Norton Utilities™ User's Guide

Norton Utilities™ 2001

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C O N T E N T S

C H A P T E R 1

Installing Norton Utilities

Installing Norton Utilities

Before installing Norton Utilities, take a moment to review the system requirements listed in this section. Windows 95, Windows 98, and Windows Me users should have some blank floppy disks available to make Rescue Disks (or a Zip™ disk and a floppy disk to make a Norton Zip Rescue™ disk set).

Note: Before running Setup for Norton Utilities, uninstall any previous versions of Norton Utilities from your system.

Caution: If you have an emergency, do not install Norton Utilities and do not start Windows. Any new files copied to your hard drive might overwrite existing data. Starting Windows also writes to your hard drive. The Windows swap file could overwrite data you wish to recover. See "Emergency procedures" on page 9.

System requirements

To use Norton Utilities, your computer must meet the following minimum requirements.

Windows 95 OSR2 and Windows 98

- Intel 80486DX/66 processor
- 32 MB of memory
- 90 MB of hard disk space for standard installation
- 50 MB of hard disk space for compact installation
- CD-ROM disk

Windows Me

- Intel Pentium 150MHz processor
- 32 MB memory
- 90 MB of hard disk space for standard installation
- 50 MB of hard disk space for compact installation
- CD-ROM disk

Windows NT 4.0 Workstation

- Service Pack 4
- Intel Pentium processor
- 32 MB of memory (64 MB recommended)
- 35 MB of hard disk space
- CD-ROM disk

Windows 2000 Professional

- Intel Pentium 133MHZ processor
- 64 MB of memory
- 35 MB of hard disk space
- CD-ROM disk

While not required, an Iomega Zip drive is a definite advantage when making a Rescue Disk set.

Note: Norton Utilities does not support Iomega Zip or Jaz drives with a USB interface because there are no DOS drivers available.

Emergency procedures

If you have an emergency, do not install Norton Utilities and do not start Windows. Any new files copied to your hard drive might overwrite existing data. Starting Windows also writes to your hard drive. The Windows swap file could overwrite data you wish to recover.

Make Emergency Disks from the Norton Utilities CD to help you recover from the emergency. You will need several formatted 1.44 MB disks.

You can use the CD that contains Norton Utilities as an Emergency Disk if your computer can start up from the CD-ROM drive. See "Using the CD as an Emergency Disk" on page 10.

Warning: Perform the following procedure on a different computer from the one with the problem. Executing these steps might cause additional problems.

To make Emergency Disks:

1. Insert the Norton Utilities CD into the CD-ROM drive.
2. Click Browse the CD.
3. Double-click the Support folder.
4. Double-click the Edisk folder.
5. Double-click Ned.exe
6. Follow the on-screen instructions.

To use the Emergency Disks:

1. If your computer is running, click the Start button, select Shut Down, and then select the Shut Down option. When Windows has shut down, switch off your computer using the power switch.
2. Insert Emergency Disk 1 in your floppy drive, and then switch on your computer.

3 When the menu appears, use the options in order.

For more information, see "Norton Utilities emergency procedures" on page 49.

If you cannot start up from drive A, see "I cannot start up from my A: drive" on page 108.

Using the CD as an Emergency Disk

You can use the Norton Utilities CD as an Emergency Disk if your computer can start up from the CD-ROM drive. Wherever the instructions say to insert Emergency Disk 1 and restart your computer, follow these steps instead.

To use the CD as an Emergency Disk:

1 Insert the Norton Utilities CD into your CD-ROM drive.

2 Restart your computer.

You may need to change your computer's BIOS Setup options to start up from the CD-ROM drive. Refer to your computer manual to see how to change the startup device.

When you are running from the CD, you can skip instructions to insert other Emergency Disks. All the information for all the Emergency Disks is on the CD.

Installation procedure

Norton Utilities gives you several installation options:

- Standard installs the most commonly used set of Norton Utilities programs.
- Compact installs the most essential Norton Utilities programs.
- Custom lets you choose which components to install.
- Express automatically selects the appropriate options for you.

When installing on Windows NT or Windows 2000 you must be logged on as an administrator.

To install:

1. Start Windows (if it is not already running).
2. Close all Windows programs to prevent conflicts.
3. Insert the Norton Utilities CD in the CD-ROM drive. An opening screen appears.
4. Click Install Norton Utilities and follow the on-screen instructions.

   The preselected options in Setup are the correct choices for most people. You should accept the preset choices unless you have a very unusual need.

If the opening screen does not appear:

1. Double-click the My Computer icon.
2. Double-click the icon for your CD-ROM drive.
3. Double-click CDSTART.EXE.
4. Click Install Norton Utilities and follow the on-screen instructions.

The last step of installation is for you to create Rescue Disks. Rescue Disks are an important part of your protection. For example, they can help you recover from a system crash. See "Creating Rescue Disks" on page 25.

While this user's guide contains helpful information, there is additional information in online help that is not covered here. There is also a wealth of information at http://service.symantec.com.

Keeping your system protected

Norton Utilities gives you the tools you need to keep your system protected.

LiveUpdate

The LiveUpdate button at the top of the main screen updates Norton Utilities programs. See "Updating Norton Utilities with LiveUpdate" on page 24.

Rescue Disks

Rescue Disks contain critical information your computer needs to start and run properly. This information changes as you change the configuration of your computer, so it is important to keep your Rescue Disk set up-to-date. You should update your Rescue Disks at least once a month, plus any time you update your virus protection, install new software, or make changes to your hardware. See "Creating Rescue Disks" on page 25.

Uninstalling Norton Utilities

You can easily remove Norton Utilities from your computer.

To remove Norton Utilities from your computer:

1. Click the Start button, and then select Settings > Control Panel.
2. Double-click Add/Remove Programs.
3. In the list of installed programs, select Norton Utilities. Click Add/Remove.
4. Follow the on-screen instructions.

   You might also want to uninstall LiveUpdate and LiveReg if you have no other Symantec products installed.

CHAPTER 2

Introducing Norton Utilities

Norton Utilities finds and fixes problems with your computer. It optimizes your computer to run at peak efficiency, prevents major and minor computer problems, and detects and repairs Windows problems. Norton Utilities helps you recover from computer emergencies.

What's new in Norton Utilities 2001?

You can install and use Norton Utilities on Windows 95 OSR2, Windows 98, Windows Me, Windows NT 4.0, and Windows 2000.

Norton Utilities

Norton Utilities is really several programs in one:

- Continuous-monitoring system that prevents problems by finding and correcting them
- Most effective disaster recovery tools available
- Highly effective tools that help make your computer run better and faster

Optimize performance

Some Norton Utilities programs can improve performance of your hard drives, optimize the Windows Registry and swap file, make all your programs start up faster, and make the best possible use of your available hard drive space. The programs that improve performance are:

- Speed Disk
- Norton Optimization Wizard
- Speed Start

Speed Disk

Speed Disk works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

When you save your work, your computer stores the information that makes up your files as small bits of data called clusters. As you continue to create, modify, and delete files, these clusters get spread all over the disk. When this happens, your disk is fragmented. Over time, as disk fragmentation increases, your hardware has to work harder and performance suffers. Speed Disk improves system performance by reorganizing the contents of your drive so your files are stored in adjacent clusters. Norton Speed Disk lays out the files on your disk so the ones you use most are more quickly accessible, and it works with Windows 98 Application Launch Accelerator to make your programs load faster.

Norton Optimization Wizard

Norton Optimization Wizard works on Windows 95, Windows 98, and Windows Me.

The Windows Registry and swap file are two Windows components that can greatly affect the speed at which Windows runs. The Registry stores startup and configuration information for every Windows program you run, as well as for Windows itself. Norton Optimization Wizard optimizes the internal structure of the Registry, reducing its size on your hard drive and speeding up access time to the vital information it contains.

The swap file is a special file Windows uses to create the virtual memory space in which your programs run. Normally, Windows manages the size of this file, enlarging it and shrinking it according to memory needs. Swap file size-management overhead can sometimes slow down your computer. Norton Optimization Wizard sets your swap file's minimum size to the

optimum setting for your system and works with Speed Disk to move the swap file to the front of your hard drive for maximum efficiency.

Speed Start

Speed Start automatically improves the startup time of every program you run in Windows 95. In many cases, Speed Start—part of Norton Optimization Wizard—cuts startup times by 50% or more. You do not have to do anything, just start your programs as usual and Speed Start optimizes the load time in the background.

Note: Because functionality similar to Speed Start is built in to Windows 98, Windows Me, Windows NT and Windows 2000, Speed Start is only installed in Windows 95.

Find and fix problems

Norton Utilities repairs common disk problems, recovers from application crashes, repairs Windows problems, and recovers deleted files. Norton Utilities programs that find and fix problems are:

- Norton System Check
- Norton System Doctor
- UnErase Wizard
- Norton Disk Doctor
- Norton WinDoctor
- Norton Protection

Norton System Check

Norton System Check works on Windows 95, Windows 98, and Windows Me.

Norton System Check provides an alternative to Norton System Doctor. While Norton System Doctor provides continuous monitoring of the health of your system, Norton System Check provides an immediate or scheduled system checkup. Norton System Check finds disk problems and Windows problems, it improves performance, and it gives your computer a preventive maintenance checkup. Run Norton System Check whenever you think you may have a problem. Schedule Norton System Check to run at regular intervals to ensure that your computer stays in top shape.

Norton System Doctor

Norton System Doctor works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

Detect potential disk and system problems and take preventive measures to avoid serious trouble automatically. Norton System Doctor monitors and analyzes various parts of your computer, including disk and CPU usage, disk integrity, system integrity, network throughput, Internet site access time, and more. You determine when and how Norton System Doctor reacts to certain conditions or problems.

If a Norton System Doctor sensor encounters a preset alert condition or detects a problem with your system, an alert identifies the problem. Norton System Doctor either recommends a course of action or, if you prefer, corrects the problem automatically. With Norton System Doctor, total system monitoring, protection, and recovery is as simple as running one program.

UnErase Wizard

UnErase Wizard works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

UnErase Wizard is your best choice when trying to recover lost or deleted files. It can locate and recover files that are protected by Norton Protection, or the Windows Recycle Bin. UnErase Wizard also recovers many overwritten files (Windows 95, Windows 98, and Windows Me only). This can be helpful when you accidentally delete a critical file, or even from the Recycle Bin. Recovering files can be as easy as displaying a list of the most recently deleted files or answering questions about the files you are looking for.

Norton Disk Doctor

Norton Disk Doctor works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

The integrity of your hard drive is vital to trouble-free computing. In addition to checking the integrity of logical disk structures—such as your boot records, file allocation tables, and directories—Norton Disk Doctor performs a series of surface analysis tests to ensure the integrity of your disks. You can configure Norton Disk Doctor to repair various disk problems automatically, even while it runs in the background. Norton

System Doctor works with Norton Disk Doctor, continuously monitoring for disk problems and alerting you when they occur.

Norton WinDoctor

Norton WinDoctor works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

The introduction of Windows 95 solved many of the problems that had plagued users of previous versions of Windows. At the same time, it introduced a new set of problems. Norton WinDoctor performs a series of tests to diagnose and fix most Windows problems. These problems include all types of software errors, hardware configurations, Registry problems, clutter from failed uninstalls, and much more. With Norton WinDoctor, you can automatically fix every problem or you can pick and choose, specifying which problems to fix and how to repair them. Norton WinDoctor works with Norton System Doctor, continuously monitoring for Windows problems and alerting you when they occur.

Norton Protection

Norton Protection works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

Norton Protection adds extra, configurable data recovery protection to the Recycle Bin to help you recover deleted files that the Recycle Bin cannot find. Norton Protection loads automatically when Windows starts and, when used in conjunction with UnErase Wizard, provides the most complete recovery system for all deleted and overwritten files.

System maintenance

Prevent disasters and detect problems before they become serious. Norton Utilities programs that prevent problems are:

- System Information
- Norton WipeInfo
- Image
- Norton File Compare
- Norton Diagnostics
- Rescue Disk

System Information

System Information works on Windows 95, Windows 98, Windows Me, Windows NT, and Windows 2000.

System Information gives you access to common device information as well as hard-to-find details about every area of your computer, including memory, logical and physical characteristics of your disks (including partitions), network connections, multimedia devices, and your Internet connection. Specific components—such as System and Drive—have benchmarks that let you compare their speed on your computer to the speed of similar components on other standard computers. Benchmarks and Internet information is only available in Windows 95, Windows 98, and Windows Me.

Norton WipeInfo

Norton WipeInfo works on Windows 95, Windows 98, and Windows Me.

Norton WipeInfo removes all traces of selected files or folders from your hard drive. It can also wipe the free space on your hard drive, ensuring that previously deleted information is not left on your hard drive.

You can use the Fast Wipe, which writes all zeros or any other character you choose. Alternately, you can use the Government Wipe, which is a 7-pass procedure that conforms to the method specified in DoD document 5220-22-M, National Industrial Security Program Operating Manual.

Image

Image works on Windows 95, Windows 98, and Windows Me.

Having an accurate picture or image of your disk ensures complete recovery from accidental folder or file deletion. Image creates a snapshot of critical disk information: the boot record, file allocation tables (FAT), and root directory data. The UnErase Wizard can use this information to help restore erased files. The Norton Utilities DOS-based program, UnFormat, can use this information to restore a damaged or accidentally formatted disk. Norton System Doctor works with Image, continuously monitoring the age of your image files.

Norton File Compare

Norton File Compare works on Windows 95, Windows 98, and Windows Me.

Norton File Compare lets you examine the differences—items added, items deleted, and items moved or changed—between two versions of a file. Norton File Compare also displays changes to the Windows Registry file and to Windows .INI files.

Norton Diagnostics

Norton Diagnostics works on Windows 95, Windows 98, and Windows Me.

Norton Diagnostics gives your computer a complete hardware checkup. It identifies hardware problems quickly. Norton Diagnostics tests your system board, memory, video, CD-ROM drive, diskette drive, mouse, communications ports, modem, PC card slots, printer, sound card, and speakers.

Rescue Disk

Rescue Disk works on Windows 95, Windows 98, and Windows Me.

Rescue Disks keep you prepared to deal with a variety of unforeseen problems that can occur without warning. Rescue Disk records a duplicate set of system startup files and disk partition information, and stores rescue items on an Iomega Zip disk, across multiple floppy disks, or on a network drive.

A Norton Zip Rescue Disk set consists of one Zip disk and one bootable floppy disk. With this disk set, you can start Windows and use Norton Utilities to fix startup and disk-related problems.

A basic Rescue Disk set consists of one bootable floppy disk and one or more additional disks. With this kind of Rescue Disk set, you can start your computer in DOS mode and use the included DOS-based Norton Utilities programs to fix startup and disk-related problems.

Norton System Doctor can monitor the viability of your Rescue Disks and remind you when it is time to update them. Rescue disks are most effective if the information about your computer is current. You should update them regularly.

Registry management

Track changes to, and edit the Windows Registry. Norton Utilities programs that provide this information are:

- Norton Registry Tracker
- Norton Registry Editor

Norton Registry Tracker

Norton Registry Tracker works on Windows 95, Windows 98, and Windows Me.

Norton Registry Tracker lets you monitor changes to your computer's critical setup data and startup files, including Windows Registry keys and .INI files. Use Norton Registry Tracker to take a snapshot of all your system files and to review subsequent changes made by Setup, by the Control Panel, or by other applications.

Norton Registry Editor

Norton Registry Editor works on Windows 95, Windows 98, and Windows Me.

Use Norton Registry Editor to get behind the Windows user interface to modify, troubleshoot, or repair startup files. Norton Registry Editor lets you edit the Windows Registry, the master record containing your system hardware, software, and personal preference configuration settings. Use Norton Registry Editor to change and enhance areas inaccessible through the Windows user interface. Norton Registry Editor's Undo feature makes it safer to use than other Registry editing tools.

Norton Utilities programs for DOS

Norton Utilities programs for DOS work on Windows 95, Windows 98, and Windows Me.

Norton Utilities also includes a number of DOS-based programs such as Disk Editor and Unformat. For information about these programs, see "DOS procedures" on page 54.

Note: Because Windows NT and Windows 2000 are not based on MS-DOS, the Norton Utilities programs for DOS are not installed on these operating systems.

