



Tech Info Library

Disk First Aid: Disk Error & Cannot Repair Messages (6/96)

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TOPIC -----

1) When I checked my hard drive using Disk First Aid v7.2, I got the following messages:

Checking catalog file.

Problem: Missing thread record, 3499, 160

Rechecking catalog file.

Test done. Problems were found, but Disk First Aid cannot repair them.

2) On another note, my Trash also will not empty with only one item in it. This also applies if there are multiple files in only one folder.

DISCUSSION -----

General Background Information

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A directory, consisting of the Catalog B*-tree and the Extents B*-tree, among other things, keeps track of file locations. The Catalog B*-tree contains a unique entry for every file, specifying its name, attributes, location, and other information. It functions as an index or a table of contents for the disk. The Extents B*-tree contains information about file fragments (files may be broken up and stored in different locations on a disk).

The bottom level of a B*-tree structure is occupied exclusively by Leaf Nodes. A Catalog file leaf node can contain four different types of records, one of which is the File Thread Record. A file thread record provides a link between a file and its parent directory. It enables the File Manager to find the name and directory ID of the parent of a given file.

Answer to Question 1

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When Disk First Aid reports the thread for a file is missing and it cannot repair it, this means that it is unable to reconcile the entry for the file in the directory (Catalog B*-tree) with the location of the file on the volume. Usually Disk First Aid is unable to repair the missing thread record due to one of the following three situations:

Situation A

Disk First Aid is not being used properly. You cannot repair the boot volume (the startup disk) with Disk First Aid. If you are started from your hard drive, Disk First Aid cannot repair it until you start your Macintosh from another startup disk. Make sure you are starting up from your Power Macintosh CD, the System 7.5 Disk Tools floppy diskette, or other bootable disk (floppy or hard). Disk First Aid also cannot repair a disk on which it is located (basically, it cannot repair itself), or any disk where File Sharing is turned on).

Situation B

The file has been overwritten or characteristics changed (briefly: the file has become damaged).

Situation C

The Catalog B*-tree is damaged.

Apple recommends whenever you encounter directory problems that cannot be fixed by programs such as Disk First Aid, Norton Disk Doctor, and Central Point MacTools' DiskFix, backup your files and reformat the hard drive. Continuing to use a volume that has a damaged directory places your data in jeopardy!

Answer to Question 2

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Folders that cannot be thrown away may suggest a directory problem or a Finder flag problem. If it is the latter, programs such as UnlockFolder or Rename Rescue may help. The former, in the context of the problem you are reporting, provides further evidence of directory damage.

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09 May 1995 - Clarified and simplified description of Situation A.

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