HOW TO FIX HARD DRIVE PROBLEMS WITH CHKDSK

Any time you have hard drive errors—or even strange behavior you might not at first associate with a hard drive—Check Disk can be a lifesaver.

What Chkdsk Does (and When to Use It)

The Check Disk utility, also known as chkdsk (since that's the command you use to run it) scans through your entire hard drive to find and fix problems. It's not a terribly exciting tool—and running it can take some time—but it can really help prevent bigger problems and loss of data in the long run. Chkdsk performs a couple of functions, depending on how it's run:

- Chkdsk's basic function is to scan the integrity of the file system and file system metadata on a disk volume and fix any logical file system errors that it finds. Such errors might include corrupt entries in a volume's master file table, bad security descriptors associated with files, or even misaligned time stamp or file size information about individual files.
- Chkdsk can also optionally scan every sector on a disk volume looking for bad sectors. Bad sectors come in two forms: soft bad sectors, that can occur when data is written badly, and hard bad sectors that can occur because of physical damage to the disk. Chkdsk attempts to fix these problems by repairing soft bad sectors, and marking hard bad sectors so they won't be used again.

That may all sound very technical. Fortunately, you don't need to understand the ins and outs of how it works to know *when* you should run it.

You should run chkdsk every few months as part of routine maintenance. You should also consider running it any time Windows has shut down abnormally—such as after a power loss or system crash. Sometimes Windows will automatically run a scan during startup, but most often you'll have to do it yourself. Even if you're just having strange problems with apps not loading or crashing that you haven't been able to resolve another way, you might consider checking the disk.

If chkdsk does encounter problems—especially hard bad sectors—that it *can't* repair, data can become unusable. It's not very likely, but it can happen. For that reason, you should always make sure you have a good backup routine in place and back up your PC before running chkdsk.

How to Check a Disk from Windows

Running the Check Disk tool from the Windows desktop is easy. In File Explorer (Windows + E), right-click the drive you want to check, and then choose "Properties."

In the properties window, switch to the “Tools” tab and then click the “Check” button.

Windows may inform you that it hasn’t found any errors on the drive. You can still perform a manual scan by clicking “Scan drive.” This will first perform a scan without attempting any repairs, so it will not restart your PC at this point. If the quick disk scan reveals any problems, Windows will present that option to you. If no errors were found, you can just click “Close.”

How to Use the ChkDsk Command at the Command Prompt

Open up the Command Prompt with administrative privileges by hitting Windows+X and selecting “Command Prompt (Admin).” You’ll be using the chkdsk command. The command supports a number of optional switches, but we’re mostly concerned with two of them: /f and /r .

If you just use the chkdsk command by itself, it will scan your drive in read-only mode, reporting errors but not attempting to repair them. For this reason, it can usually run without having to restart your PC.

If you want chkdsk to attempt to repair logical file system errors during the scan, add the /f switch. Note that if the drive has files that are in use (and it probably will), you’ll be asked to schedule a scan for the next restart.

chkdsk /f c:

If you want chkdsk to scan for bad sectors as well, you’ll use the /r switch. When you use the /r switch, the /f switch is implied, meaning that chkdsk will scan for both logical errors and bad sectors. But while it’s not really necessary, it also won’t hurt anything if you throw both the /r and /f switches on the command at the same time.

chkdsk /r c:

Running chkdsk /r gives you the most thorough scan you can perform on a volume, and if you have some time to spare for the sector check, you should run it periodically.