C H A P T E R 3

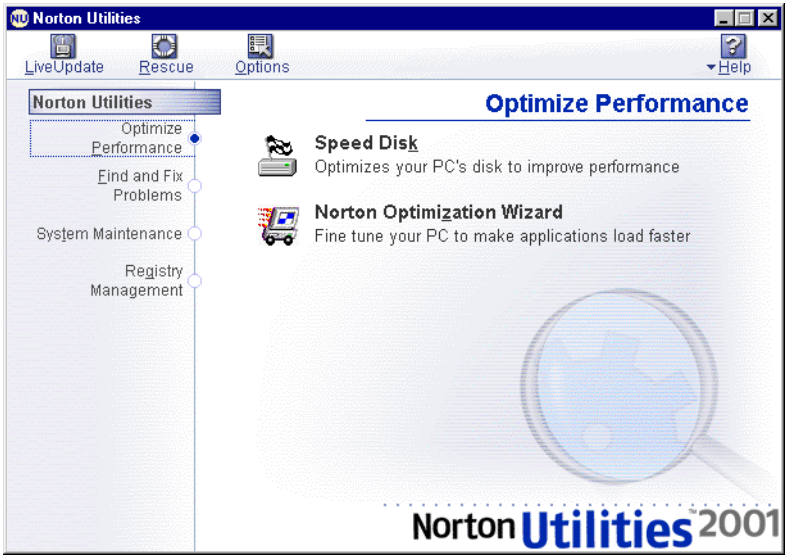
Norton Utilities basics

This chapter provides you with the basics of using Norton Utilities. These are tasks that you will use with all the Norton Utilities programs.

Navigating Norton Utilities

To start Norton Utilities:

1 On the Windows taskbar, click Start > Programs > Norton Utilities > Norton Utilities Integrator.



The Norton Utilities main screen is the starting point for all your activities.

2 From here you can do the following:

- Click an option on the left to see a description of what it provides on the right.
- Click one of the buttons at the top for features that apply to more than one area of the program.

Additional Symantec products might appear if you have them installed.

Setting options

There are many options you can set in Norton Utilities. For example, you can choose to have System Doctor display a large alert in addition to the red light on the sensor icon when it finds a problem.

To set options:

1 Click the Options button at the top of the Norton Utilities main window.

2 Choose the feature for which you want to set options.

Updating Norton Utilities with LiveUpdate

Click the LiveUpdate button to update Norton Utilities programs. LiveUpdate connects to Symantec to see if updates are available for Norton Utilities. LiveUpdate requires an Internet connection.

Note: Your normal Internet access fees apply.

To update Norton Utilities using LiveUpdate:

1 Click the LiveUpdate button at the top of the Norton Utilities main window.

2 The LiveUpdate window appears. Follow the on-screen instructions.

Tip: If you connect to the Internet through AOL, CompuServe, or Prodigy Internet, first connect to the Internet, and then run LiveUpdate.

Creating Rescue Disks

Rescue Disks contain critical information your computer needs to start and run properly. This information changes as you change the configuration of your computer, so it is important to keep your Rescue Disks up-to-date.

If you have an Iomega Zip drive, Rescue Disk can use it to make Rescue Disks that let you start Windows even when your computer will not start up normally after a system crash. This lets you make emergency repairs.

You can also make Rescue Disks using your standard floppy drive and several floppy disks. This floppy-based set lets you start up to the DOS operating system only, and access DOS-based utilities. Both kinds of Rescue Disks provide you with an easy-to-use interface for recovering from a system crash.

Caution: Never use Rescue Disks made on another computer. Rescue Disks contain information specific to the computer on which they were made.

Tip: The more recent your Rescue Disks, the better your chances of a full recovery. Update your Rescue Disks whenever you update your virus protection, install new software, or make changes to your hardware.

Creating Norton Zip Rescue Disks

A Norton Zip Rescue Disk set consists of two disks:

- Bootable floppy disk
- Zip disk

You need both of these disks to successfully restore your system after a crash. The floppy disk contains the DOS system files necessary to start up your computer. The Zip disk contains the Windows operating system, as well as the startup files, configuration information, and Norton Utilities programs necessary to restore your computer.

Note: Some computer manufacturers replace the standard floppy disk drive with a Zip drive. In this case, your Rescue Disk set will not include a bootable floppy disk. Rescue Disk creates a bootable Zip disk that contains all required Rescue Disk information.

Tip: Rescue disks contain system settings and rescue files. They do not back up your data. Be sure to make adequate backups of all your data.

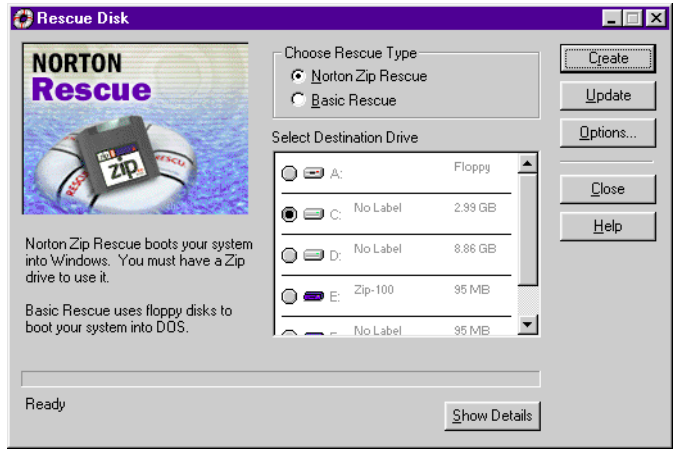
To create a Norton Zip Rescue Disk set:

1. Click the Rescue button at the top of the Norton Utilities main window.
2. Insert a Zip disk in your Zip drive and a floppy disk in your A: drive.

   Note: Do not use disks that contain data that you want to save. Rescue Disk overwrites all information on the disks.

   Tip: You can also use an Iomega Jaz drive when making this kind of Rescue Disk.

3. Select Norton Zip Rescue in the Choose Rescue Type group box.



Caution: If you have multiple Zip drives installed on one computer, make sure to always use the same Zip drive when creating, updating, and using your Norton Zip Rescue Disks.

4 Click Create.

Rescue Disk formats both the floppy and Zip disks and copies your computer's essential startup information to the disks.

5 Click Restart to test your newly created Rescue Disks.

6 If the Rescue Disk window appears on the screen, the Rescue Disk works properly. If the Rescue Disk window does not appear, the Rescue Disk does not work properly.

Caution: Do not continue with the rescue process when you are testing Rescue Disks. "Repairing" a system that is functioning properly can cause problems.

If your Rescue Disk does not work, see "My Rescue Disk does not work" on page 107.

7 Remove the disk from the A: drive and slide open the plastic tab on the back of the disk to write-protect it. This prevents you from accidentally changing the data stored on the disks.

8 Shut down Windows if it is running. Turn the power off and on again to restart your computer.

Creating basic Rescue Disks

Basic Rescue Disks give protection that is indispensable in protecting your computer from disasters. Basic Rescue Disks let you start up your computer to DOS after a system crash and use the DOS-based utilities to fix many problems.

You save your Rescue Disk set to a series of 1.44 MB floppies or a hard drive to which you have access.

To create basic Rescue Disks:

1 Click the Rescue button at the top of the Norton Utilities main window.

2 Select Basic Rescue in the Choose Rescue Type group box.

3 Select the drive you want Rescue Disk to use to create the Rescue Disk set. To create a floppy-based disk set select your A: drive.

Caution: If you select a network drive, a second physical hard disk, or some other large capacity disk drive, your Rescue Disk set is placed in a folder on the selected disk. Make sure to make a bootable floppy or Zip disk and keep it in a safe location. This disk should contain the network drivers or other files necessary to start your computer and access the drive on which you placed your Rescue Disk set. Do not create your Rescue Disk set on your C: drive.

4. Insert a floppy disk into your A: drive.
5. Click Create.

   Rescue Disk formats the disk and copies your computer's essential startup information to the disk.
6. Insert additional disks as required. Label the disks as you insert them.
7. Click Restart to test your newly created Rescue Disks.
8. If the Rescue Disk screen appears on the screen, the Rescue Disk works properly. If the Rescue Disk screen does not appear, the Rescue Disk does not work properly.

   Caution: Do not continue with the rescue process when you are testing Rescue Disks. "Repairing" a system that is functioning properly can cause problems.

   If your Rescue Disk does not work, see "My Rescue Disk does not work" on page 107.
9. Remove the disk from the A: drive and slide open the plastic tab on the back of the disk to write-protect it. This prevents you from accidentally changing the data stored on the disks.
10. Shut down Windows if it is running. Turn the power off and on again to restart your computer.

Updating Rescue Disks

Because your Rescue Disks contain information about your computer that can change, it is vital that you keep your Rescue Disks current.

You can update your Rescue Disks as often as you like. Rescue Disk lets you quickly and easily update Zip and basic Rescue Disks without having to recreate them.

Caution: The update feature can track one set of each type of Rescue Disk. If for some reason you choose to keep more than one basic Rescue Disk set or more than one Norton Zip Rescue Disk set, do not use this feature.

To update your Rescue Disks:

1. Click the Rescue button at the top of the Norton Utilities main window.
2. Select the type of Rescue Disk set you are updating in the Choose Rescue Type group box.
3. Specify the location of your Rescue Disks:
   - For Norton Zip Rescue Disks, insert the Zip disk into your Zip drive and the floppy disk into your floppy drive.
   - For basic Rescue Disks, select the drive in the Select Destination Drive list box. If you are updating floppy-based Rescue Disks, slide closed the plastic tab on the back of the disk and insert the first disk of the set into your A: drive.

   Caution: If you have multiple Zip drives installed on one computer, make sure to always use the same Zip drive when creating, updating, and using your Norton Zip Rescue Disks.
4. Click Update.

   Rescue Disk updates your computer's essential startup information on the disks.
5. Click Restart to test the newly updated Rescue Disks.
6. If the Rescue Disk screen appears on the screen, the Rescue Disk works properly. If the Rescue Disk screen does not appear, the Rescue Disk does not work properly.

   Caution: Do not continue with the rescue process when you are testing Rescue Disks. "Repairing" a system that is functioning properly can cause problems.

   If your Rescue Disk does not work, see "My Rescue Disk does not work" on page 107.
7. Remove the disk from the A: drive and slide open the plastic tab on the back of the disk to write-protect it. This prevents you from accidentally changing the data stored on the disks.

8 Shut down Windows if it is running. Turn the power off and on again to restart your computer.

Using help to learn more about Norton Utilities

Norton Utilities provides extensive online help. This help system gives you detailed instructions about how to use all of Norton Utilities.

Norton Utilities includes three kinds of help:

- Help with program dialog boxes
- How To help
- What's This? help

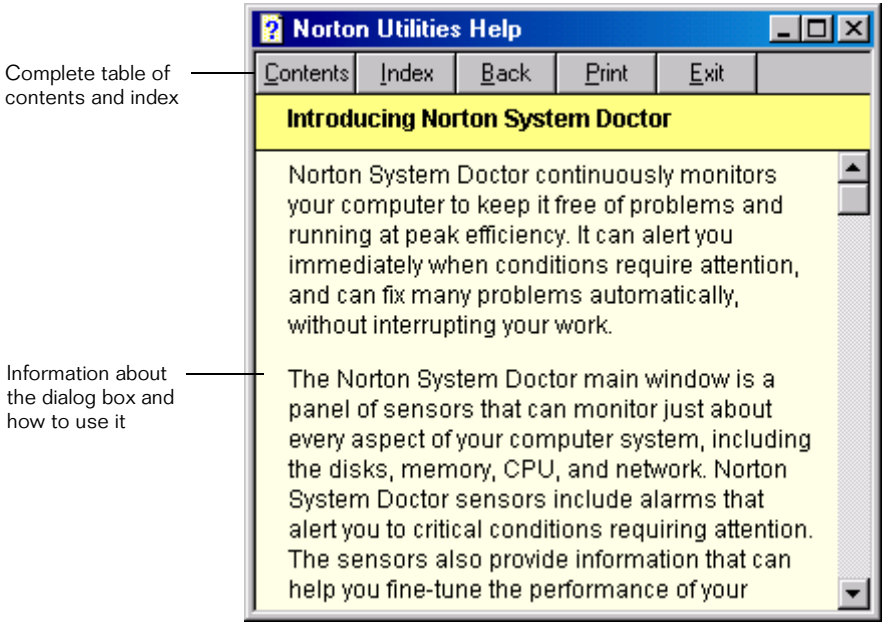
Help with program dialog boxes

The Help dialog box provides information about the area of the program you are using. This kind of help is context-sensitive, meaning that it displays help for the specific dialog box that you are currently using.

To get help with a dialog box:

- Click the Help button located in the dialog box.

  A help topic pertaining to the current dialog box appears.



How To help

How To help explains step-by-step procedures you are likely to perform using Norton Utilities. You can access these topics through the Contents or Index tabs. Open the Contents and Index by clicking the Help Topics, Contents, or Index button at the top of any help topic.

What's This? help

What's This? help provides a quick definition of an individual component of a window or dialog box.

To access What's This? help:

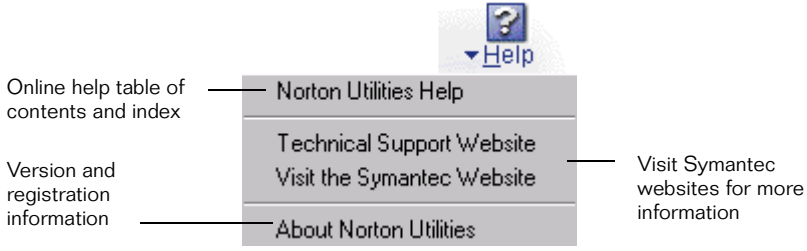
- Right-click anywhere you need help in a window or dialog box and choose What's This?

Getting help from the Help menu

Some of the Norton Utilities programs have a Help menu instead of a Help button.

To access the Help menu:

- Click Help at the top of the main Norton Utilities window, or on a menu bar available in some Norton Utilities programs.



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C H A P T E R 4

Responding to Norton Utilities alerts

When Norton Utilities detects a problem with your system it displays a message on your screen. These messages, called alerts, take several forms. These alerts may appear when you are running other programs and Norton Utilities detects a problem. This chapter shows examples of the various types of alerts that you may see, and tells you what actions you should take to respond to them.

Norton Utilities alerts

Norton System Doctor monitors your system for trouble. When it spots a problem, it displays an alert like this.

To respond to a Norton System Doctor alert, click the bottom of the dialog box where is says “Click here for details.” An information screen appears that explains the problem and includes links to help you solve the problem and also a “More info” link for additional information about the problem.

Note: Normally, Norton System Doctor notifies you of a problem by displaying a red light on the sensor. Alerts like this do not appear unless you have selected Display Alarm Message in the sensor properties.

C H A P T E R 5

Solving your computer problems with Norton Utilities

All you need to keep your computer running at peak efficiency is the continuous monitoring provided by Norton System Doctor. While Norton System Doctor watches over your computer's long-term health, you can use the individual Norton Utilities programs for more immediate acute care, such as:

- Diagnosing and fixing problems using Norton Disk Doctor and Norton WinDoctor
- Speeding up your computer using Speed Disk and Norton Optimization Wizard
- Giving your system a checkup with Norton System Check
- Restoring erased files using UnErase Wizard
- Getting information about your computer with System Information
- Testing your computer hardware with Norton Diagnostics

Tip: The Norton Utilities Integrator provides an easy-to-use graphical interface from which you can access all of the Norton Utilities programs. You can use it instead of the Start Menu in the following procedures. To open Norton Utilities Integrator, Click the Start button, and then select Programs > Norton Utilities > Norton Utilities Integrator.

Diagnosing and fixing problems

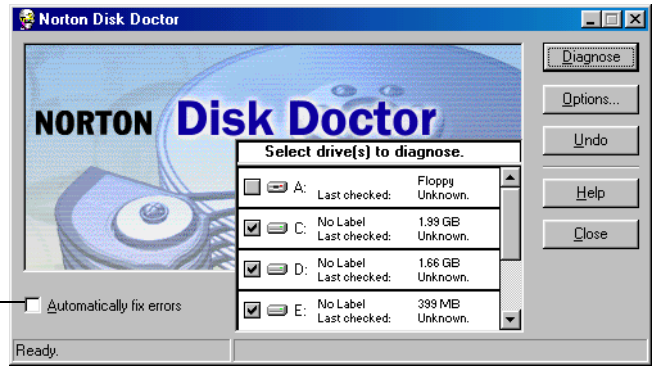
Trouble-free computing depends on the integrity of your computer. This integrity is based on an error-free hard drive and a correctly installed copy of Windows. The trouble is, although most computers start out this way, over time both Windows and your hard drive are likely to degrade. This degradation, if not corrected, can ultimately lead to data loss.

The best cure for any problem is prevention. If you keep Norton System Doctor running all the time, it will spot problems early and recommend corrective action. Whenever you encounter a problem, or just feel like giving your system a quick checkup, Norton Utilities has the immediate solution.

Fixing disk problems

To find and fix disk problems using Norton Disk Doctor:

1 Click the Start button, and then select Programs > Norton Utilities > Norton Disk Doctor.



If you want Disk Doctor to fix all errors that it finds, check Automatically Fix Errors

2 Select the drive you want to diagnose.

Tip: It is okay to select more than one drive to diagnose.

3 Click Diagnose.

Norton Disk Doctor checks the various components of your disk.

