

Check Disk (CHKDSK) & Check NTFS (CHKNTFS)

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CHKNTFS: How to Prevent CHKDSK at Reboot after the Dirty Bit is Set

When you select **CHKDSK /F** in Windows NT 4.0 you have set the "Dirty Bit". The Dirty Bit is a flag that tells Windows NT to force a **CHKDSK /F** at the next reboot if one can not be performed immediately. But what if you change your mind? Perhaps there is a vital deadline coming up, and you can't afford the time to let **CHKDSK** run. There is no way to clear the Dirty Bit once it is set, except by running **CHKDSK /F**, but there is a way to keep **CHKDSK** from running on NTFS Partitions at the next reboot.

As you may already know, Service Pack 4 includes a ten-second window at reboot where you can cancel a **CHKDSK /F** when the Dirty Bit is set. Canceling the **CHKDSK /F** does NOT clear the Dirty Bit. It will just prevent the run at this time; at the next reboot, **CHKDSK /F** will run unless canceled within the same ten second window until it is finally allowed to run. As mentioned above, **ONLY A CHKDSK /F CAN CLEAR THE DIRTY BIT.**

But there is another option on NTFS Partitions: You can use Service Pack 2's CHKNTFS command-line utility to prevent CHKDSK from automatically running during reboots when the Dirty Bit is set. From the COMMAND PROMPT:

```
D:\>chkntfs /?  
CHKNTFS drive: [...]  
CHKNTFS /D  
CHKNTFS /X drive: [...]  
CHKNTFS /C drive: [...]
```

drive: Specifies a drive letter.

- **/D** - Restores the machine to the default behavior; all drives are checked at boot time and chkdsk is run on those that are dirty. This undoes the effect of the /X option.
- **/X** - Excludes a drive from the default boot-time check. Excluded drives are not accumulated between command invocations.
- **/C** - Schedules chkdsk to be run at the next reboot.

If no switches are specified, CHKNTFS will display the status of the dirty bit for each drive. Here's an example of a call with no switches specified, and **CHKDSK /F** not set:

```
D:\>chkntfs d:  
The type of the file system is NTFS.  
D: is not dirty.
```

When you set **CHKDSK /F** for the d: partition, you will get this display:

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D:\>chkntfs d:

The type of the file system is NTFS.

D: is dirty.

You may use the **/C** option to schedule chkdsk for this drive. Even if you do not use **/C** a **CHKDSK /F** will be run at the next reboot. You can use the **/X** switch to exclude a drive from the default boot-time check.

D:\>chkntfs /x d:

The type of the file system is NTFS.

After invoking the above command, CHKDSK will not run at the next reboot. But it does not clear the dirty bit, it adds a key to the BootExecute Regedt32 key that reads like this:

Under the HKEY_LOCAL_MACHINE subtree, in the following subkey:

\SYSTEM\CurrentControlSet\Control\Session Manager

the BootExecute entry :

was:

autocheck autochk *

is:

autocheck autochk *

autocheck autochk /k:D *

As mentioned above, this does not clear the dirty bit:

D:\>chkntfs d:

The type of the file system is NTFS.

D: is dirty.

You may use the **/C** option to schedule chkdsk for this drive. But it keeps chkdsk from running on this partition until the setting is cleared regardless of the amount of rebooting that occurs. When the **/X** is canceled by **/D:**

D:\>chkntfs /d

The settings in the regedt32 key change to this:

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```
autocheck autochk *  
autocheck autochk *
```

And the chknfts displays this:

```
D:\>chkntfs d:  
The type of the file system is NTFS.  
D: is dirty.
```

You may use the **/C** option to schedule chkdsk for this drive. Now the **CHKDSK /F** will run at the next reboot.

There is a caveat to this: With the **/X** set, this partition will NEVER run **CHKDSK /F** on the specified partition, even if the system crashes. This can be a bad idea and cause you to lose data if a **CHKDSK /F** is truly needed. If you use the CHKNTFS utility, only use it as a short term solution and be certain to restore the defaults with a **CHKNTFS /D** for normal Windows NT operation.