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INTRODUCTION

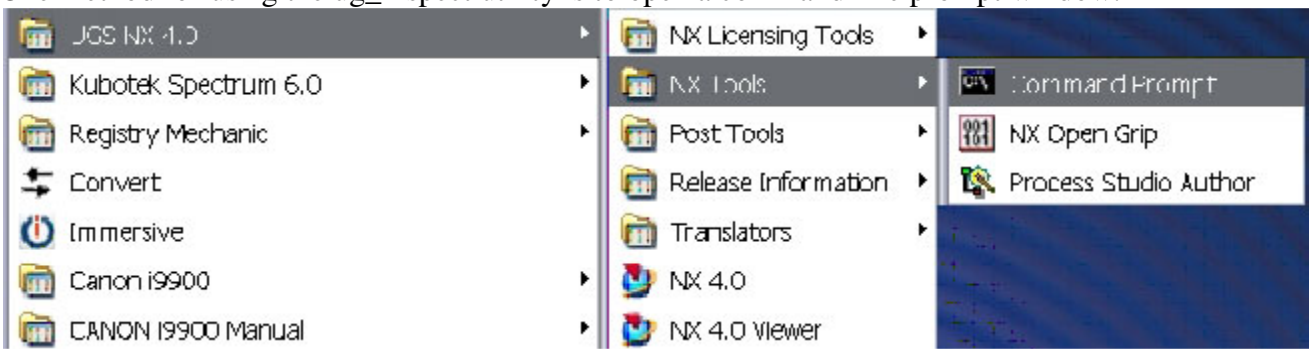
A command line utility called ug_inspect is provided by UGS that allows you to inspect NX part files without starting NX.

This article will describe how to use the basic commands of the ug_inspect utility, look at basic part information, scan a part to determine if it is corrupt and extract Parasolid data from a NX part.

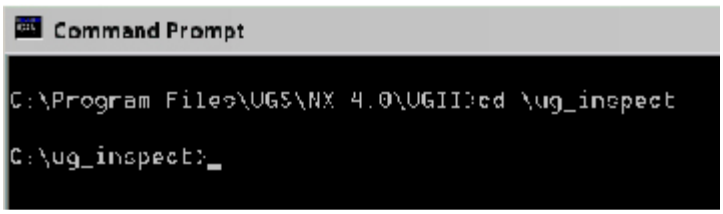
LOCATING UG_INSPECT

Ug_inspect is an executable program normally located in the UGII_BASE_DIRUGII folder. In a typical installation, ug_inspect will be located in folder C:Program FilesUGSNX 4.0UGII.

One method for using the ug_inspect utility is to open a command line prompt window.

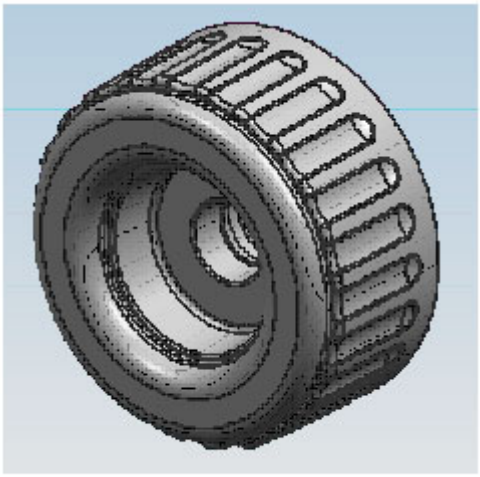


Once the command prompt window is open, change your current working folder to the location where your NX part files exist. In this article, all part files will be located in folder c:ug_inspect.



BASIC COMMANDS

Typing ug_inspect without any command switches will give you a brief introduction to the utility.