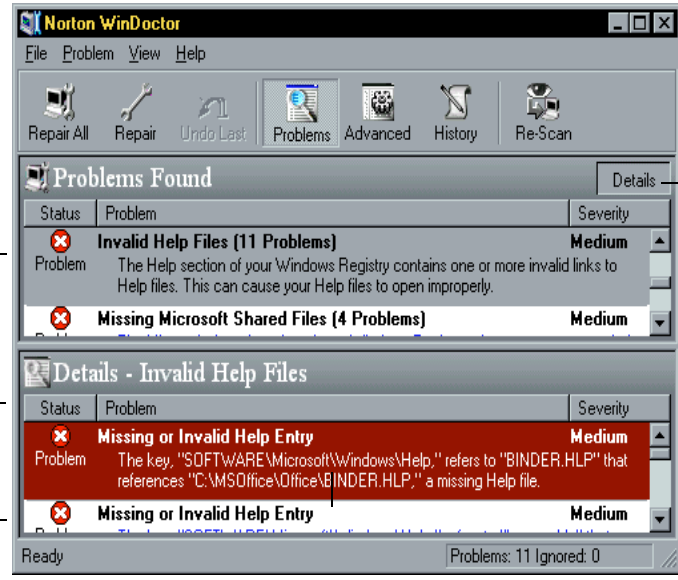
4 Follow the on-screen prompts as Norton Disk Doctor identifies and fixes any problems found on your disk.

Fixing Windows problems

To find and fix Windows problems using Norton WinDoctor:

1. Click the Start button, and then select Programs > Norton Utilities > Norton WinDoctor.
2. Follow the Norton WinDoctor Wizard instructions to check your system for problems.
3. Click Finish.

   Norton WinDoctor displays a checklist of the problems it found.
4. You can choose to fix all or some of the problems:
   - Click Repair All to automatically correct all problems.
   - Select a specific problem and click Repair.



Note: The recommended repair method is selected by default in the Repair dialog box. You may optionally select alternate repair methods.

Speeding up your computer's performance

When your computer is operating at peak efficiency, so are you. A sluggish computer is more than just an annoyance. It may be a symptom of more serious problems to come.

Your computer's hard drive stores all of your files, applications, and the Windows operating system. Over time, the bits of information that make up your files get spread all over the disk. This is known as fragmentation, and is a very inefficient way to store and retrieve information on a hard drive. The more you use your computer, the worse it gets. Before long, a fragmented hard drive can cause the entire system to slow down.

To speed up your hard drive using Speed Disk:

1. Click the Start button, and then select Programs > Norton Utilities > Speed Disk.
2. Click Start (Start Optimizing in Windows NT and Windows 2000) to optimize your drive.

   Speed Disk optimizes your disk drive.

Note: By default, Speed Disk optimizes your primary hard drive (usually drive C:). To optimize another drive, select it, and then click Start or Start Optimizing.

Some kinds of fragmentation need special attention. Windows creates a special file on your hard drive called a swap or paging file. This file is used to create additional memory so your Windows programs can make maximum use of available system resources. The size of the swap file changes dynamically in response to demand for memory space. This can cause significant fragmentation of the swap file, which in turn reduces performance.

Another Windows component that can affect system performance is the Windows Registry. The Registry is a dynamic database of configuration settings for both the operating system and applications. Over time, the internal structure of this database can become disordered. This disorder can affect system performance.

Norton Optimization Wizard sets an appropriate minimum swap file size to reduce file fragmentation, and reorganizes the Windows Registry data for efficient storage and retrieval. On Windows 95, Norton Optimization Wizard also enables Speed Start to make your programs start faster.

To speed up your system using Norton Optimization Wizard:

1. Click the Start button, and then select Programs > Norton Utilities > Norton Optimization Wizard.
2. Click Next.

   After offering to benchmark your drives (if they are not already benchmarked), Norton Optimization Wizard checks your swap file and makes a recommendation.
3. Click Next.

   Norton Optimization Wizard offers to track and speed up application loading by enabling Speed Start. If you accept, an icon in the taskbar notifies you that Speed Start is running.

   Note: Because functionality similar to Speed Start is built in to later versions of Windows, this screen only appears in Windows 95.

   ---
4. Click Next.

   Norton Optimization Wizard offers to optimize your Registry.
5. Click Next.

   Norton Optimization Wizard summarizes the choices you have made.
6. Close any other programs you may have running and click Restart.

   Norton Optimization Wizard implements your choices and restarts your computer.

Giving your system a checkup

When you want to give your system a complete checkup, Norton System Check is the tool to use. It performs all the same tests as Norton System Doctor, but Norton System Check doesn't need to be running all the time.

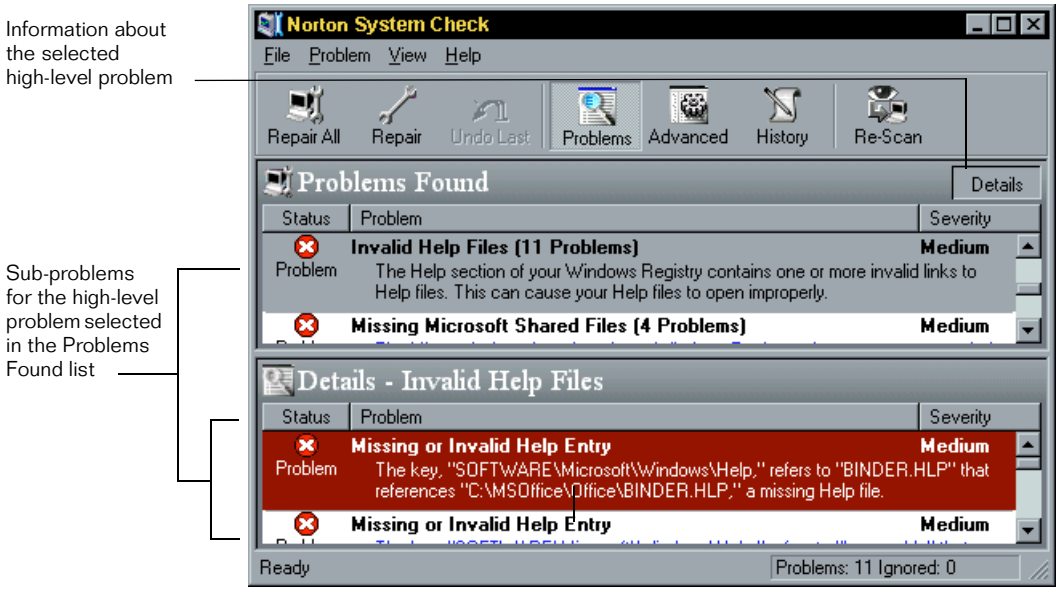
To check the overall health of your system with Norton System Check:

1. Click the Start button, and then select Programs > Norton Utilities > Norton System Check.
2. Follow the Norton System Check Wizard instructions to check your system for problems.
3. Click Finish.

   Norton System Check displays a checklist of the problems it found.

4 You can choose to fix all or some of the problems:

- Click Repair All to automatically correct all problems.
- Select a specific problem and click Repair.



Note: The recommended repair method is selected by default in the Repair dialog box. You may optionally select alternate repair methods.

Recovering erased files

Caution: If you have an emergency, do not install Norton Utilities and do not start Windows. Any new files copied to your hard drive might overwrite existing data. Starting Windows writes to your hard drive as well. The Windows swap file could overwrite data you would like to recover. For information on emergency procedures, see "Norton Utilities emergency procedures" on page 49.

When you erase a file using Windows Explorer, Windows keeps a temporary copy of the file in the Recycle Bin. However, Windows does not detect files erased or overwritten by applications running under Windows or erased from a command prompt. Norton Utilities can help you get these files back. Norton Protection guards against losing the files the Recycle Bin

does not protect. On Windows 95, Windows 98, and Windows Me, UnErase Wizard can help you restore even unprotected files.

To recover a file you recently erased:

1. Click the Start button, and then select Programs > Norton Utilities > UnErase Wizard.

   The Find Recently Deleted Files button should be selected.

2. Click Next.

   UnErase Wizard displays a list of the 25 most recently deleted files.

3. Locate the file you want to recover and select it.
4. Click Recover.

If your deleted file is not listed (Windows 95, Windows 98, and Windows Me only):

1. Click Next to continue through UnErase Wizard.

   UnErase Wizard steps you through the process of creating a more complete list of deleted files from which to choose.

2. When the file you want to recover is located, select it.
3. Click Recover.
4. Click Finish to close UnErase Wizard.

Tip: Your file may appear in the list with a question mark (?) in place of the first letter of the filename. If so, you are prompted to type the first letter of the original filename. If you do not know what it is, type any letter from A to Z as a substitute. Make a note of the filename so you can find it later.

Getting more information about your computer

No matter what your level of computer expertise, questions about your system arise occasionally. For example, when you call for help installing new hardware or software, you may be asked questions about your system's BIOS, bus type, processor, ports, video and multimedia capabilities, or memory capacity. Knowing a little detailed information about your computer can be a big help at such times.

System Information gives you quick and easy access to information about your system. It provides hundreds of basic and technical details about your computer, the peripherals (keyboard, mouse, printers and multimedia

devices) attached to your computer, and your computer's Internet and network connections.

To find out about your computer using System Information:

1. Click the Start button, and then select Programs > Norton Utilities > System Information.
2. Click a tab to display a category of information.

System Information can print reports about your system and its components. These reports provide a complete description of your system and are helpful when you call a vendor for technical support.

Testing your computer hardware

Norton Diagnostics tests your computer hardware to be sure it is working correctly. You can perform a complete test of all your hardware or you can test individual components.

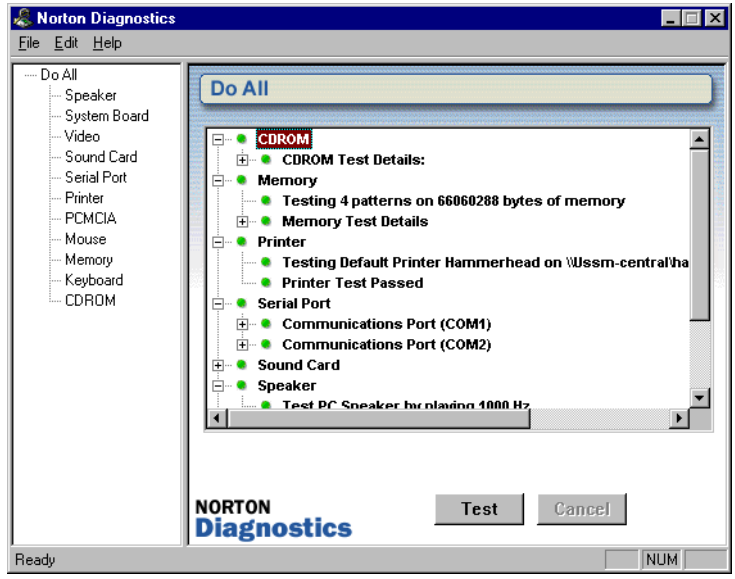
To test your computer hardware with Norton Diagnostics:

1. Click the Start button, and then select Programs > Norton Utilities > Norton Diagnostics.
2. Click Do All Tests.
3. Click Test.

Tip: You can test individual components by selecting the component on the left side of the screen, and then clicking Test.

---

4 The Run All Diagnostics screen appears and Norton Diagnostics starts testing.



Each component is added to the list on the right as it is tested. If a problem is found, a red circle with a line through it appears next to the component name.

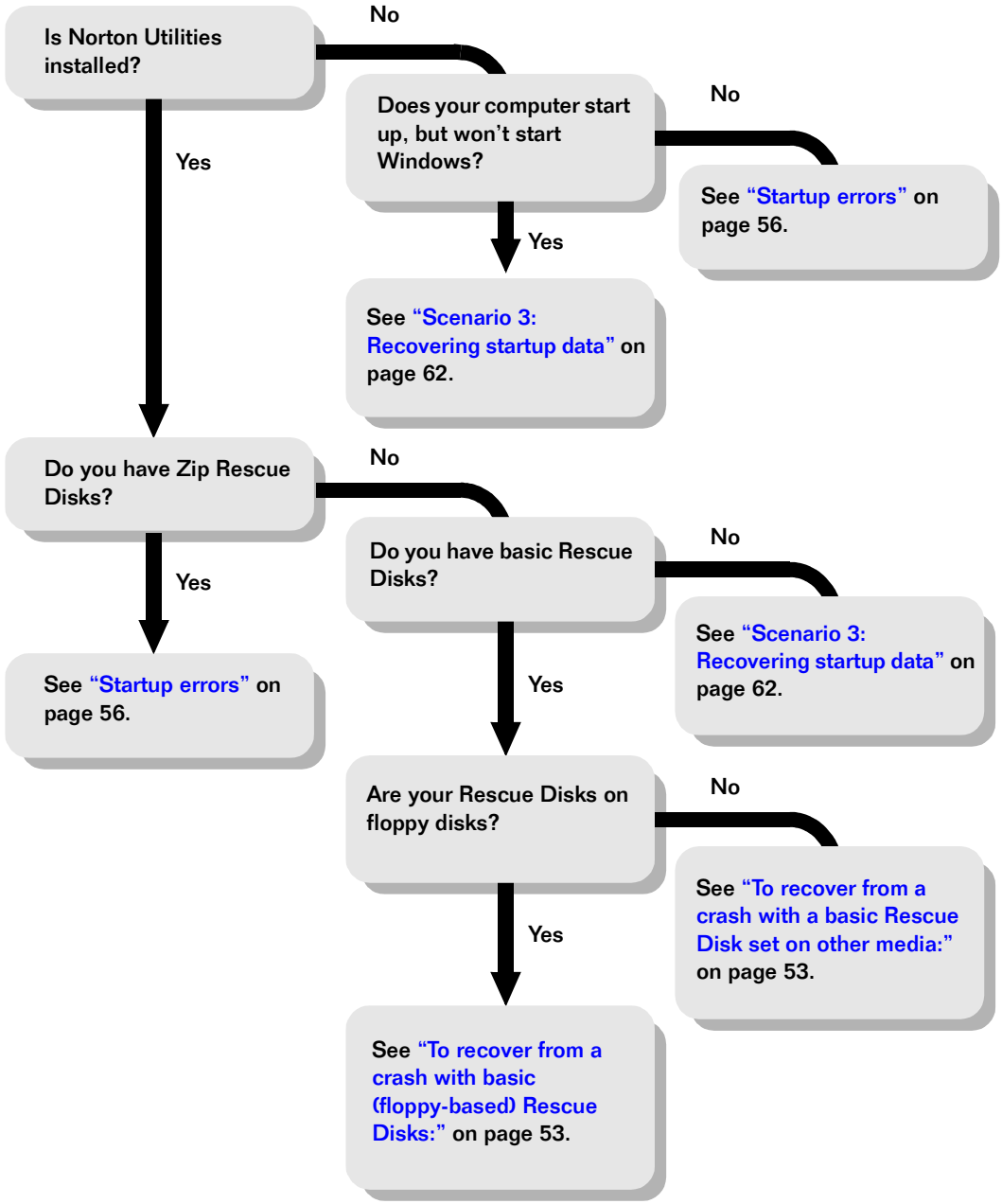
CHAPTER 6

Finding the solution to your problem

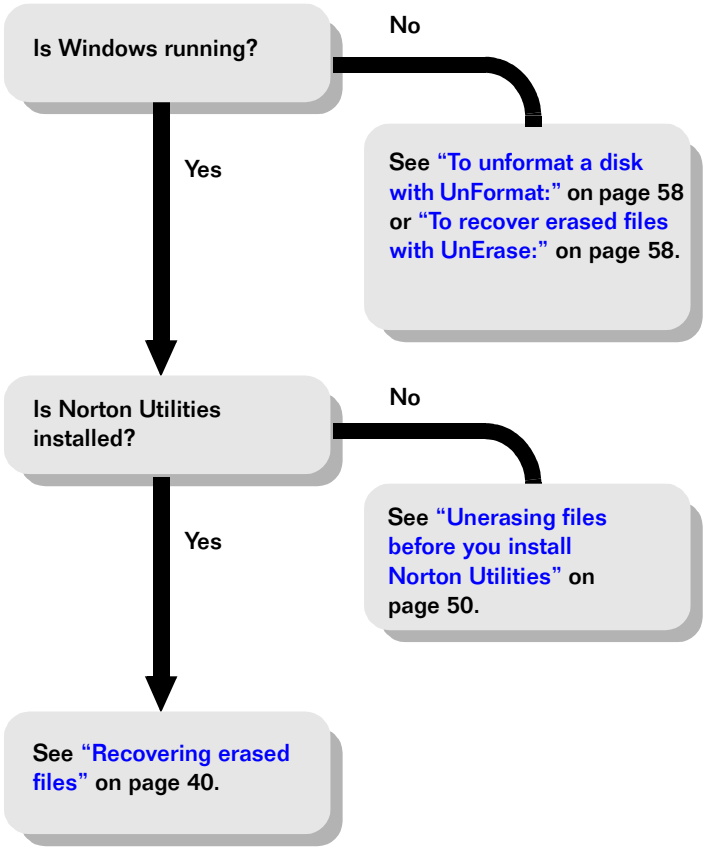
This section is provided to help you find solutions to your problems quickly.

