

http://www.computerhope.com
"BOOT DEVICE SELECTION" MENU (continued)

• A Mac OS X computer will never boot up to a alternate device automatically: You can hold down the Alt / Option key during the initial startup of a Mac "OS X" computer to get to a "boot device selection screen", if your Mac is failing to recognize a bootable hard drive:
"BOOT DEVICE SELECTION" MENU (continued)

• You can press a key during the initial startup of a "Windows.." computer to get into some "CMOS configuration screens" to change the "boot device sequence" to force your computer to recognize a bootable hard drive
"BOOT DEVICE SELECTION" MENU (continued)

- See
  http://pcsupport.about.com/od/fixtheproblem/a/biosaccess_bios.htm
  and
  http://www.makeuseof.com/tag/enter-bios-computer/
  and
  http://www.computerhope.com/issues/ch000192.htm
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP"

• Microsoft's bundled "System Image Backup" is available in "Windows 7", "Windows 8", "Windows 8.1", and "Windows 10". It lets you make a complete backup of any hard drive or hard drive partition.
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• Prior to "need", you need to make a "System Repair" disc on a blank CD or a blank DVD and you need to make a "System Image Backup" of your the entire hard drive that your C: hard drive partition resides on:
To create a "System Repair Disk" and a "System Image Backup" in "Windows 8.1" or "Windows 10": Start the Windows "Control Panel". Double-click on "File History". Click on "System Image Backup". Etc.
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• To create a "System Repair Disk" and a "System Image Backup" in "Windows 7":
  Start the Windows "Control Panel". Double-click on "Backup and Restore". Etc.
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• Microsoft's bundled "System Image Backup" is available in "Windows 7", "Windows 8", "Windows 8.1", and "Windows 10".

It makes a "System Image Backup" that is much bigger than the following free and non-free alternatives:
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• Acronis' not-free "True Image xxxx" provides compression for "image backups" so that their backups take up about half the space that is required by Microsoft's "System Image Backup"
RESTORE A "WINDOWS.." COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• Macrium's "Reflect Free" is the the best non-Microsoft free backup program for a "Windows.." computer. See http://www.macrium.com/reflectfree.aspx
If you use a previously-created bootable "Rescue Media" USB flash drive or CD or DVD and a previously-created "Macrium Reflect" backup image on an external hard drive, you can restore the C: hard drive partition of a "Windows.." computer.
RESTORE A MAC "OS X" COMPUTER FROM A "TIME MACHINE" BACKUP

• For a Mac "OS X" computer, a "Time Machine" backup can restore all or part of a "OS X" partition. A "Time Machine" backup cannot be used to back up or restore a "Boot Camp" partition (where a copy of "Windows.." would reside).
RESTORE A MAC "OS X" COMPUTER FROM A "TIME MACHINE" BACKUP (continued)

• For how-to information on using "Time Machine" to back up and restore a Mac "OS X" computer, see https://support.apple.com/en-us/HT201250
RESTORE A MAC "OS X" COMPUTER FROM A "SYSTEM IMAGE BACKUP"

- "Acronis True Image 2017" also can back up and restore both the Mac OS X partition and the Boot Camp partition (if any) of a Mac "OS X" computer (unlike "Time Machine" which cannot back up a "Boot Camp" partition).

See http://www.acronis.com/en-us/
RESTORE A MAC "OS X" COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• If you use a previously-created bootable "Rescue Media" USB flash drive and a previously-created "Acronis True Image 2017" backup image on an external hard drive, you can restore both the Mac OS X partition and the Boot Camp partition (if any) of a Mac OS X computer:
RESTORE A MAC "OS X" COMPUTER FROM A "SYSTEM IMAGE BACKUP" (continued)

• Insert the bootable "Rescue Media" USB flash drive into a free USB port
• Attach the external hard drive that contains "Acronis True Image" backup image into a free USB port
• Press the Power On button of the Mac
• Hold down the Alt / Option key of the keyboard
• Select the "Rescue Media" device
"Paragon Hard Disk Manager for Mac" also can back up and restore both the Mac OS X partition and the Boot Camp partition (if any) of a Mac.

See 
• If you use a previously-created bootable "Recovery Media" USB flash drive and a previously-created "Paragon Hard Disk" backup image on an external hard drive, you can restore the Mac OS X partition and the Boot Camp partition (if any) of a Mac OS X computer.
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