wheel.prt used in ug_inspect samples

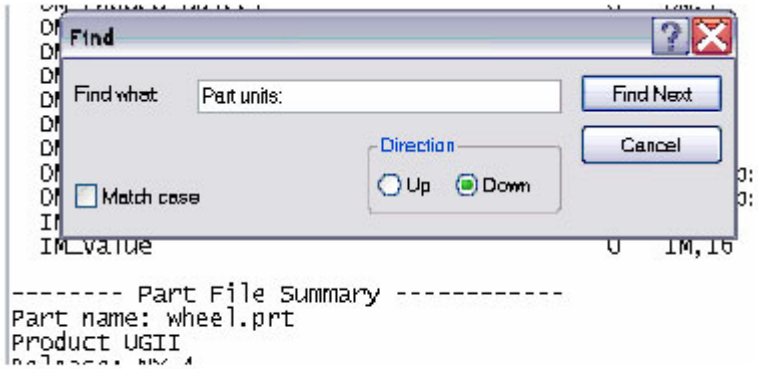
```
Command Prompt

C:\ug_inspect>ug_inspect -help
Usage: ug_inspect [<switches>] <filenames...>
       where <filenames> are NX part file names, and
             <switches>  are optional command line arguments which may be
                         one of the following:
              -help      prints this message
              -rm        prints Record Manager partition
              -cmod      prints CMOD partition
              -ese       prints the Expression partition
              -occ       prints the Occurrences partition
              -path      prints Path partitions
              -ps        prints Parasolid partition(s)
              -full      prints all partitions
              -trace     prints tracing info as it reads the part
              -cookies   prints cookie and object id information
              -refs      prints most recent referenced part information
              -all_refs  prints all referenced part information
              -scan      scans for known part corruptions
              -check_checksums <part file>
                         Checks checksums on compressed Parasolid data
              -extract_all <part file> [<filename>]
              -extract <id> <part file> [<filename>]
                         Extracts Parasolid transmit files - <id> is a
                         partition id number, <part file> is a part file name,
                         and <filename>, if specified, is the filename without
                         extension to use for generating output file names.
                         If omitted this is generated from the part file name.
                         Use -extract_all for pre-v12 part files.
              -release   Just print release information about the part.

C:\ug_inspect>
```

ug_inspect –help switch

By typing ug_inspect –help you will see all of the available command switches that the utility uses.



Using the Find command in a text editor to evaluate ug_inspect output file

When using this utility, the .prt suffix is required for the filename for each NX part file that you want to inspect. The utility will not recognize a filename without a suffix.

Output data from this utility can be lengthy. When running the utility, redirecting the output from the screen to a text file is recommended. This accomplishes two objectives, first you are able to view the complete contents of the output listing and secondly you are able to use the find command in your text editor to quickly go to a specific part of the output file.

An example to redirect output would be ug_inspect –full wheel.prt > wheel.txt

The example creates a file called wheel.txt that can be evaluated in a text editor.

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP units
Part units: Inches
```

Using the Find command in a text editor to evaluate ug_inspect output file.

LISTING PART INFORMATION

There are a number of ways to list ug_inspect information depending on which command switches you use. Most people will not have a need for most of the ug_inspect data. The following commands will let you see all or specific information output from ug_inspect. These commands will give you the ability to parse out specific information from the entire ug_inspect output.

Command to output all information related to a part file:

ug_inspect -full wheel.prt

Command to output all information related to a part file and place this data in a text file:

ug_inspect -full wheel.prt > wheel.txt

Command to see what version of NX a part file is saved in:

ug_inspect -release wheel.prt

Command to see summary information of NX a part file:

ug_inspect -refs wheel.prt

If you have installed the windows resource tool kit, you can use additional windows commands to obtain specific information from the ug_inspect output. By piping the Microsoft QGREP command you can view specific information from the ug_inspect output.

Command to view part units:

ug_inspect –full wheel.prt > wheel.txt
type wheel.txt | QGREP units

or
ug_inspect –full wheel.prt | QGREP units

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP "Parasolid Version:"
--------- Contents of Parasolid directory ----------
Parasolid Version: 17.00.284
  Parasolid       306758      8
```

Command to see Parasolid version: ug_inspect –full wheel.prt | QGREP “Parasolid version:”

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP Release
Release: NX 4
```

Command to view NX version of part: ug_inspect –full wheel.prt | QGREP Release

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP identifier
Unique part identifier (UID): mcshuttle1.GenuineInt.1168880722.0.3724.1
```

Command to view NX part Unique Identifier: ug_inspect –full wheel.prt | QGREP Identifier

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP "Machine Format"
Machine format: Intel x86/Windows NT
```

Command to see NX part machine format: ug_inspect –full wheel.prt | QGREP “Machine Format”

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP "Version Intel"
Machine format: Intel x86/Windows NT
  Class Name                    # Objects   Schema Name.Version
  Version  Save Time          Machine     User            Program
        5  16-Jan-2007 09:23  NT Intel    Tony Metz       NX 4.0.3.3
        4  (Same as next)     NT Intel    Tony Metz       Part renamed from "C:
\ug_inspect\Part2_par.prt"
        4  16-Jan-2007 09:22  NT Intel    Tony Metz       NX 4.0.3.3
        3  15-Jan-2007 12:07  NT Intel    Tony Metz       NX 4.0.3.3
        2  15-Jan-2007 12:07  NT Intel    Tony Metz       NX 4.0.3.3
        1  15-Jan-2007 12:06  NT Intel    Tony Metz       NX 4.0.3.3
```