Note: Because Windows NT and Windows 2000 are not based on MS-DOS, many of the Norton Utilities procedures identified in this section are only available in Windows 95, Windows 98, and Windows Me.

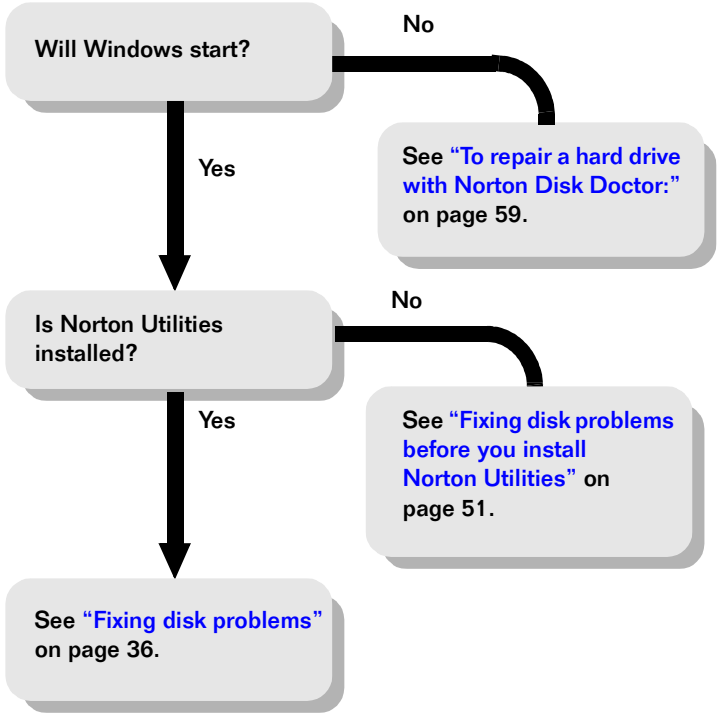
Help! Windows won't start



I need to recover files or folders



I have a disk problem



C H A P T E R 7

Norton Utilities emergency procedures

Unexpected problems can sometimes wreak havoc with even the best protected computer. The logical structures of your hard drive might become corrupted. You might accidentally delete an important file, or an entire folder of important files. A system crash might even erase startup and configuration settings, making your computer unusable. Norton Utilities gives you the very best chance of recovering from these problems.

Tip: "Finding the solution to your problem" on page 45 includes troubleshooting charts to help you find the correct solution to your problems.

This chapter explains how to get your system up and running even when you cannot start Windows, including:

- Determining which Norton Utility to use
- Recovering files before installing Norton Utilities
- Fixing disk problems before installing Norton Utilities
- Using a Rescue Disk set
- Using the DOS-based Norton Utilities programs
- Using the Norton Utilities Emergency Disks

Caution: If you have an emergency, do not install Norton Utilities and do not start Windows. Any new files copied to your hard drive might overwrite existing data. Starting Windows also writes to your hard drive. The Windows swap file could overwrite data you would like to recover. To find a solution to your problem, see "Finding the solution to your problem" on page 45.

Caution: A Dynamic Drive Overlay (DDO) may be required for your computer to work properly. A DDO, such as Ontrack Disk Manager, Max*Blast, Microhouse EZ-Drive or Pro-Drive, provides support for large hard drives. It is critical that you determine if you have a DDO before attempting to use any recovery procedures described in this chapter.

A DDO, if present, loads from your hard drive. Booting from a floppy disk such as an Emergency Disk or Rescue Disk will not load the DDO. Without the DDO, all hard drive recovery steps will fail and may result in additional damage to your system.

All DDOs display a message when you start your computer. To start up from a floppy disk you must first let the DDO load, and then insert the floppy disk you want to start up from. All DDOs let you start up from a floppy disk by pressing a key during the startup process. Consult your DDO documentation or watch for a message when you start up to determine which key to press.

None of the Norton Utilities utilities can repair a damaged DDO. If your DDO is damaged you will need to consult your computer's manufacturer or the DDO publisher directly.

If you don't know if a DDO is present on your system, contact your hardware manufacturer or Symantec technical support before trying any recovery procedures described in this user's guide. Most newer systems do not use a DDO.

Unerasing files before you install Norton Utilities

When you erase a file using Windows Explorer, Windows keeps a temporary copy of the file in the Recycle Bin. However, Windows does not detect files erased or overwritten by applications running under Windows or erased from a command prompt. Norton Unerase can help you get these files back.

Because installing Norton Utilities can overwrite erased files on your hard drive, Norton Utilities provides a way to recover files before you install Norton Utilities.

To recover a file (Windows 95, Windows 98, and Windows Me only):

1. Put your installation CD into the CD-ROM drive.
2. When the first screen appears, click Launch Utilities From CD.

   Caution: Do not click Install Norton Utilities. Doing so will overwrite information on your hard drive.

3. When the Norton Utilities CD Utilities screen appears, click Norton Unerase.
4. When the Norton UnErase Wizard starts, select Find Any Recoverable Files Matching Your Criteria and click Next.

   UnErase Wizard steps you through the process of creating a list of deleted files from which to choose.
5. When the file you want to recover is located, click the filename to select it.
6. Click Recover.
7. Click Finish to close UnErase Wizard.

Tip: Your file may appear in the list with a question mark (?) in place of the first letter of the filename. If so, you are prompted to type the first letter of the original filename. If you do not know what it is, type any letter from A to Z as a substitute. Make a note of the filename so you can find it later.

Fixing disk problems before you install Norton Utilities

To find and fix disk problems using Norton Disk Doctor:

1. When the first screen appears, click Launch Utilities From CD.

   Do not click Install Norton Utilities. Doing so will overwrite information on your hard drive.
2. When the Norton Utilities CD Utilities screen appears, click Norton Disk Doctor.
3. Select the drives you want to diagnose.
4. Click Diagnose.

   Norton Disk Doctor checks the various components of your disk.

5 Follow the on-screen prompts as Norton Disk Doctor identifies and fixes any problems found on your disk.

Recovering from a system crash

The small amount of time invested in creating and maintaining a Rescue Disk set pays off when you have a system crash. With a current Rescue Disk set, you should be back up and running in no time.

Note: Because Windows NT and Windows 2000 are not based on MS-DOS, the procedures in this section are only available in Windows 95, Windows 98, and Windows Me.

This section covers system crash recovery using several different types of Rescue Disk sets:

- Norton Zip Rescue Disks
- Basic Rescue Disks (floppy-based)
- Basic Rescue Disks (stored on large-capacity media)

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See Caution on page 50.

Caution: Never use Rescue Disks made on another computer. Rescue Disks contain information specific to the computer on which they were made.

Tip: The more recent the Rescue Disks, the better your chances of a full recovery.

To recover from a crash with Norton Zip Rescue Disks:

1 Insert the Zip Rescue Disk in your Zip drive.

Caution: If you have multiple Zip drives installed on one computer, make sure to always use the same Zip drive when creating, updating, and using your Norton Zip Rescue Disks.

---

2 Insert the floppy Rescue Boot Disk in your A: drive.

3 Restart your computer.

Windows starts and the Rescue Recovery Wizard appears.

Note: Windows will take longer than usual to start up.

---

4 Follow the on-screen prompts to recover your system.

To recover from a crash with basic (floppy-based) Rescue Disks:

1 Insert the Basic Rescue Boot Floppy Disk into the startup drive.

2 Turn on your computer and wait for the Rescue Disk Screen to appear.

3 Follow the instructions on the screen to run Rescue Recovery. The Restore Rescue Information dialog box appears.

Candidates to be restored are checked by default

Caution: If Rescue Restore does not detect any startup file problems, the Items To Restore check boxes will be clear. Do not proceed with the restore process. Press Esc to exit.

---

4 Press R to restore the selected items.

For information on using the DOS-based Norton Utilities programs to recover your system, see "DOS procedures" on page 54.

To recover from a crash with a basic Rescue Disk set on other media:

If you chose to place your basic Rescue Disks in a folder on a network drive or other large-capacity disk drive, you were instructed to also make a bootable floppy disk. This disk should contain the network drivers or other files necessary to start your computer and access the drive on which you placed your Rescue Disk set. For more information see "Creating Rescue Disks" on page 25.

1. Insert a bootable floppy disk in your A: drive and restart your computer.

   Note: This disk must contain the network drivers or other files necessary to start your computer and access the drive on which you placed your Rescue Disk set.

2. Access the network or other drive on which you stored your Rescue Disk set.
3. Type `RSHELL` and press Enter.
4. The Rescue Disk screen appears. Follow the on-screen instructions.

For information on using the DOS-based Norton Utilities programs to recover your system, see "DOS procedures" on page 54.

DOS procedures

This section covers procedures using the DOS-based Norton Utilities programs.

Note: Because Windows NT and Windows 2000 are not based on MS-DOS, the procedures in this section are only available in Windows 95, Windows 98, and Windows Me.

If you have made Norton Zip Rescue Disks, see "Recovering from a system crash" on page 52 for recovery procedures.

Norton Utilities DOS-based programs

Caution: If you have an emergency, do not install Norton Utilities and do not start Windows. Any new files copied to your hard drive might overwrite existing data. Starting Windows also writes to your hard drive. The Windows swap file could overwrite data you would like to recover.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

The following DOS-based programs come with Norton Utilities:

- Disk Editor (DISKEDIT.EXE)

  Full-featured sector editor, for advanced users, that lets you manually examine and modify files, directories, clusters, sectors, and systems areas of your disk. Use Disk Editor to edit, save, or undo changes to your disk parameters and to search an area of your disk for a particular data string.

- Norton Disk Doctor (NDD.EXE)

  Easy-to-use program that diagnoses and repairs common disk problems.

- UnErase (UNERASE.EXE)

  Program that recovers erased files automatically or manually.

- UnFormat (UNFORMAT.EXE)

  Program for restoring an accidentally formatted disk or repairing a severely damaged disk.

To find detailed information about the DOS-based Norton Utilities programs online while using them, press F1.

Levels of DOS recovery

This section explains four levels of DOS recovery procedures using DOS-based Norton Utilities programs:

- Recovery procedures

  How to repair a hard drive, recover accidentally deleted files, or unformat a disk.

- Startup procedures

  How to repair common hardware, setup data, startup data, operating system, and hard drive problems.

- Common procedures

  How to repair common disk problems.

- Advanced procedures

  How to repair less common disk problems with Disk Editor, a full-featured disk sector editor.

Before you begin

Many of these procedures using the DOS-based programs—Disk Editor, Norton Disk Doctor, UnErase, and UnFormat—require you to have a blank, formatted floppy disk available to create an undo file, just in case the corrections you made are not what you expected.

In addition, the procedures using the DOS-based programs require you to insert the Emergency or Rescue Disk that has the program's .EXE file. To save time, make directory printouts of your Emergency and Rescue Disks so you will know where the .EXE files are located.

Finally, some procedures recommend using either your basic Rescue Disk set or your Emergency Disks. If you have a basic Rescue Disk set, try that first, since your Rescue Disks have more up-to-date files for your computer. Otherwise, use the Emergency Disks.

Startup errors

The following list includes many of the errors you may see when you have problems starting your computer. Turn to the page indicated to see how to solve your problem.

Problem	Scenario	Page
Battery Discharged	Scenario 2	page 61
CMOS Checksum error	Scenario 2	page 61
CMOS Information not found	Scenario 2	page 61
Data Error Reading Drive X	Scenario 5	page 66
Date and Time not set	Scenario 2	page 61
Disk Boot Failure	Scenario 2	page 61
Drive X error	Scenario 2	page 61
Error loading Operating System (O/S)	Scenario 3	page 62
Hard Disk # error	Scenario 2	page 61
Hard Disk Boot sector invalid	Scenario 3	page 62
Hard Drive # Controller failure, hard drive absent or missing	Scenario 1	page 60

Problem	Scenario	Page
HDD Controller Failure	Scenario 2	page 61
Hardware Information Lost	Scenario 2	page 61
Faulty….	Scenario 1	page 60
Illegal instruction trapped	Scenario 1	page 60
Insert a (valid) boot disk	Scenario 3	page 62
Invalid Media Type	Scenario 9	page 72
Invalid Media Descriptor Byte	Scenario 9	page 72
Invalid Partition Table	Scenario 3	page 62
Invalid System Disk	Scenario 3	page 62
Missing Operating System	Scenario 3	page 62
Memory Size Mismatch	Scenario 2	page 61
No ROM BASIC – System halted	Scenario 3	page 62
NON-DOS Disk Error on Bootup	Scenario 9	page 72
Non System Disk or disk error	Scenario 4	page 65
Parity error at address	Scenario 1	page 60
ROM Checksum invalid	Scenario 1	page 60
Sector Not Found reading Drive X	Scenario 5	page 66
Seek error	Scenario 1	page 60
Segment boundary overrun	Scenario 1	page 60
Unexpected amount of memory found	Scenario 2	page 61

Recovery procedures

Caution: If you have an emergency and you have purchased Norton Utilities to restore your hard drive, recover accidentally deleted files, or unformat a disk, do not install Norton Utilities. Any new files copied to your hard drive might overwrite existing data, preventing complete recovery.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Follow the procedures below for recovering data. These procedures provide you with the basic steps for using UnFormat, UnErase, and Norton Disk Doctor from the Emergency Disks included with Norton Utilities. Use Emergency Disk 1 to start your computer, if necessary.

To unformat a disk with UnFormat:

1. Insert Emergency Disk 1 into the startup drive and restart your computer.
2. Use the UpArrow and DownArrow keys to select UnFormat and press Enter.
3. Read the UnFormat message and press Enter.
4. Use the UpArrow and DownArrow keys to select the drive you want to unformat and press Enter.
5. Follow the on-screen instructions to recover your disk automatically.

To recover erased files with UnErase:

1. Restart the computer in MS-DOS mode.

   If your computer does not start from your hard drive because you have deleted COMMAND.COM or the Windows system files, restart your computer using Emergency Disk 1 in the A: drive. Use the UpArrow and DownArrow keys to select UnErase and press Enter.
2. At the command line, change to the directory from which your file was erased.

   Note: If you have deleted a full directory of files and also removed the directory, first recover the directory. Then use the same procedure to recover the erased files.

3 Insert Emergency Disk 1 into the appropriate drive and press Enter.

4 At the command prompt, type `A:UNERASE` and press Enter.

(Substitute B: for A: if using the B: drive.)

UnErase checks for erased files. UnErase displays the name, size, date, time, and recovery prognosis for each erased file. Each filename begins with a question mark (?) because DOS overwrites the first letter of a filename when erasing a file.

5 Do one of the following:

- To recover a displayed file, use the UpArrow and DownArrow keys to select it.
- To select a file that is not displayed, press Alt+A to activate the UnErase File menu's View All Directories command. Then, select the file you want to recover. (If the erased file is on a different drive, press Alt+D to select another drive.)

6 Press U to select the UnErase command button.

UnErase prompts you to type a new first letter for the filename.

7 Type a first letter for the filename.

The letter does not have to be the original letter; any letter will do. You can rename the recovered file later. UnErase automatically recovers the file.

To repair a hard drive with Norton Disk Doctor:

If you cannot start your computer, have trouble accessing your hard drive, or cannot find files or directories that you never deleted, follow the steps below:

1 Do one of the following:

- If your computer does not start from your hard drive, insert Emergency Disk 1 into the A: drive and restart your computer. Use the UpArrow and DownArrow keys to select Disk Doctor and press Enter.
- If your computer starts from your hard drive, insert Emergency Disk 1 in the appropriate drive. Type `A:NDD` at the command prompt and press Enter. (Substitute B: for A: if you are using the B: drive.)

The Norton Disk Doctor main menu appears with Diagnose Disk selected.

2 Press Enter.

3 Use the UpArrow and DownArrow keys to select the drive to diagnose and press Enter.

If Norton Disk Doctor finds any errors, follow the on-screen instructions to correct the errors.

Startup procedures

Follow the procedures below to repair common hardware, setup data, startup data, operating system, and hard drive problems with DOS-based Norton Utilities programs.

Note: Many of the following procedures include an instruction to insert the Basic Rescue Boot Floppy Disk. In all cases, this refers to the first disk of a floppy-based basic Rescue Disk set, not a Norton Zip Rescue Disk set. If you have an Iomega Zip drive installed, see "Creating Norton Zip Rescue Disks" on page 25 for information on creating a Norton Zip Rescue Disk set that lets you start Windows even when your computer will not start in the normal way.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Scenario 1: Repairing general hardware problems

When you turn your computer on, it performs the Power-On Self Test (POST). This process verifies the existence and operation of hardware—hard drives, video hardware, memory, and the keyboard—that is critical to starting your computer. If a problem is found, it is reported to you on the screen or as a series of beeps if the video display is disconnected or not working. Refer to your computer manufacturer's documentation to decipher beep codes.

