Manual steps to recover a corrupted Windows© registry

The procedure that this article describes uses Recovery Console and System Restore. This article also lists all the required steps in specific order to make sure that the process is fully completed. When you finish this procedure, the system returns to a state very close to the state before the problem occurred. If you have ever run NTBackup and completed a system state backup, you do not have to follow the procedures in parts two and three. You can go to part four.

Part one

In part one, you start the Recovery Console, create a temporary folder, back up the existing registry files to a new location, delete the registry files at their existing location, and then copy the registry files from the repair folder to the System32\Config folder. When you have finished this procedure, a registry is created that you can use to start Windows 7. This registry was created and saved during the initial setup of Windows 7. Therefore any changes and settings that occurred after the Setup program was finished are lost.

To complete part one, follow these steps:

1. Insert the Windows 7 startup disk into the floppy disk drive, or insert the Windows 7 CD-ROM into the CD-ROM drive, and then restart the computer. Click to select any options that are required to start the computer from the CD-ROM drive if you are prompted to do so.
2. When the "Welcome to Setup" screen appears, press R to start the Recovery Console.
3. If you have a dual-boot or multiple-boot computer, select the installation that you want to access from the Recovery Console.
4. When you are prompted to do so, type the Administrator password. If the administrator password is blank, just press ENTER.
5. At the Recovery Console command prompt, type the following lines, pressing ENTER after you type each line:

    md tmp
    copy c:\windows\system32\config\system c:\windows\tmp\system.bak
    copy c:\windows\system32\config\software c:\windows\tmp\software.bak
    copy c:\windows\system32\config\sam c:\windows\tmp\sam.bak
    copy c:\windows\system32\config\security c:\windows\tmp\security.bak
    copy c:\windows\system32\config\default c:\windows\tmp\default.bak

    delete c:\windows\system32\config\system
    delete c:\windows\system32\config\software
    delete c:\windows\system32\config\sam
    delete c:\windows\system32\config\security
    delete c:\windows\system32\config\default

    copy c:\windows\repair\system c:\windows\system32\config\system
    copy c:\windows\repair\software c:\windows\system32\config\software
    copy c:\windows\repair\sam c:\windows\system32\config\sam
    copy c:\windows\repair\security c:\windows\system32\config\security
    copy c:\windows\repair\default c:\windows\system32\config\default

6. Type exit to quit Recovery Console. Your computer will restart.

Note This procedure assumes that Windows 7 is installed to the C:\Windows folder. Make sure to change C:\Windows to the appropriate windows_folder if it is a different location.

If you have access to another computer, to save time, you can copy the text in step five, and then create a text file called "Regcopy1.txt" (for example). To use this file, run the following command when you start in Recovery Console: **batch regcopy1.txt**

With the **batch** command in Recovery Console, you can process all the commands in a text file sequentially. When you use the **batch** command, you do not have to manually type as many commands.

Part two

To complete the procedure described in this section, you must be logged on as an administrator, or an administrative user (a user who has an account in the Administrators group). If you are using Windows 7 Home Edition, you can log on as an administrative user. If you log on as an administrator, you must first start Windows 7 Home Edition in Safe mode. To start the Windows 7 Home Edition computer in Safe mode, follow these steps.

Note: Print these instructions before you continue. You cannot view these instructions after you restart the computer in Safe Mode. If you use the NTFS file system, also print the instructions from Knowledge Base article KB309531. Step 7 contains a reference to the article.

1. Click **Start**, click **Shut Down** (or click **Turn Off Computer**), click **Restart**, and then click **OK** (or click **Restart**).
2. Press the F8 key.

   On a computer that is configured to start to multiple operating systems, you can press F8 when you see the Startup menu.
3. Use the arrow keys to select the appropriate Safe mode option, and then press ENTER.
4. If you have a dual-boot or multiple-boot system, use the arrow keys to select the installation that you want to access, and then press ENTER.

In part two, you copy the registry files from their backed up location by using System Restore. This folder is not available in Recovery Console and is generally not visible during typical usage. Before you start this procedure, you must change several settings to make the folder visible:

1. Start Windows Explorer.
2. On the **Tools** menu, click **Folder options**.
3. Click the **View** tab.
4. Under **Hidden files and folders**, click to select **Show hidden files and folders**, and then click to clear the **Hide protected operating system files (Recommended)** check box.
5. Click **Yes** when the dialog box that confirms that you want to display these files appears.
6. Double-click the drive where you installed Windows 7 to display a list of the folders. If is important to click the correct drive.
7. Open the System Volume Information folder. This folder is unavailable and appears dimmed because it is set as a super-hidden folder.