Command to view NX part saved versions: ug_inspect –full wheel.prt | QGREP “Version NT”

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP renamed
        4  <Same as next>     NT Intel    Tony Metz        Part ren
\ug_inspect\Part2_par.prt"
```

Command to view if the part has been renamed: ug_inspect –full wheel.prt | QGREP renamed

```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP USER
USER=Tony Metz;
```

Command to view part owner: ug_inspect -full wheel.prt | QGREP USER

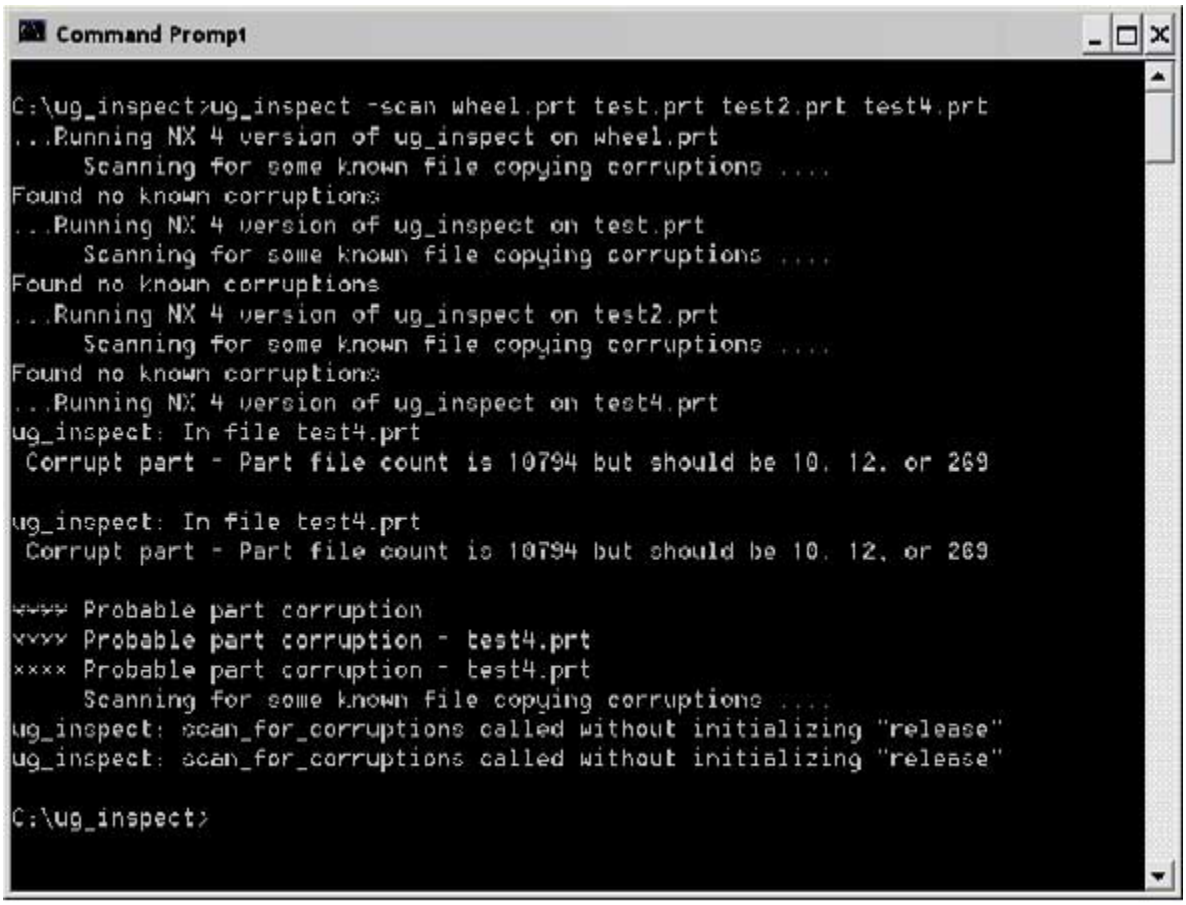
```
C:\ug_inspect>ug_inspect -full wheel.prt | QGREP SOLID_body
  SOLID_body                                1    SOLID,4
```

Command if a solid body exists in the part: ug_inspect -full wheel.prt | QGREP SOLID_body

Using the –scan switch to determine if file wheel.prt is corrupt

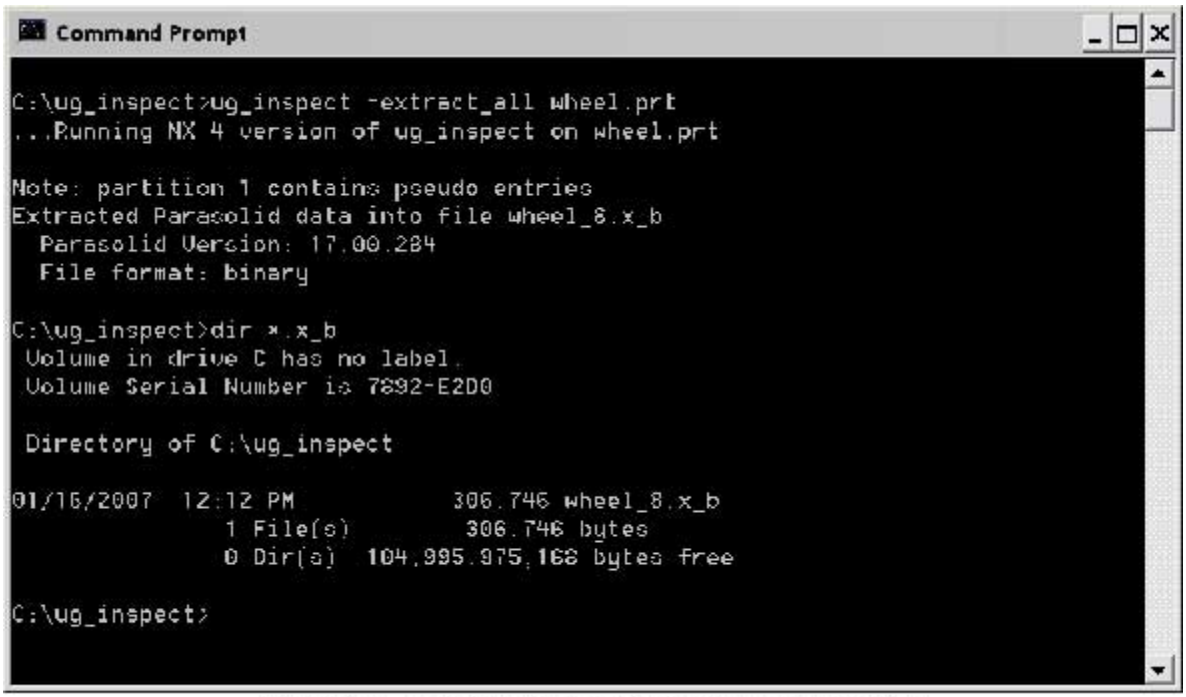
DETERMINING PART CORRUPTION

The –scan switch allows you determine if a part is corrupt. Typing in ug_inspect –scan wheel.prt will evaluate the part file wheel.prt for corruption. The ug_inspect utility will display the message Found no known corruptions if a part file is free of any problems.