Many hardware problems that are found display messages similar to these:

- Fault
- Hard disk # controller failure
- Hard disk absent or failed
- Illegal instruction trapped
- Parity error at address

- ROM checksum invalid
- Segment boundary overrun

Warning: Observe your computer manufacturer's safety guidelines before opening your computer. For proper handling instructions, refer to your computer manufacturer's documentation.

Checking inside your computer

Before suspecting a defective device, check inside your computer to:

- Make sure adapter cards, such as video and disk controller cards, are seated properly in the correct expansion slots.
- Make sure memory modules are seated correctly.
- Make sure drive cables are connected properly.
- Make sure multiple hard drives are configured to work together. For more information on properly configuring multiple hard drives, refer to your computer manufacturer's documentation as well as any documentation you might have on your additional hard drives.
- Make sure additional adapter cards, such as multimedia or tape backup controller cards, are configured properly. For information on properly configuring these devices, refer to the manufacturer's documentation.

After checking these items, close the computer and turn it on to see if your computer starts normally.

If you cannot repair general hardware problems

If the problem persists, contact your computer manufacturer or the manufacturer of the device that you suspect is faulty.

Scenario 2: Correcting computer setup data

The Power-On Self Test (POST) process, discussed in Scenario 1, checks the settings of many hardware components against values stored in a CMOS chip. CMOS chips store vital information about your computer. Even when your computer is turned off, the CMOS chip continuously stores this information using a battery. If a discrepancy is found, a message similar to one of the following displays:

- Battery discharge
- CMOS checksum error

- CMOS information not found using defaults
- Date and time not set—run setup
- Drive *x* error
- Hard disk # error
- Hardware information lost—run setup
- HDD controller failure
- Memory size mismatch—run setup
- Unexpected amount of memory found—run setup

The error may also be related to a partition table or boot record problem. For more information, see "Scenario 3: Recovering startup data" on page 62.

To correct computer setup data:

1. Turn on your computer.
2. As your computer starts, press the key combination to enter the setup program.

   The correct key or key combination is usually shown on the screen as the computer first starts.
3. Update the CMOS settings.

   For more information, see your computer manufacturer's documentation.

   Many computers will update the CMOS with appropriate settings simply by running the setup program and saving the values when you exit.

Scenario 3: Recovering startup data

When the Power-On Self Test (POST) process discussed in Scenarios 1 and 2 is complete, the hard drive is accessed for startup information if your A: drive does not contain a disk. The first piece of startup information is the master boot record, which contains the partition table. The next piece of startup information is the boot record of the startup partition.

If any of the information in the master boot record, partition tables, or boot record is corrupt or missing, a message similar to the following displays:

- Hard disk boot sector invalid
- Please insert a boot disk
- Please insert a valid boot disk and press any key

To recover startup data with Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.

   Caution: Never use Rescue Disks made on another computer. Rescue Disks contain information specific to the computer on which they were made. If you don't have Rescue Disks, see "To recover startup data with the Emergency Disks:" on page 64.

2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Use the DownArrow key to select Rescue Recovery and press Enter.

   The Restore Rescue Information dialog box appears. Rescue Restore examines your computer's boot records and partition table information and automatically selects any damaged Rescue Restore items to be restored.

   Caution: If Rescue Restore does not detect any startup file problems, the Items To Restore check boxes will be cleared. *Do not proceed with the restore process.* Press Esc to exit.

4. If Boot Records, Partition Tables, or both is selected, press Alt+R to restore the information.

   A confirmation box appears (twice) that lets you verify the information you are about to restore.
5. Press Enter and follow the on-screen instructions.
6. Remove the disk from the startup drive and restart your computer.

If the problem has been fixed, your computer will start normally.

To recover startup data with the Emergency Disks:

Tip: You can use the CD that contains Norton Utilities as an Emergency Disk if your computer can start up from the CD-ROM drive. See "Using the CD as an Emergency Disk" on page 10.

1. Insert Emergency Disk 1 into the startup drive and restart your computer.
2. Use the DownArrow key to select Disk Doctor.
3. At the prompt, type: `/REBUILD` and press Enter.
4. Insert Emergency Disk 2 when requested.

   The Norton Disk Doctor main dialog box appears.
5. Press Enter to diagnose the drive.

   A message box appears indicating that your hard drive has no partitions.
6. Press Enter to have Norton Disk Doctor rebuild the partition table.

   A message box appears indicating that a partition has been found and asks you if you would like to revive it.
7. Do one of the following:
   - If the partition size indicated is correct, press Enter to revive the partition table.

     The partition table is revived.
   - If the partition size indicated is incorrect, click No.

     Norton Disk Doctor continues to search.
8. To revive more partition tables, press Enter to search for them. Otherwise, press Alt+N.

   Before changes are made to the disk, you are prompted to create an undo file.
9. Press Enter to create an undo file.

   The Undo File dialog box appears.
10. Use the UpArrow and DownArrow keys to select the drive on which to store the undo data.

    Note: Do not store undo data on the same physical drive you are attempting to repair. The best place to store undo data is on a blank formatted floppy disk.

11 Insert a formatted floppy disk with at least 100K of free space into the appropriate drive and press Enter.

Note: Do not reuse Undo disks. Overwriting the same disk means that previous changes cannot be undone.

Norton Disk Doctor saves the undo data to disk and repairs your partition tables. When Norton Disk Doctor has finished, a message box appears, indicating the partition information has been changed.

12 Remove the disk from the startup drive and restart your computer.

If the problem has been fixed, your computer will start normally.

If you cannot recover startup data

If the problem persists, it is possible that the disk's operating system files are missing or corrupt. For more information, see "Scenario 4: Recovering operating system files" on page 65.

Scenario 4: Recovering operating system files

When your computer successfully completes the Power-On Self Test (POST), your computer loads the master boot record program that passes control to the disk's boot record. The boot record then loads IO.SYS, which carries out the rest of the startup process. To start Windows, both COMMAND.COM and MSDOS.SYS files must be present. If they are not, your computer will not start Windows properly.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

To recover operating system files:

1 Insert the Basic Rescue Boot Floppy Disk into the startup drive.

2 Turn on your computer and wait for the Rescue Disk screen to appear.

Press Esc to go to the DOS command prompt.

3 Insert the NU Emergency Utility Disk 1 (it contains the SYS.COM file).

4 At the command prompt, type `SYS C:` and press Enter.

Note: If the message "Insert system disk in drive A:\" appears, insert the Basic Rescue Boot Floppy Disk into the startup drive and press any key.

The SYS program copies the system files from your Rescue Disk to your hard drive.

5 Insert the labeled "Basic Rescue Boot Floppy Disk," which contains the MSDOS.SAV file.

At the command prompt, type:
`C:\WINDOWS\COMMAND\ATTRIB -R -S -H C:\MSDOS.SYS`

If Windows is installed in a location other than C:\WINDOWS, modify the command line with the proper location (for example, `C:\WIN95\COMMAND\ATTRIB -R -S -H C:\MSDOS.SYS`).

6 At the command prompt, type:

`COPY A:\MSDOS.SAV C:\MSDOS.SYS` and press Enter.

Your MSDOS.SYS file is restored.

7 Remove the Rescue Disk from the drive and restart your computer.

If the problem has been fixed, your computer will start normally.

If you cannot recover operating system files

If the problem persists, it is possible that the disk itself has a problem.

Scenario 5: Repairing a malfunctioning hard drive

A hard drive that is not working properly can result from many different problems. Possible causes include a corrupt partition table or boot record, physical defects in the disk surface, or bad system files.

Caution: If the drive parameters were entered incorrectly into the CMOS, you may also experience this problem. If this is the case, do not run Norton Disk Doctor. Fix your CMOS settings using your computer's CMOS setup program.

If you have unsuccessfully tried to fix a problem listed in the scenarios in this chapter, run the DOS version of Norton Disk Doctor.

To repair a malfunctioning hard drive with Norton Disk Doctor and basic Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Choose Disk Doctor from the menu. NDD.EXE appears on the command line.
4. At the prompt, complete `NDD.EXE [drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.
5. Insert the NU Emergency Utilities Disk 1 when requested.

   Norton Disk Doctor performs a diagnosis of the specified drive.
6. Follow the on-screen instructions.
7. Remove the Rescue Disk from the startup drive and restart your computer.

If the problem has been fixed, your computer will start normally.

To repair a malfunctioning hard drive with Norton Disk Doctor and Emergency Disks:

1. Insert Emergency Disk 1 into the startup drive.
2. Turn on your computer and wait for the Norton Utilities screen to appear.
3. Use the UpArrow and DownArrow keys to select Disk Doctor.
4. At the prompt, complete NDD.EXE *`[drive:]`* `/C` and press Enter.

   For example, NDD.EXE D: /C means Norton Disk Doctor will diagnose your D: drive completely.
5. Insert the NU Emergency Utilities Disk 2 when requested.

   Norton Disk Doctor performs a diagnosis of the specified drive.
6. Follow the on-screen instructions.
7. Remove Emergency Disk 1 from the startup drive and restart your computer.

If the problem has been fixed, your computer will start normally.

If you cannot repair a malfunctioning hard drive

If the problem persists, call your computer's manufacturer or a local professional.

Tip: Symantec provides data recovery in the United States and Canada for PC and Macintosh hard drives that are not physically damaged. If you want highly-trained and dedicated professionals to recover your data, contact the Symantec Data Recovery Team at http://www.symantec.com/techsupp/recovery/. Or, call our Fax-on-Demand system at (541) 984-2490 and request document #4132.

Common procedures

Follow the procedures below to access data on a damaged floppy disk, recover files on a disk that appears empty, recover a formatted or severely damaged disk, repair a disk with incorrect media descriptor byte information, recover lost or damaged directories, recover overwritten files, recover corrupt Registry files, or recover an inaccessible disk.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Scenario 6: Accessing data on a damaged floppy disk

You try to access a floppy disk that you know contains data but it cannot be read by Windows or Norton Disk Doctor. Generally, you can copy the data from a bad floppy disk to another floppy disk using the DISKCOPY program. Unfortunately, the data residing in the damaged areas of the bad floppy disk remains damaged on the new disk.

Tip: You can perform the following procedure within Windows by opening a DOS dialog box. To open a DOS dialog box click the Start button, and then select Programs > MS-DOS Prompt.

To access data on a damaged floppy disk using DISKCOPY:

1. Insert the bad disk into the appropriate drive.
2. At the command prompt, type `DISKCOPY A: A:` and press Enter.

   (Substitute B: for A: if you are using the B: drive.)

   This command causes you to swap source and destination disks. Your computer reads from the source disk to see if it has any errors.
3. Continue to follow the on-screen instructions.
4. Verify the integrity of the new floppy disk with either the DOS- or Windows-based Norton Disk Doctor.

Scenario 7: Recovering files on a disk that appears empty

If you know files exist on a disk, but either nothing displays or what displays makes no sense when you view the disk contents, then the root directory and possibly other directories have been damaged or destroyed.

For the best results, use Norton Disk Doctor, create an undo file, and repair the problem.

To recover files on a disk that appears empty with Norton Disk Doctor and basic Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Choose Disk Doctor from the menu.
4. At the prompt, type `NDD` *`[drive:]`* `/C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.
5. Follow the on-screen instructions to create an undo file and repair your disk.
6. Remove the Rescue Disk from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 6, but replace /C with /UNDO. For example, NDD D: /UNDO.

If the results of the repair are not what you expected, undo the repairs using the undo file and use UnFormat from your Emergency Disks or your Rescue Disks. For more information, see "To recover files on a disk that

appears empty with UnFormat and basic Rescue Disks:" on page 70. If UnFormat locates an image file, which is possible if you are using Norton System Doctor, total recovery is possible. If UnFormat does not find an image file, UnFormat will recover the directories and the files contained within those directories in the root directory. Files in the root directory are lost.

To recover files on a disk that appears empty with Norton Disk Doctor and Emergency Disks:

1. Insert Emergency Disk 1 into the startup drive.
2. Turn on your computer and wait for the Norton Utilities screen to appear.
3. Use the UpArrow and DownArrow keys to select Norton Disk Doctor.
4. At the prompt, and after NDD, type `[drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.
5. Follow the on-screen instructions to create an undo file and repair your disk.
6. Remove Emergency Disk 1 from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 4, but replace /C with /UNDO. For example, NDD D: /UNDO.

If the results of the repair are not what you expected, undo the repairs using the undo file and use UnFormat using your Emergency Disks or your Rescue Disks. For more information, see "To recover files on a disk that appears empty with UnFormat and Emergency Disks:" on page 71. If UnFormat locates an image file, which is possible if you are using Norton System Doctor, total recovery is possible. If UnFormat does not find an image file, UnFormat will recover the directories and the files contained within those directories in the root directory. Files in the root directory are lost.

To recover files on a disk that appears empty with UnFormat and basic Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Press Esc to go to the DOS command prompt.

4 Insert the Rescue Disk that contains the UNFORMAT.EXE file into the startup drive.

5 At the DOS command prompt, type
`UNFORMAT [drive:] /IMAGE` and press Enter.

For example, `UNFORMAT D: /IMAGE.`

6 Follow the on-screen instructions.

7 Remove the Rescue Disk from the startup drive and restart your computer.

To recover files on a disk that appears empty with UnFormat and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select UnFormat.

4 At the prompt and after UnFormat, type:
`[drive:] /IMAGE` and press Enter.

For example, `UNFORMAT D: /IMAGE`.

5 Follow the on-screen instructions.

6 Remove the Emergency Disk from the startup drive and restart your computer.

Scenario 8: Recovering a formatted or severely damaged disk

You accidentally formatted a disk that contained important data. Repairing a formatted disk is the same for both floppy and hard drives. However, if you formatted a floppy disk using a format program's "full format" feature, the data areas of a floppy disk are completely overwritten, preventing any recovery. If you did not "full format" a floppy disk, you may be able to recover the data.

To recover a formatted or severely damaged disk with UnFormat and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select UnFormat.

4 At the prompt, and after UnFormat, type `[drive:]` and press Enter.

   For example, `UNFORMAT D:` means that UnFormat will try to unformat your D: drive.

5 Follow the on-screen instructions.

6 Remove Emergency Disk 1 from the startup drive and restart your computer.

7 Check the disk.

Scenario 9: Repairing a disk with incorrect media descriptor byte information

An "Invalid media type" or "Non-DOS disk" message indicates the media descriptor byte on the first copy of the file allocation table (FAT) does not match the media descriptor byte on the boot record of the disk. This message also may appear if you try accessing or formatting a damaged floppy disk or a floppy disk formatted for some other operating system.

To repair a disk with incorrect media descriptor byte information with Norton Disk Doctor and Rescue Disks:

1 Insert the Basic Rescue Boot Floppy Disk into the startup drive.

2 Turn on your computer and wait for the Rescue Disk screen to appear.

3 Choose Disk Doctor from the menu.

4 At the prompt, type `NDD [drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.

5 Follow the on-screen instructions to create an undo file and repair your disk.

6 Remove the Rescue Disk from the startup drive and restart your computer.

7 Check the disk.

To repair a disk with incorrect media descriptor byte information with Norton Disk Doctor and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select Norton Disk Doctor.

4 At the prompt, and after NDD, type `[drive:]` and press Enter.

   For example, NDD D: means Norton Disk Doctor will diagnose your D: drive based upon the options you select.

   The Norton Disk Doctor main dialog box appears.

5 Select an option and follow the on-screen instructions.

6 Remove Emergency Disk 1 from the startup drive and restart your computer.

7 Check the disk.

Scenario 10: Recovering lost or damaged directories

You try to locate a directory (containing files) but cannot, or you suddenly have a new directory with garbage text as the directory name.

To recover lost or damaged directories with Norton Disk Doctor and basic Rescue Disks:

1 Insert the Basic Rescue Boot Floppy Disk into the startup drive.

2 Turn on your computer and wait for the Rescue Disk screen to appear.

3 Choose Disk Doctor from the menu.

4 At the prompt, type `NDD [drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.

5 Follow the on-screen instructions to create an undo file and repair your disk.

6 Remove the disk from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 6, but replace /C with /UNDO. For example, NDD D: /UNDO.

To recover lost or damaged directories with Norton Disk Doctor and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select Disk Doctor.

4 After NDD.EXE, type *[drive:]* /C and press Enter.

   For example, NDD.EXE D: /C means Norton Disk Doctor will diagnose your D: drive completely.

5 When requested, insert Emergency Disk 2.

   Norton Disk Doctor performs a diagnosis of the specified drive.

6 Follow the on-screen instructions to create an undo file and repair your disk.

   Note: Do not reuse Undo disks. Overwriting the same disk means that previous changes cannot be undone.