   Note This folder contains one or more _restore {GUID} folders such as "_restore{87BD3667-3246-476B-923F-F86E30B3E7F8}".

Note You may receive the following error message:

C:\System Volume Information is not accessible. Access is denied.

If you receive this message, see the following Microsoft Knowledge Base article to gain access to this folder and continue with the procedure:

309531 (http://support.microsoft.com/kb/309531/) How to gain access to the System Volume Information folder

8. Open a folder that was not created at the current time. You may have to click **Details** on the **View** menu to see when these folders were created. There may be one or more folders starting with "RPx under this folder. These are restore points.
9. Open one of these folders to locate a Snapshot subfolder. The following path is an example of a folder path to the Snapshot folder:

C:\System Volume Information_restore{D86480E3-73EF-47BC-A0EB-A81BE6EE3ED8}\RP1\Snapshot

10. From the Snapshot folder, copy the following files to the C:\Windows\Tmp folder:
    o _REGISTRY_USER_.DEFAULT
    o _REGISTRY_MACHINE_SECURITY
    o _REGISTRY_MACHINE_SOFTWARE
    o _REGISTRY_MACHINE_SYSTEM
    o _REGISTRY_MACHINE_SAM
11. Rename the files in the C:\Windows\Tmp folder as follows:
    o Rename _REGISTRY_USER_.DEFAULT to DEFAULT
    o Rename _REGISTRY_MACHINE_SECURITY to SECURITY
    o Rename _REGISTRY_MACHINE_SOFTWARE to SOFTWARE
    o Rename _REGISTRY_MACHINE_SYSTEM to SYSTEM
    o Rename _REGISTRY_MACHINE_SAM to SAM

These files are the backed up registry files from System Restore. Because you used the registry file that the Setup program created, this registry does not know that these restore points exist and are available. A new folder is created with a new GUID under System Volume Information and a restore point is created that includes a copy of the registry files that were copied during part one. Therefore, it is important not to use the most current folder, especially if the time stamp on the folder is the same as the current time.

The current system configuration is not aware of the previous restore points. You must have a previous copy of the registry from a previous restore point to make the previous restore points available again.

The registry files that were copied to the Tmp folder in the C:\Windows folder are moved to make sure that the files are available under Recovery Console. You must use these files to replace the registry files currently in the C:\Windows\System32\Config folder. By default, Recovery Console has limited folder access and cannot copy files from the System Volume folder.

Note The procedure described in this section assumes that you are running your computer with the FAT32 file system. For more information about how to access the System Volume Information Folder with the NTFS file system, click the following article number to view the article in the Microsoft Knowledge Base:

[309531](http://support.microsoft.com/kb/309531/) (http://support.microsoft.com/kb/309531/) How to gain access to the System Volume Information folder

Part Three

In part three, you delete the existing registry files, and then copy the System Restore Registry files to the C:\Windows\System32\Config folder:

1. Start Recovery Console.
2. At the command prompt, type the following lines, pressing ENTER after you type each line:

   del c:\windows\system32\config\sam
   del c:\windows\system32\config\security
   del c:\windows\system32\config\software
   del c:\windows\system32\config\default
   del c:\windows\system32\config\system
   copy c:\windows\tmp\software c:\windows\system32\config\software
   copy c:\windows\tmp\system c:\windows\system32\config\system
   copy c:\windows\tmp\sam c:\windows\system32\config\sam
   copy c:\windows\tmp\security c:\windows\system32\config\security
   copy c:\windows\tmp\default c:\windows\system32\config\default

   Note: Some of these command lines may be wrapped for readability.

3. Type exit to quit Recovery Console. Your computer restarts.

Note: This procedure assumes that Windows 7 is installed to the C:\Windows folder. Make sure to change C:\Windows to the appropriate windows_folder if it is a different location.

If you have access to another computer, to save time, you can copy the text in step two, and then create a text file called "Regcopy2.txt" (for example). To use this file, run the following command when you start in Recovery Console: **batch regcopy2.txt**

Part Four

1. Click **Start**, and then click **All Programs**.
2. Click **Accessories**, and then click **System Tools**.
3. Click **System Restore**, and then click **Restore to a previous RestorePoint**.