Using the –scan switch to determine if parts are corrupt

Multiple files can be scanned at one time by entering file names separated by a space. The example ug_inspect –scan wheel.prt test.prt test2.prt test4.prt will inspect four part files for corruption. The result shows that there is a problem with part test4.prt.

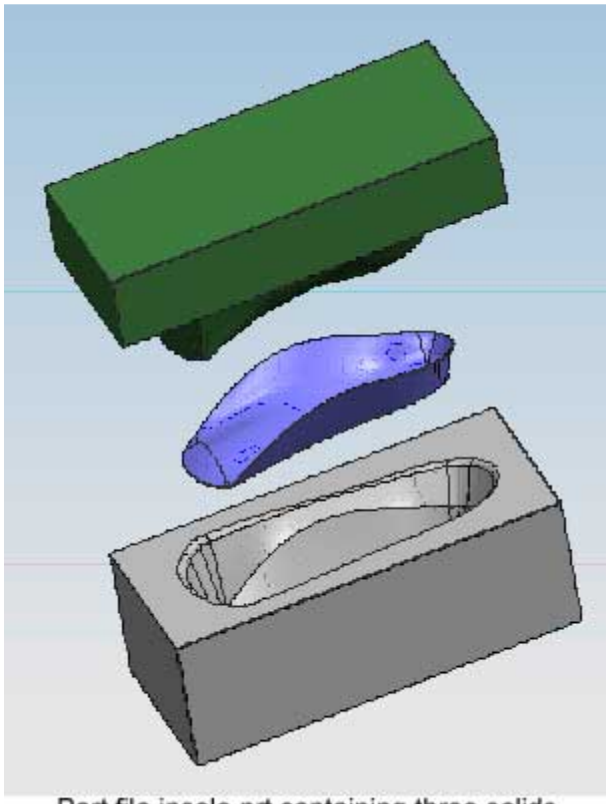


Using the –extract_all switch to create a Parasolid file

EXTRACTING PARASOLID DATA

The ug_inspect utility allows you to extract Parasolid data from a NX part file without the requirement of starting NX. The utility will give you the option to select a specific solid/sheet body to extract (-full switch will show the number of Parasolid items within the NX part file) or you can extract all Parasolid data from the NX part file. Extracted Parasolid files are created in Parasolid binary format (x_b).

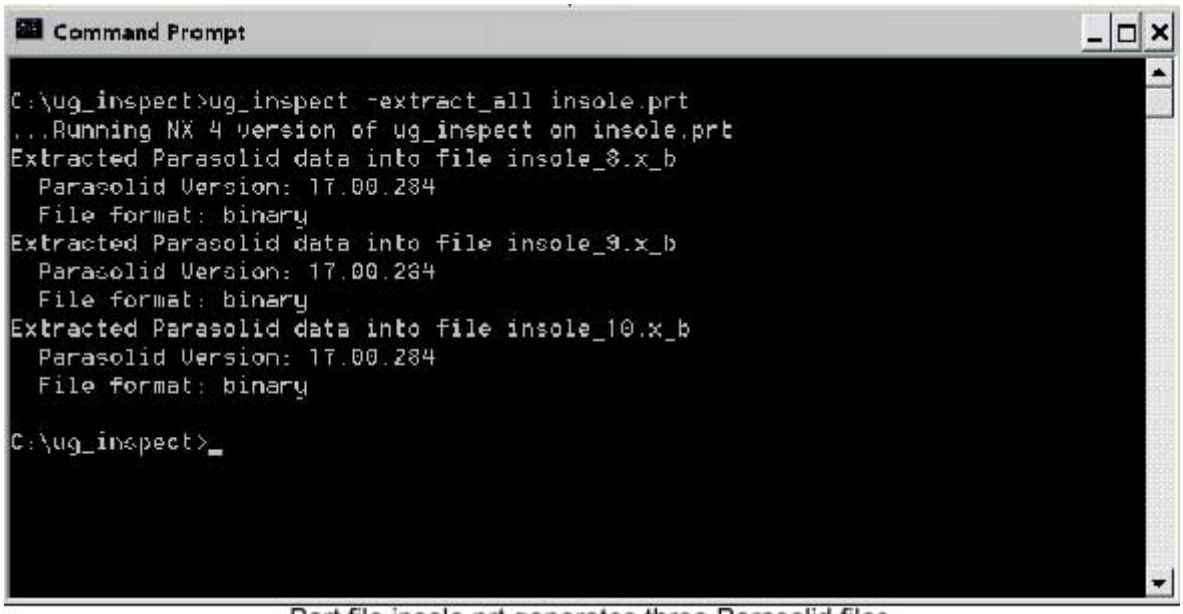
Typing the command ug_inspect –extract_all wheel.prt will create a Parasolid file called wheel_8.x_b. The number 8 is used in the file name because the solid partition id is 8 inside the NX part file. You can verify this with the –full command switch.
pic



Part file insole.prt containing three solids

Be aware that multiple solid bodies or sheet bodies in a NX part file will create multiple Parasolid files when you extract. The utility will evaluate all solids regardless of layer settings.

An example part called insole.prt contains three solids, a shoe insole, a core insert of the insole and a cavity insert of the insole. Typing the command ug_inspect –extract_all insole.prt will create three Parasolid files.



Part file insole.prt generates three Parasolid files

ADDITIONAL IDEAS

Having a basic understanding of ug_inspect, you can use this utility to benefit your company. Possible ideas to try are:

Cycle through all part files using a Visual Basic script or batch file to:

Notify your data manager when a part has been renamed.
Check for corrupt part files.

Automatically extract Parasolid files for all released parts. These files can be accessed by employees with limited CAD access to share with customers and vendors.