7 Remove the disk from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 4, but replace /C with /UNDO. For example, NDD D: /UNDO.

Scenario 11: Recovering overwritten files

Caution: *Do not start Windows.* Starting Windows writes to your hard drive. The Windows swap file could overwrite data you would like to recover.

You saved a file using the same name as an old file, and now you realize you need the old file's data. However, all you can access is the new file's data.

Fortunately, Windows writes new files using the same name as the deleted file to another area of the disk (if the disk has enough room). Because of this, the clusters for the original file probably have not been overwritten and are recoverable. However, the file's type may make a big difference in how successful the recovery actually is.

For example, you can recover a text-based file easier than a graphics file. A text editor or word processor can use the recovered data from a text file "as is." Typically, a graphics file must be recovered completely to allow the program in which the graphics file was created to read the file.

To recover overwritten files with UnErase and basic Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Choose UnErase from the menu.
4. At the DOS prompt, type `UNERASE.EXE [path]` and press Enter.

   For example, UNERASE.EXE C:\MYDOCU~1. Include all the folders up to the file, but do not include the name of the file.

   Note: You must use short filenames with DOS.

   UnErase checks your hard drive for the file. The Erased Files dialog box appears with the files that were erased from the directory you specified.
5. Use the UpArrow and DownArrow keys to select the file to recover and press Alt+U.

   The UnErase dialog box appears asking you to supply a new first letter for the file.
6. Type the new first letter.

   If UnErase can recover the file, RECOVERED appears in the Prognosis column.
7. If UnErase is unable to recover the file automatically, press Alt+M to try to recover the file manually.
8. Type a new first letter for the filename and press Enter.

   The Manual UnErase dialog box appears.
9. Press Alt+A to add clusters.

   In the Add Clusters dialog box, you can select from a variety of options. See online help for an explanation of the options available.
10. To browse all clusters, press Alt+B.

    The View File dialog box appears with the number of the current cluster at the top.
11. Use Alt+P and Alt+N to view clusters.
12. Press Alt+A to add a cluster.

    Repeat steps 12, 13, and 14 until you have added all the clusters that make up the file.

13 Press Alt+D when finished.

The added clusters appear in the Added Clusters box of the Manual UnErase dialog box.

14 Press Alt+S to save the file.

The file is now recovered to its original directory. Use the program that created the file to verify the data.

To recover overwritten files with UnErase and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select UnErase.

4 At the prompt, and after UnErase, type `[path]` and press Enter.

For example, UNERASE C:\MYDOCU~1. Do not include the name of the file.

Note: You must use short filenames with DOS.

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5 When prompted, insert Emergency Disk 2 and press Enter.

UnErase checks your hard drive for the file. The Erased Files dialog box appears with the files that were erased from that directory.

6 Use the UpArrow and DownArrow keys to select the file to recover and press Alt+U.

If UnErase can recover the file, RECOVERED appears in the Prognosis column.

7 If UnErase is unable to recover the file automatically, press Alt+M to try to recover the file manually.

8 Type a new first letter for the filename and press Enter.

The Manual UnErase dialog box appears.

9 Press Alt+A to add clusters.

In the Add Clusters dialog box, you can select from a variety of options. For additional information about each option, press F1.

10 To browse all clusters, press Alt+B.

The View File dialog box appears with the number of the current cluster at the top.

11 Use Alt+P and Alt+N to view clusters.

12 Press Alt+A to add a cluster.

Repeat steps 10, 11, and 12 until you have added all the clusters that make up the file.

13 Press Alt+D when finished.

14 Press Alt+S to save the file.

The file is now recovered to its original directory. Use the program that created the file to verify the data.

Scenario 12: Recovering corrupt Registry files

While starting your computer, you receive a message similar to one of the following:

- Registry access error
- Warning: Windows has detected a Registry or configuration error

Windows stores a backup of the Registry files each time you successfully start your system, so first try to have Windows restore the files by selecting the Restore From Backup And Restart button on the error message dialog box. If this procedure fails to resolve the problem, restore the Registry data from your Registry backup, usually found in C:\WINDOWS\SYSTEM.RSC and C:\WINDOWS\USER.RSC.

Note: When restoring the Registry, always restore both of the Registry files: SYSTEM.DAT and USER.DAT.

There may be several backups of the SYSTEM and USER files, with extension such as .NS0, .NS1, .SW0 or .NU0. Try all of these, in the order of newest to oldest.

Warning: There is a potential for data loss when you restore the registry. You may lose settings for programs that have been installed, and program options that have been saved since the backup of the registry was made.

To recover corrupt Registry files with the Windows 95/98 Registry backup:

Try to restore the Windows Registry with a backup copy Windows made of the Registry the last time you successfully started your computer.

1. Start or restart your computer.
2. While "Starting Windows..." is on your screen, press and release the F8 key.

   Alternately, you can hold the Ctrl key down while your computer starts.
3. Choose the Command Prompt Only option.
4. At the command prompt, change to the directory where Windows is installed (usually C:\WINDOWS).

   For example, type:
   `C:` and press Enter. Then type:
   `CD \WINDOWS` and press Enter.
5. Type the following commands and press Enter after each one: (SYSTEM.DA0 and USER.DA0 contain zeroes.)

   ```
   attrib -h -r -s system.dat
   attrib -h -r -s system.da0
   attrib -h -r -s user.dat
   attrib -h -r -s user.da0
   ```
6. Rename system.dat and user.dat to system.bak and user.bak. Type the following commands and press Enter after each one:

   ```
   ren system.dat system.bak
   ren user.dat user.bak
   ```
7. Then type the following commands and press Enter after each one:

   ```
   copy system.da0 system.dat
   copy user.da0 user.dat
   ```
8. Restart your computer.

To recover corrupt Registry files with Rescue Disks:

If you are unable to restore the Registry files with the Windows 95/98 Registry backup, try this using your Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Press Esc to go to the DOS command prompt.

4 Change directories to C:\WINDOWS (or to the directory where Windows is installed).

   For example, if Windows is in C:\WINDOWS, type:

   `C:` and press Enter. Then type:

   `CD \WINDOWS` and press Enter.

5 Type the following commands and press Enter after each one:

```
command\attrib -h -r -s system.dat
command\attrib -h -r -s user.dat
```

6 Rename system.dat and user.dat to system.bak and user.bak. Type the following commands and press Enter after each one:

```
ren system.dat system.bak
ren user.dat user.bak
```

7 Type the following commands and press Enter after each one:

```
copy system.rsc system.dat
copy user.rsc user.dat
```

8 Remove the Rescue Disk from the floppy drive and restart your computer.

If you cannot recover corrupt Registry files

If the problem persists, reinstall Windows to recreate your Windows 95/98 Registry files.

Scenario 13: Recovering an inaccessible disk

A disk is damaged so badly that DOS or Windows cannot read the disk. Typical error messages include:

- Sector not found
- Seek error

If you have this problem with a floppy disk, refer to "Scenario 6: Accessing data on a damaged floppy disk" on page 68.

Tip: Extracting data from a disk can be time consuming. Try to recover only files you have not backed up or do not have copies of elsewhere.

To recover an inaccessible disk with Norton Disk Doctor and Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk into the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Choose Disk Doctor from the menu.
4. At the prompt, type `NDD [drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.
5. Follow the on-screen instructions to create an undo file and repair your disk.
6. Remove the Rescue Disk from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 4 but replace /C with /UNDO (for example, NDD D:/UNDO).

To recover an inaccessible disk with Norton Disk Doctor and Emergency Disks:

1. Insert Emergency Disk 1 into the startup drive.
2. Turn on your computer and wait for the Norton Utilities screen to appear.
3. Use the UpArrow and DownArrow keys to select Norton Disk Doctor.
4. At the prompt, type `[drive:] /C` and press Enter.

   For example, NDD D: /C means Norton Disk Doctor will diagnose your D: drive completely.

   Norton Disk Doctor performs a diagnosis of the specified drive.
5. Follow the on-screen instructions to create an undo file and repair your disk.
6. Remove Emergency Disk 1 from the startup drive and restart your computer.

If the contents of the drive still appear incorrect, repeat steps 1 through 4 but replace /C with /UNDO (for example, NDD D:/UNDO).

Advanced procedures

Disk Editor (DISKEDIT.EXE) is a full-featured, sector-editing tool capable of accessing virtually any area of a hard or floppy disk. You can edit files and directories, the partition table, the boot record, and the file allocation tables (FATs) on most hard drives. You can treat any group of clusters or sectors as an object to view and edit.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Caution: This section assumes that you are knowledgeable about the logical structure of disks. You must understand what you are doing before you edit any area of a disk. Otherwise, you could make the data on the disk inaccessible.

To use Disk Editor, you should have Norton Utilities installed. If not, use Disk Editor from your Rescue Disks or from your Emergency Disks.

Starting Disk Editor

Disk Editor always starts in read-only mode. To be able to write changes to your disk or file, do one of the following:

- Start Disk Editor from Windows, choose Configuration from the Tools menu, and clear the Read Only check box.
- Start Disk Editor from the DOS command line and type: `DISKEDIT /W` and press Enter.

  When the Volume Lock message appears, press Enter.

The following procedures offer various ways of starting Disk Editor.

To start Disk Editor from the Norton Utilities directory:

1. Change to the Norton Utilities directory.
2. Double-click DISKEDIT.EXE.

To start Disk Editor using basic Rescue Disks:

1. Insert the Basic Rescue Boot Floppy Disk in the startup drive.
2. Turn on your computer and wait for the Rescue Disk screen to appear.
3. Press Esc to go to the DOS command prompt.

4 Remove the Basic Rescue Boot Floppy Disk.

5 Insert the NU Emergency Utilities Disk 1, which contains the DISKEDIT.EXE file, into the startup drive.

6 At the command prompt, type `DISKEDIT` and press Enter.

To start Disk Editor using Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select Disk Editor.

DISKEDIT appears in the command line.

4 Press Enter.

Scenario 14: Recovering an unbootable hard drive

You may not be able to start up from a hard drive for two major reasons. The first reason is the absence or corruption of the two hidden system files (IO.SYS and MSDOS.SYS for MS-DOS) or the absence or corruption of COMMAND.COM, the default command processor. If you have been using a third-party replacement—such as NDOS.COM, 4NT.EXE, or 4DOS.COM—for COMMAND.COM, corruption or absence of those files also can cause startup problems.

The second reason is when the value of the partition table field called Boot is modified to "NO." This tells Windows that a partition is not a startup partition, even if the partition actually is. Disk Editor can edit the partition table to mark a partition as the startup partition.

Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

To recover an unbootable hard drive with Disk Editor and Rescue Disks:

1 Insert the Basic Rescue Boot Floppy Disk in the startup drive.

2 Turn on your computer and wait for the Rescue Disk screen to appear.

3 Press Esc to go to the DOS command prompt.

4 Remove the Basic Rescue Boot Floppy Disk.

5 Insert the NU Emergency Utilities Disk 1, which contains the DISKEDIT.EXE file, into the startup drive.

6 At the command prompt, type `DISKEDIT /W` and press Enter.

The Volume Lock message appears.

7 Press Enter.

8 Choose Drive from the Object menu.

The Select The Disk You Wish To Edit dialog box appears.

9 Select the disk with the partition you want to mark as the startup partition and press Enter.

The Volume Unlock message appears.

10 Press Enter.

Disk Editor scans the disk.

11 Choose Partition Table from the Object menu.

12 Press Y to toggle the value in the Boot column to Yes.

13 Choose Write Changes from the Edit menu.

The Write Changes dialog box appears.

14 Select Write to write the change.

15 Choose Exit from the Object menu to quit Disk Editor.

To recover an unbootable hard drive with Disk Editor and Emergency Disks:

1 Insert Emergency Disk 1 into the startup drive.

2 Turn on your computer and wait for the Norton Utilities screen to appear.

3 Use the UpArrow and DownArrow keys to select Disk Editor.

4 At the prompt, type `/W` and press Enter.

5 When prompted, insert Emergency Disk 2 and press Enter.

6 Choose Drive from the Object menu.

The Select The Disk You Wish To Edit dialog box appears.

7 Select the disk with the partition you want to mark as the startup partition and press Enter.

8 Choose Partition Table from the Object menu.

9 Press Y to toggle the value in the Boot column to Yes.

10 Choose Write Changes from the Edit menu.

   The Write Changes dialog box appears.

11 Select Write to write the change.

12 Choose Exit from the Object menu to quit Disk Editor.

13 Restart your computer.

Scenario 15: Recovering lost subdirectories from a corrupt directory

---

Caution: This section assumes that you are knowledgeable about the inner workings of disks. You must understand what you are doing before you edit any area of a disk. Otherwise, you could make the data on the disk inaccessible.

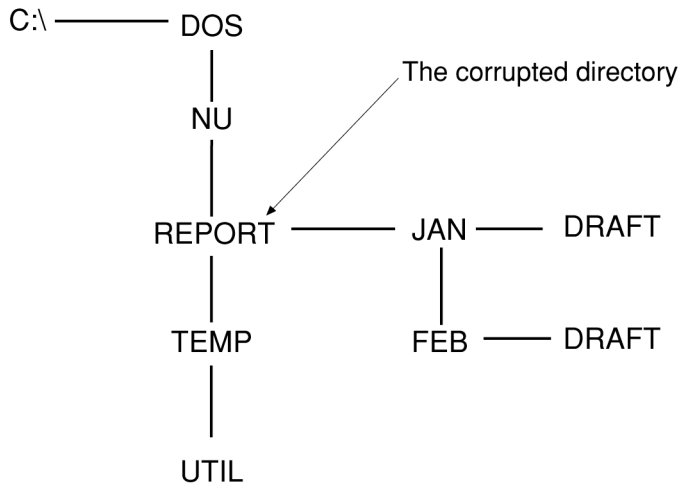
Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Directories are special kinds of files that contain file and directory information. These special files can become corrupted and unreadable if the cluster they reside in is damaged.

When a directory is unreadable, the files and directories it contains are inaccessible. Norton Disk Doctor considers them lost clusters instead of the files and directories they actually are.

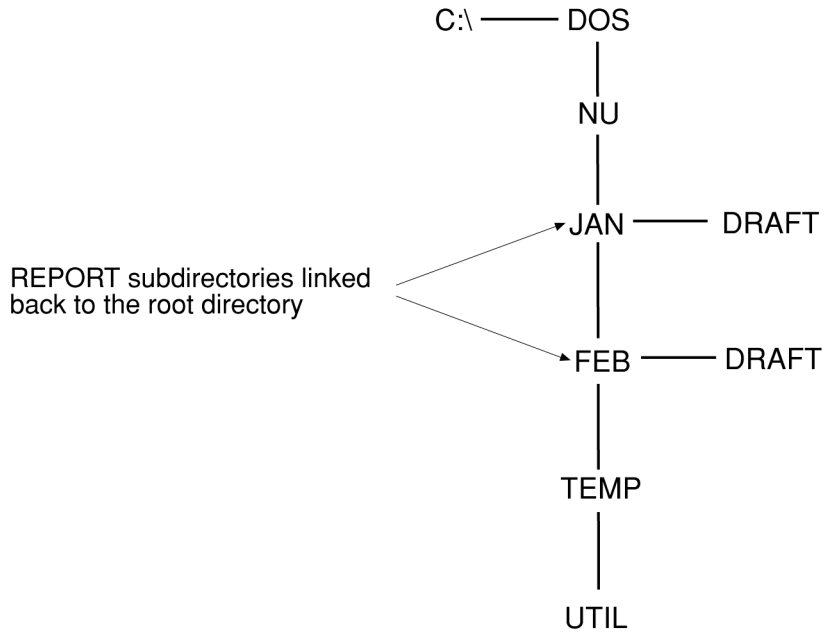
The Sample directory structure below shows a directory structure before one of its directories, REPORT, becomes unreadable.

Sample directory structure



Assume the cluster the REPORT directory occupies is physically damaged and is no longer readable. All directories and files contained in REPORT are inaccessible. Disk Editor can link the lost directories back to the root directory, as shown in the Repaired directory structure.

Repaired directory structure



To recover subdirectories from a corrupt directory:

Track information on paper as you complete the following procedures by creating three columns. Label them:

- Corrupt directory cluster number
- Good sectors
- Lost directories

To recover subdirectories from a corrupt directory, follow these procedures:

1. "To locate the cluster for the corrupt directory:" on page 87.
2. "To find all of the readable sectors:" on page 87.
3. "To copy the good entries to the root directory:" on page 88.
4. "To find lost directories:" on page 88.
5. "To link the lost directories to the root directory:" on page 89.
6. "To adjust the parent directory pointers within each recovered directory:" on page 90.

To locate the cluster for the corrupt directory:

1. Start Disk Editor.

   For instructions on starting Disk Editor, refer to "Starting Disk Editor" on page 81.

2. Choose Drive from the Object menu.

   The Select The Disk You Wish To Edit dialog box appears.

3. Select the drive with the corrupt directory and press Enter.

   Disk Editor scans the disk.

4. Choose Directory from the Object menu.

   The Change Directory dialog box appears.

5. Select the parent of the corrupt directory and press Enter.

   The Disk Editor screen displays the contents of the directory in the Directory View. (Under Scenario 15, Sample directory structure, the parent of the REPORT directory is the root directory.)

6. Select the corrupt directory and press Enter.

   In most cases, you get read errors immediately after you press Enter. Usually only one or two sectors that make up the cluster are damaged, letting you read the remaining good sectors. The good sectors cut down your workload, since you can copy the data within them to the root directory. To re-create the data in the corrupt sectors, see "To find lost directories:" on page 88.

7. Record the number shown in the Cluster field for the corrupt directory's entry on the piece of paper in the "Corrupt directory cluster number" column.

   Disk Editor tries to read the cluster the corrupt directory occupies.

To find all of the readable sectors:

1. If you immediately get a read error from Disk Editor, press Enter to clear the message.

2. Press PageDown to read the next sector of the cluster.

3. Record the good sector number on the piece of paper in the "Good sectors" column.

   The current sector number is displayed at the beginning of each sector in logical mode.

4 Continue pressing PageDown until you reach the end of the cluster or cannot advance past the read errors.

Using the good sector numbers, you can relocate the valid entries to the root directory.

To copy the good entries to the root directory:

1 Choose Sector from the Object menu.

2 The Select Sector Range dialog box appears.

3 Type the first sector number from your "Good sectors" list into both the Starting Sector and Ending Sector text boxes and press Enter.

Disk Editor displays the sector in Directory View.

4 Choose As Directory from the View menu.

5 Choose Mark from the Edit menu.

6 Select all the valid entries and exclude entries labeled "Unused Directory Entry."

7 Choose Copy from the Edit menu to copy the selected entries to the Disk Editor Clipboard.

8 Choose Directory from the Object menu.

The Change Directory dialog box appears.

9 Press Enter to select the root directory.

Disk Editor displays the root directory in Directory View.

10 Select the first entry labeled "Unused Directory Entry."

11 Choose Paste Over from the Edit menu to append the directory entries from the Clipboard to the root directory.

12 Choose Write Changes from the Edit menu.

13 Repeat the above procedure for all the sectors you recorded.

To find lost directories:

1 Choose Cluster from the Object menu.

The Select Cluster Range dialog box appears.

2 Type 2 in the Starting Cluster text box and press Enter.

3 Choose Find Object from the Tools menu and choose Subdirectory from the submenu.

Disk Editor searches for the cluster string.

4 When Disk Editor finds the search string, choose As Directory from the View menu.

5 Do one of the following:

- If the screen does not resemble the contents of a directory, choose Find Again from the Tools menu until the information on the screen does resemble a directory.
- If the screen does resemble a directory, look at the number in the Cluster field for the ". . " (two periods followed by six spaces) entry. If this number is the same as the number you recorded for the "Corrupt directory cluster number," record the number next to the Cluster label on the status line on the piece of paper in the "Lost directories" column.

6 Choose Find Again from the Tools menu and repeat step 5 to search for additional lost directories until you locate all the top-level child directories you want to recover.

To link the lost directories to the root directory:

1 Choose Directory from the Object menu.

The Change Directory dialog box appears.

2 Select the root directory and press Enter.

Disk Editor displays the root directory in Directory View.

3 Select the first entry labeled "Unused Directory Entry."

4 Type a unique name for the current top-level directory in the Name field.

5 Type `0` in the Size field.

6 Type the current date and time in the Date and Time fields.

7 In the Cluster field, type the cluster number for the lost directory you are currently working with from the "Lost directory" column.

8 With the cursor in the "D" column, press the space bar to toggle the directory attribute on.

9 Repeat the above procedure for all of the lost directories in the "Lost directories" column.

10 Choose Write Changes from the Edit menu and press Enter.

The Write Changes dialog box appears.

11 Select Write to write the change.

You have recovered the directories.

To adjust the parent directory pointers within each recovered directory:

1. Select one of the recovered directory entries and press Enter.

   You should see the contents of the directory with the first two entries being "." and "..".

2. Type `0` in the Cluster field for the ".." entry.
3. Choose Write Changes from the Edit menu and press Enter.

   The Write Changes dialog box appears.

4. Press Enter to write the change.
5. Select the ".." entry once again and press Enter.

   This confirms the link by returning you to the root directory and puts you where you need to be for the next recovered directory.

6. Repeat the above procedure for each of the recovered directories.

Use Norton Disk Doctor to clean up any lost clusters left on your disk. If you save the lost clusters as files, you can examine these files and recover any additional lost files. Simply rename the files you want and delete the rest. Norton Disk Doctor uses the file naming scheme FILE0000._DD, FILE0001._DD, and so on for the filenames representing lost clusters.

Now that you have recovered the directories, re-create the directory they originally resided in and move them back. You do not have to worry about the directory being re-created in the same spot. Thanks to Norton Disk Doctor, Windows avoids the bad area on the disk.

Scenario 16: Lifting data from a corrupt or physically damaged hard drive

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Caution: A special procedure is required if your computer uses a Dynamic Drive Overlay. See the Caution on page 50.

Caution: This section assumes that you are knowledgeable about the inner workings of disks. You must understand what you are doing before you edit any area of a disk. Otherwise, you could make the data on the disk inaccessible.

Extracting data from a disk is a time-consuming process, so you should only try to recover files that you have not backed up or do not have copies

of elsewhere. Reinstall any program files from their original disks rather than trying to recover them with Disk Editor from a corrupt hard drive.

Tip: Symantec provides data recovery in the United States and Canada for PC and Macintosh hard drives that are not physically damaged. If you want highly-trained and dedicated professionals to recover your data, contact the Symantec Data Recovery Team at http://www.symantec.com/techsupp/recovery/. Or, call our Fax-on-Demand system at (541) 984-2490 and request document #4132.

Neither Windows nor Norton Disk Doctor can access a corrupt disk. However, Disk Editor can access most bad disks and let you "lift" the data they contain.

There are two classes of bad disk problems:

- Logical problems

  Involve write errors that result in scrambled data on the disk. Fortunately, Norton Disk Doctor fixes most of these problems for you automatically.

- Physical problems

  Usually involve physically damaged sectors in the partition table, boot record, the first copy of the file allocation table (FAT), any combination of these system areas, or even the entire disk. When sectors in the system areas become physically damaged, Windows cannot access the disk normally. Since even Norton Disk Doctor usually cannot repair physically damaged sectors, you may never gain normal access to a disk with damaged sectors in the system area unless you perform a low-level format. However, traditional low-level formatters for older hard drives destroy the existing data and do not work with today's sector-translating IDE, SCSI, and ESDI hard drives. If the disk is physically damaged it will need to be repaired by a qualified service center.

  Note: Error 129 indicates that a disk is physically damaged and that no recovery is possible using Norton Utilities.

Disk Editor classifies a disk as either a logical or a physical disk. If a disk can be accessed as a logical disk, Disk Editor uses clusters, usually composed of four or more sectors, as the smallest data allocation unit. This makes manual recovery easier. Disk Editor treats severely damaged disks as physical disks automatically.

Disk Editor lets you access data around the damaged areas, cluster by cluster, file by file. This way, you can recover critical data files that you have not backed up and cannot afford to do without.

To lift data from a corrupt or physically damaged hard drive:

1. See "To determine whether Disk Editor is accessing your disk as a logical or physical disk:" on page 92.
2. See "To extract data from a logical disk:" on page 93.
3. See "To extract clusters from a physical disk:" on page 94.
4. See "To find the rest of the clusters:" on page 97.

Once you fix the problem, make sure that a virus is not causing the problem.

To determine whether Disk Editor is accessing your disk as a logical or physical disk:

Disk Editor estimates the correct values of your disk's physical and logical parameters. The number of sides, cylinders, sectors, and so on are inserted into the appropriate fields of the Advanced Recovery Mode dialog box automatically and used to treat the disk as a logical disk.

If the disk's parameters are incorrect, the resulting logical disk may have structural problems. If you consistently run into problems accessing the disk, re-enter the disk's physical and logical parameters into the Advanced Recovery Mode dialog box. For example, if you select the first copy of the FAT but do not see it, the number of total sectors may be incorrect.

1. Start Disk Editor.

   For instructions on starting Disk Editor, refer to "Starting Disk Editor" on page 81.
2. Choose Drive from the Object menu.

   The Select The Disk You Wish To Edit dialog box appears.
3. Select Logical Disks from the Type box.
4. Do one of the following:
   - If the bad disk can be accessed as a logical disk, you should see the disk listed in the drives list box. Skip to "To extract data from a logical disk:" on page 93.
   - If the bad disk is not listed in the drives list box, continue with the next step.

5 Choose Advanced Recovery Mode from the Tools menu.

The Advanced Recovery dialog box appears.

6 Press Alt+R.

The Select The Disk You Wish To Review dialog box appears.

7 Select the bad disk and press Enter.

The Advanced Recovery dialog box reappears.

8 Press Alt+V.

Disk Editor rescans the disk as a logical disk. When complete, you should see the root directory of the disk in Directory View.

Caution: If you cannot see the root directory of the disk in Directory View, do not continue. The following procedures will not work.

To extract data from a logical disk:

If Disk Editor can access your bad disk as a logical disk directly or by using Advanced Recovery Mode, use the following procedure. To recover a file, you must find, select, and write it out to another disk.

1 Choose Directory from the Object menu.

The Change Directory dialog box appears.

2 Select the directory that contains the file you want to recover and press Enter.

The directory listing appears in Directory View.

3 Find the file in the directory listing:

- If the file exists, you can write the file out as described in step 4.
- If the file does not exist in this directory, try looking in other directories.

4 Select the name of the file you want to recover and press Enter.

The contents of the file appear in Hex View.

5 Choose Write Object To from the Tools menu.

The Write dialog box appears.

6 Select To A File and press Enter.

The Save dialog box appears.

7 Remove your disk from the drive and insert the disk you want to write to.

8 Type a drive letter followed by a filename in the text box and press Enter.

A confirmation box appears asking if you want to write the file out.

9 Select Yes to continue.

A "Copying…" progress box appears for the duration of the copy function.

Perform this procedure again for each of the files you want to recover.

To extract clusters from a physical disk:

When Disk Editor cannot access the disk as a logical disk, you can still lift individual clusters, starting with the first cluster of the file. This is possible since the Virtualize command button in the Advanced Recovery Mode dialog box lets Disk Editor work with clusters instead of sectors.

To extract clusters from a physical disk, try each of the following methods in the order listed:

1 "Method 1: To find the starting cluster by searching for the filename:" on page 94.

2 "Method 2: To find the starting cluster by browsing all directories:" on page 95.

3 "Method 3: To search for unique text in the file:" on page 96.

Method 1: To find the starting cluster by searching for the filename:

When the directory structure of a disk is still intact, you can find the starting cluster number by searching the disk for the directory entry of the file, which contains the starting cluster number.

1 Choose Cluster from the Object menu.

The Select Cluster Range dialog box appears.

2 Type 2 in the Starting Cluster text box and press Enter.

3 Choose Find from the Tools menu.

The Enter Search Text dialog box appears.

4 Type the filename in the ASCII text box and press Enter.

Do not type the filename in the format you are used to. Instead, type the filename followed by enough spaces to make eight characters. Then, type the file extension as the next three characters. Do not put a

period between the name and the extension. For example, type NAME.EXT as:

```
NAME****EXT (do not type the asterisks)
```

There are four spaces between NAME and EXT because NAME has four characters already. The Search Progress dialog box appears. Disk Editor finds the search string, selects it, and displays it in Hex View.

5 Choose As Directory from the View menu to switch to Directory View.

6 Do one of the following:

- If the data you see appears to be a directory, record the filename, starting cluster number, and the file size of the file from those fields on a piece of paper labeled "Files To Recover."

  The starting cluster number is the number in the Cluster field on the same line as the filename.

- If the data contains unrecognizable characters, such as happy faces, hearts, and other non-standard characters, search for another occurrence of the filename by choosing Find Again from the Tools menu.

7 Find and record the starting cluster numbers and file sizes for all the files you want to recover. Then find the rest of the clusters for each file as described in "To find the rest of the clusters:" on page 97.

Method 2: To find the starting cluster by browsing all directories:

You can locate the file you want to recover by browsing through all directories on the disk. To locate all directories on the disk except the root directory, search for ".. " (two periods followed by six spaces). Every directory other than the root has ".. " as its second entry. As you find each directory, scan the directory listing for the file you want to recover.

1 Choose Cluster from the Object menu.

  The Select Cluster Range dialog box appears.

2 Type 2 in the Starting Cluster text box and press Enter.

3 Choose Find Object from the Tools menu.

4 Choose Subdirectory from the submenu.

  The Search Progress dialog box appears.

5 Once the search completes, choose As Directory from the View menu to switch to Directory View.

6 Do one of the following:

- If the display is a directory and the file you want to recover is listed, record the name, starting cluster number, and size of that file on a piece of paper labeled "Files To Recover."
- If the display is not a directory or you cannot locate the file you want to recover, choose Find Again from the Tools menu to continue searching for more directories.

If this method is unsuccessful, try method three below, which searches for a unique text string that appears in the starting cluster of the file.

Method 3: To search for unique text in the file:

When the directory structure is damaged, the best way to find the starting cluster is to search for embedded text in the starting cluster.

Tip: This method works best for text files such as word processing files.

---

1 Choose Cluster from the Object menu.

The Select Cluster Range dialog box appears.

2 Type 2 in the Starting Cluster text box and press Enter.

3 Choose Find from the Tools menu.

The Enter Text To Search For dialog box appears.

4 Type a unique string that appears at the beginning of the file in the ASCII text box and select Find to begin the search.

For example, if you are looking for a word processor file with the title "Year End Report," type the string "Year End Report" in the text box.

If found, Disk Editor displays the search string in Hex View.

5 Choose As Text from the View menu to switch to Text View.

6 Do one of the following:

- If the cluster that contains the string appears to be the first cluster in the file, record the starting cluster's number and a name for the file on a piece of paper labeled "Files To Recover." Mark the number and name as the starting cluster.
- If the cluster that contains the string belongs to the file but does not appear to be the first cluster, record the cluster number on the same piece of paper next to the filename. *Do not* mark the number as the starting cluster.

- If the cluster with the search string does not belong to the file you are looking for, choose Find Again from the Tools menu to continue the search. If you have not found any clusters from your file, try searching for a different text string.

To find the rest of the clusters:

Now that you have found the starting cluster, you need to find the rest of the clusters in the file. If you found the starting cluster, the filename, and the file size using method one or method two in "To extract clusters from a physical disk:" on page 94, use method one of this section. Otherwise, use method two of this section.

1 "Method 1: To find the rest of the clusters with the file size:" on page 97.

2 "Method 2: To find the rest of the clusters without the file size:" on page 99.

Method 1: To find the rest of the clusters with the file size:

With the file size, you can calculate the number of clusters the file contains. Then you can locate and record the individual clusters that you later write out to a file.

1 Choose Drive Info from the Info menu.

The Drive Info dialog box appears.

2 Multiply the values for Bytes Per Sector and Sectors Per Cluster.

The result is the size of each cluster in bytes.

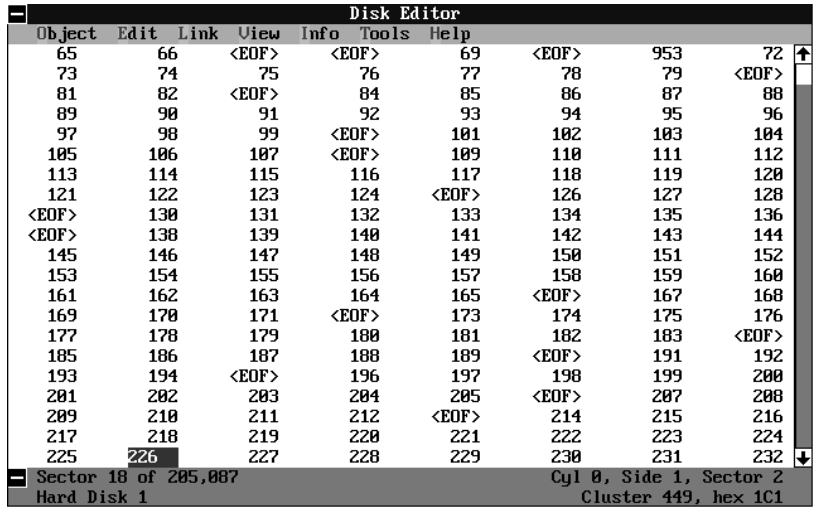
3 Divide the file size by the cluster size.

4 Round off the value to the next integer value.

For example, if the file size is 100,000 bytes and your disk's cluster size is 8196 bytes, the file has thirteen clusters (12.2 rounded up to 13).

5 Choose 1st Fat from the Object menu.

If you cannot find the FAT or if it is very corrupt, continue to the next step.



6 Use the PageDown and Tab keys until the Cluster label on the status line matches the starting cluster number of the file you want to recover.

When you find the starting cluster, its position on the screen (not Disk Editor's status line) should display <EOF>, which marks the last cluster in the file or the number for the next cluster. If it is marked <EOF>, you have found the first and last cluster of the file. You can write the cluster to disk as described below.

7 If it has the cluster number of the next cluster in the file, use the PageDown and Tab keys to move to that cluster and select it.

Remember to use the Cluster label on the status line as the cluster number reference.

8 Record the number indicated by the Cluster label on the status line next to the filename on your "Files To Recover" list.

Unless the file is composed of multiple cluster chains, the next cluster is usually immediately to the right of the current cluster. If this cluster position is marked with <EOF>, it is the last cluster of the file. You can write the cluster to disk as described in Step 15 on page 100.

9 Continue finding and recording clusters for the file until you find the <EOF> marker.

10 Compare the number of clusters you recorded from the FAT with the number you calculated earlier (by dividing the file size by the cluster size).

- If they are not the same, double-check your calculations or try this procedure again.
- If they are the same, you can write the clusters to disk by choosing Cluster from the Object menu.

Method 2: To find the rest of the clusters without the file size:

Unless the disk is very fragmented, the rest of the clusters of the file should be near and after the starting cluster. Locate the rest of the file by browsing near the starting cluster or search for text that appeared somewhere after the starting cluster.

Tip: This procedure works best for text files.

---

1 Choose Cluster from the Object menu.

The Select Cluster Range dialog box appears.

2 Type the starting cluster number from your "Files To Recover" list in the Starting Cluster text box and press Enter.

Disk Editor displays the contents of the starting cluster in Hex View.

3 Choose As Text from the View menu.

4 Scroll to the next cluster using the PageDown and DownArrow keys.

The cluster markers on the screen (not on the status line) differentiate cluster numbers.

5 When you find a cluster belonging to the file, record the cluster number displayed next to the Cluster label on the status line on your "Files To Recover" list.

Record the number next to the name of the file to which the cluster belongs.

6 Using the data in the newest cluster to figure out what should be in the next cluster, continue browsing for clusters until you have found the expected number of clusters for the original file.

7 Do one of the following:

- If you have found all the clusters from the original file, skip to step 15.
- If you could not locate additional clusters near the starting cluster, continue to the next step.

8 Press the Home key once.

Disk Editor returns to the starting cluster.

9 Choose Find from the Tools menu.

The Enter Search Text dialog box appears.

10 Type the text to search for in the ASCII text box and select Find to begin the search.

11 When the search string is found, record the cluster number that contains the search string if the number belongs to the file on your "Files To Recover" list.

Record the number next to the name of the file to which the cluster belongs.

12 Start a new search for text you expect to be in the next cluster or manually browse the next several clusters for the next cluster using the PageDown and DownArrow keys.

13 If no clusters are found, choose Find from the Tools menu and type a new search string.

14 Continue searching until you have reached the expected end of the file.

15 To write the clusters to disk, choose Cluster from the Object menu.

The Select Cluster Range dialog box appears.

16 Type the starting cluster number of the first filename from your "Files To Recover" list into both the Starting Cluster and Ending Cluster text boxes and press Enter.

17 Choose Write Object To from the Tools menu.

The Write dialog box appears.

18 Select To A File and press Enter.

The Write Object To File dialog box appears.

19 Insert a blank floppy disk into either the A: or B: drive.

20 Type the drive letter of the drive that contains the blank floppy disk, followed by a filename for the file created with the clusters you have found and press Enter.

   For example, A:MYFILE.DOC.

   A confirmation dialog box appears asking if you want to write the file out.

21 Click Yes.

   The write progress screen appears for the duration of the write operation.

22 Repeat steps 15 through 21 for each cluster in your "Files To Recover" list and when you get to step 20, use the same filename.

   This causes a message box to appear, telling you the file already exists.

23 Press Enter to append the file.

Scenario 17: Repairing cross-linked files

You run Norton Disk Doctor or ScanDisk and two or more files are reported to be cross-linked. When two or more (usually only two) files are cross-linked, they are sharing the same cluster or chain of clusters. The cross-linkage can take place anywhere along the cluster chain, not just on the first or last cluster.

Since each cluster can only belong to one file at a time, one of the cross-linked files is unusable until you eliminate the cross-linkage. Furthermore, one of the cross-linked files is almost always the real owner of the cross-linked clusters. Usually, you can recover the missing clusters for the other file as lost clusters and link them into the correct file.

First, you need to identify the files that are cross-linked and the clusters on which they are cross-linked.

To repair cross-linked files:

1 See "To identify the cross-linked files and recover the _DD or CHK file with Norton Disk Doctor:" on page 102.

   If you cannot access Windows or your computer will not start, see "To identify the cross-linked files with Norton Disk Doctor and Emergency Disks:" on page 103.

2 See "To examine the clusters to see where they belong:" on page 104.

3 See "To link a _DD or CHK file back to the corrupt file to which it belonged:" on page 105.

To identify the cross-linked files and recover the _DD or CHK file with Norton Disk Doctor:

1. Open Norton Disk Doctor.
2. Check the drive to diagnose and click Diagnose.

   Caution: Follow the directions to continue. However, *do not* make any corrections to the disk.

3. When Norton Disk Doctor locates the cross-linked files, record their names.
4. Copy the cross-linked files to another disk.

   If a file is too big, you can copy it to another directory, though this is not preferred.
5. Verify whether the files you copied (not the original file) are corrupt:
   - For a data file, open it with the application that created the data file (or one that at least recognizes the type of data in the file).
   - For a program file, try running it.
6. Delete the cross-linked files from the original disk.
7. Copy the good files back to the same directory of the original disk.
8. Copy the corrupt files back to the same directory of the original disk.
9. In Norton Disk Doctor, check the drive to diagnose and click Diagnose.
10. Follow the directions to continue and let Norton Disk Doctor make any corrections necessary to the disk.

    Norton Disk Doctor saves chains of lost clusters to the root directory as files with _DD extensions. For example, five lost cluster chains would be saved as FILE0000._DD, FILE0001._DD, and so on to FILE0004._DD. ScanDisk uses the same naming convention as Norton Disk Doctor, except the extension CHK is used instead of _DD.
11. Skip to "To examine the clusters to see where they belong:" on page 104.

To identify the cross-linked files with Norton Disk Doctor and Emergency Disks:

1. Insert Emergency Disk 1 into the startup drive.
2. Turn on your computer and wait for the Norton Utilities screen to appear.
3. Use the UpArrow and DownArrow keys to select Norton Disk Doctor and press Enter.

   The Norton Disk Doctor main dialog box appears.
4. Press Enter to diagnose the disk.

   The Select Drives To Diagnose dialog box appears.
5. Select the drive to diagnose and press Enter.

Caution: Follow the directions to continue. However, *do not* make any corrections to the disk.

---

6. When the cross-linked files are located, record their names.
7. Copy the cross-linked files to another disk.

   If a file is too big, copy it to another directory, though this is not preferred.
8. Verify whether the files you copied (not the originals) are corrupt:
   - For a data file, open it with the application (or one that at least recognizes the type of data in the file) that created the file.
   - For a program file, try running it.
9. Delete the cross-linked files from the original disk.
10. Copy the good files back to the same directory of the original disk.
11. Copy the corrupt files back to the same directory of the original disk.
12. Insert Emergency Disk 1 into the startup drive.
13. Turn on your computer and wait for the Norton Utilities screen to appear.
14. Use the UpArrow and DownArrow keys to select Norton Disk Doctor and press Enter.

    The Norton Disk Doctor dialog box appears.
15. Select Diagnose Disk and press Enter.
16. Check the drive to diagnose and press Enter.

17 Follow the directions to continue and let Norton Disk Doctor make any corrections necessary to the disk.

Tip: Norton Disk Doctor saves chains of lost clusters to the root directory as files with _DD extensions. For example, five lost cluster chains would be saved as FILE0000._DD, FILE0001._DD, and so on to FILE0004._DD. ScanDisk uses the same naming convention as Norton Disk Doctor, except the extension CHK is used instead of _DD.

To examine the clusters to see where they belong:

1 Start Disk Editor with the /W command-line option.

For instructions on starting Disk Editor, refer to "Starting Disk Editor" on page 81.

2 Choose Drive from the Object menu.

The Select The Disk You Wish To Edit dialog box appears.

3 Select the disk that contains the _DD or CHK files using the UpArrow and DownArrow keys and press Enter.

The root directory of the disk displays in Directory view. You may not see the _DD or CHK in the directory listing immediately.

4 Use the UpArrow and DownArrow keys to scroll up and down the listing to locate the files. (Use the PageUp and PageDown keys to scroll a screen at a time.)

5 Select a _DD or CHK file and press Enter.

The contents of the file appear in Hex View.

6 If the file is a text file, choose As Text from the View menu.

7 If you know which corrupt file the data belongs to, do one of the following:

- Return to the root directory by choosing Directory from the Link menu.
- Otherwise, select another _DD or CHK file.

8 Record the filename, file size, and starting cluster number of the _DD or CHK file on a piece of paper.

The starting cluster number for each _DD or CHK file is in the Cluster field on the same line as the _DD or CHK filename.

9 Repeat steps 5 through 8 for each of the _DD or CHK files in your root directory.

To link a _DD or CHK file back to the corrupt file to which it belonged:

1. Choose Directory from the Object menu.

   The Change Directory dialog box appears.

2. Select the directory containing the corrupt file and press Enter.

   The directory appears.

3. Select the corrupt file and press Enter.

   The file is displayed in Hex View.

4. Scroll through the file until you notice a discontinuity.

   Note the cluster that the cursor is in by using the value in the status bar and press Enter to return to the directory.

5. Add the size of the _DD or CHK file to the size of the corrupt file and type the total in the Size field for the corrupt file.

6. Press Ctrl+W to write the changes and select Write.

7. Press Ctrl+T to view the cluster chain for the file.

8. Select the cluster noted on the status line in step 4 and note its value.

9. Type the cluster number you recorded on paper for the _DD or CHK file here and press Ctrl+W.

10. Make sure Synchronize FATs is checked in the dialog box and select Write.

11. When the Rescan dialog box appears, press Cancel.

12. Move the cursor to the cluster for the _DD or CHK file in the current view.

13. Use the Tab and DownArrow keys to traverse the cluster chain for this file until you reach <EOF>.

14. Change <EOF> to the value noted in step 8.

15. Press Ctrl+W and press Enter.

    The Rescan dialog box appears.

16. Choose Directory from the Object menu.

    The Change Directory dialog box appears.

17. Select the root directory and press Enter.

18. Move to the Name field of the _DD or CHK file and press F2 to display the Hexadecimal view.

19. Without moving the cursor, type: `E5`.

20 Press Ctrl+W to write the change and then select Write.

The files should now be fully recovered. Open Norton Disk Doctor and diagnose the affected drive to validate the corrections you made.

CHAPTER 8

Troubleshooting

The information in this chapter will help you solve the most frequent problems that you may experience. If you can't find the solution to your problem here, there is a wealth of information on the Symantec Web site. You can find a troubleshooter, updates, patches, online tutorials, knowledge base articles and virus removal tools. Go to http://service.symantec.com.

My Rescue Disk does not work

Due to the number of product-specific technologies used by manufacturers to configure and initialize hard drives, we cannot always create a bootable Rescue Disk automatically. If your Rescue Boot Disk does not work properly, do one of the following:

- If you have a special startup disk for your computer, add it to your Rescue Disk set. In an emergency, start up from that disk (first slide open the plastic tab on the back of the disk to make sure it is write-protected). Remove the disk and insert your Rescue Boot Disk. At the DOS prompt, type `A:RSHELL`, press Enter, and then follow the on-screen instructions.
- Use the Disk Manager or similarly named program that came with your computer to make your Rescue Boot Disk bootable. Make sure to test your modified Rescue Boot Disk.
- If you are having trouble with a Norton Zip Rescue Disk set, check the TROUBLE.TXT file on the Rescue Boot Disk. At the DOS prompt, type `A:VIEW < TROUBLE.TXT` and then press Enter.

Sometimes, your Rescue Boot Disk does not work properly because you have more than one operating system installed, such as Windows NT and Windows 95. To modify the disk, do the following:

- Start up from your hard drive, insert your Rescue Boot Disk into the A: drive, and, from a DOS prompt, type `SYS A:` and press Enter. This

transfers the operating system to the Rescue Boot Disk. Be sure to retest your Rescue Disks.

Tip: See "Creating Rescue Disks" on page 25.

The alert tells me to use my Rescue Disks, but I did not create them

With your Norton Utilities CD you can create Emergency Disks. Although they are not as powerful as the Rescue Disks you create, you can use the Emergency Disks to recover from most common emergencies. See "To make Emergency Disks:" on page 9.

You can use the CD that contains Norton Utilities as an Emergency Disk if your computer can start up from the CD-ROM drive. See "Using the CD as an Emergency Disk" on page 10.

Once you have created the Emergency Disks, use them to solve the problem. See "DOS procedures" on page 54.

I cannot start up from my A: drive

There are three likely reasons for this:

- If your computer does not check your A: drive first on startup, you need to change settings, usually using your computer's Setup program.

  Caution: Be careful when making changes using your computer's Setup program. If you have never used it before, you may want to refer to your computer manufacturer's documentation.

  Complete these steps to change the setting:

  a Restart your computer.

  A message like this appears telling you the key or keys to press to run SETUP:

  ```
  Press <DEL> if you want to run SETUP.
  ```

  b Press the key or keys to launch the Setup program.

  c Set the Boot Sequence to A: C:.

  Setup programs vary from one manufacturer to the next. If you cannot find the Boot Sequence option, use the Setup program's

help system, refer to the documentation that came with your system, or contact your system's manufacturer.

d Save the changes, and then exit the Setup program.

- You need to use a special Boot Disk rather than the Rescue Boot Disk. In this case, use the boot disk or startup disk that came with your computer.
- Your computer is set up with more than one operating system, such as Windows NT and Windows 95. For more information, see "My Rescue Disk does not work" on page 107.

I get an error when testing basic Rescue Disks

If you get the message "Non-system disk, replace disk and press any key" when testing your Rescue Disks, Rescue may not have prepared the floppy boot files correctly.

To repair this without having to reformat the disk and create a new Rescue Disk set:

1 Remove the Rescue Disk and restart your computer.

2 Insert the Rescue Disk into the floppy drive.

3 On the Windows taskbar, click Start > Run.

4 In the Run dialog box, type:

SYS A:

5 Click OK.

Norton Disk Doctor, Speed Disk, or other Norton Utilities keep restarting

Since Windows is a multithreading, multitasking environment, many applications can access the hard drive simultaneously. When an application writes to the hard drive, this process changes the drive's directories. Since some of the Norton Utilities programs, such as Norton Disk Doctor and Speed Disk, need up-to-date directory information, they must reread these structures any time another application accesses the drive. To solve this problem you can do one of the following:

- Close other applications that are accessing the disk.
- Start Windows without starting the applications that normally start. If you hold down the Shift key when you start Windows 95, Windows 98, or Windows Me, the normal startup programs are not started.

- Start Windows in Safe Mode. See Windows help to learn how to start your version of Windows in Safe Mode.

My drive might not be configured properly

If Norton Disk Doctor or Norton Speed Disk displays the message "Drive C: may not be configured properly," there are several things you can check. The detailed procedures are covered in a Knowledge Base article titled Error: "Drive X: may not be configured properly" when running Norton Disk Doctor or Norton Speed Disk. You can find this article at http://www.symantec.com/techsupp/

Service and support solutions

Service and support information is available from the Help system of your Symantec product. Click the Service and Support topic in the Help index.

Technical support

Symantec offers several technical support options:

- StandardCare support

  Connect to the Symantec Service & Support Web site at http://service.symantec.com, then select your product and version. This gives you access to product knowledge bases, interactive troubleshooter, Frequently Asked Questions (FAQs), and more.

- PriorityCare, GoldCare, and PlatinumCare support

  Fee-based telephone support services are available to all registered customers. For complete information, please call our automated fax retrieval service at (800) 554-4403 and request document 933000.

  For telephone support information, connect to http://service.symantec.com, select your product and version, and click Contact Customer Support.

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Support for old and discontinued versions

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- Visit our Web site at: http://www.shop.symantec.com.
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May 2000

Norton Utilities™

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CD REPLACEMENT: After your 60-Day Limited Warranty, if your CD becomes unusable, fill out and return 1) this form, 2) your damaged CD, and 3) your payment (see pricing below, add sales tax if applicable), to the address below to receive replacement CD. *DURING THE 60-DAY LIMITED WARRANTY PERIOD, THIS SERVICE IS FREE.* You must be a registered customer in order to receive CD replacements.

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