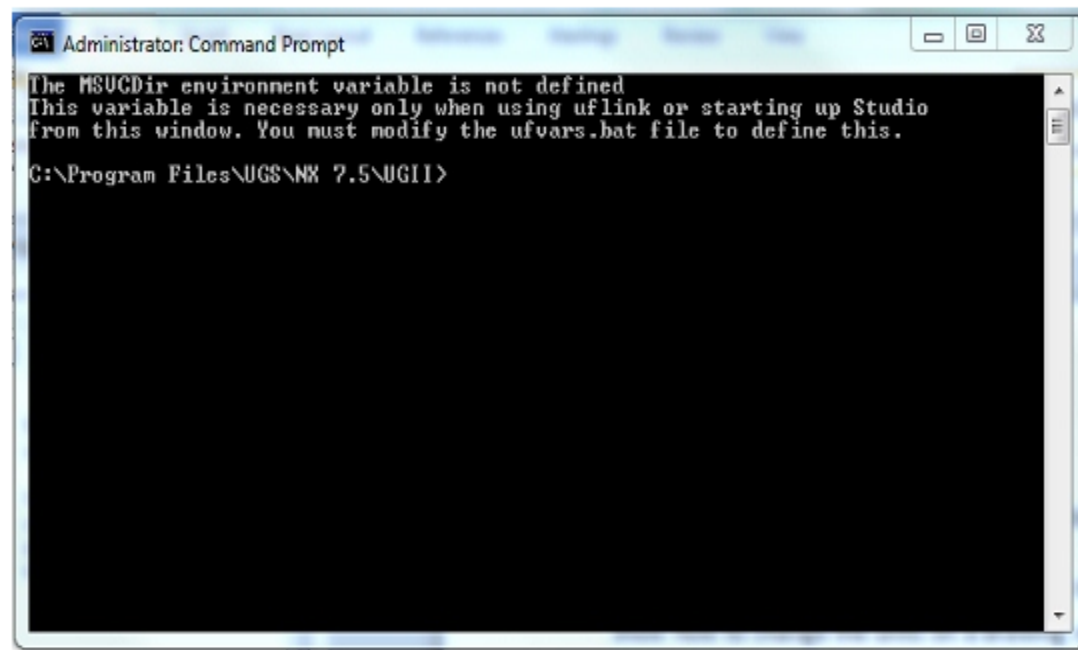


# **WORKING WITH UNITS IN NX**

## WORKING WITH UNITS IN NX

### ug\_convert\_part

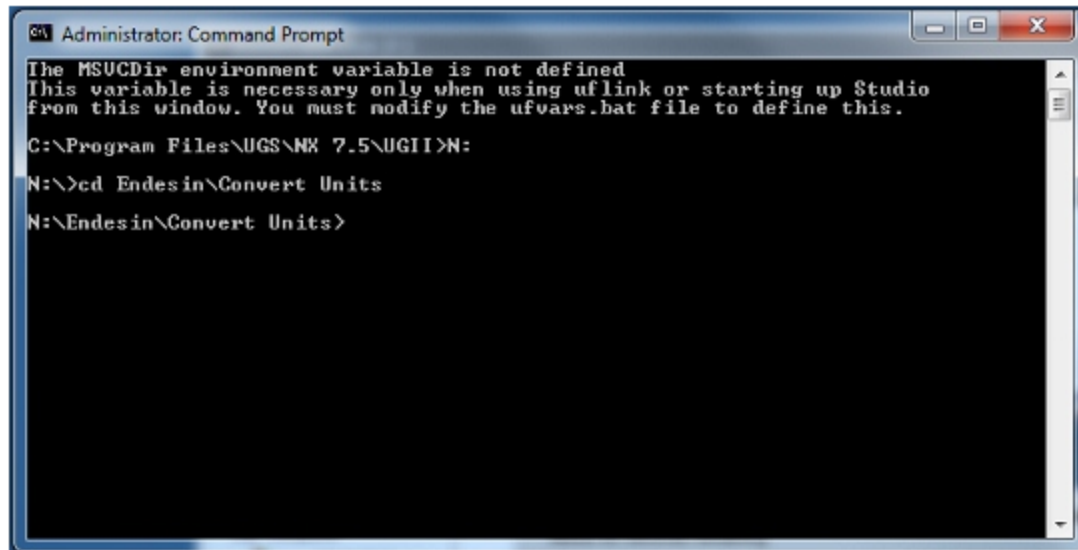
ug\_convert\_part is a utility that comes with NX for converting the units for a part from millimeters to inches and vice versa, so if you create a part using the wrong units or you receive a file from a customer or supplier and it is the wrong units, you can convert it. The unit conversion utility is a DOS program and therefore, has to be run from a command prompt. NX ships with a command prompt that is pre-configured to run ug\_convert\_part from any directory and therefore, it is much easier to use than the regular windows command prompt. So, get into the windows start menu and browse to the UGS NX 7.5 folder, click on the NX Tools folder and then click on Command Prompt and you should see the window shown below



```
Administrator: Command Prompt
The MSUCDir environment variable is not defined
This variable is necessary only when using uflink or starting up Studio
from this window. You must modify the ufvars.bat file to define this.
C:\Program Files\UGS\NX 7.5\UGII>
```

Now, the next step is to navigate to the folder where the file is that you want to convert. So, let's say that my file is in N:\Endesin\Convert Units – I would first need to change the drive letter from C: to N: so I just type N: and hit Enter. Then to get to Endesin\Convert Units, I type cd Endesin\Convert Units.

## WORKING WITH UNITS IN NX



```
Administrator: Command Prompt

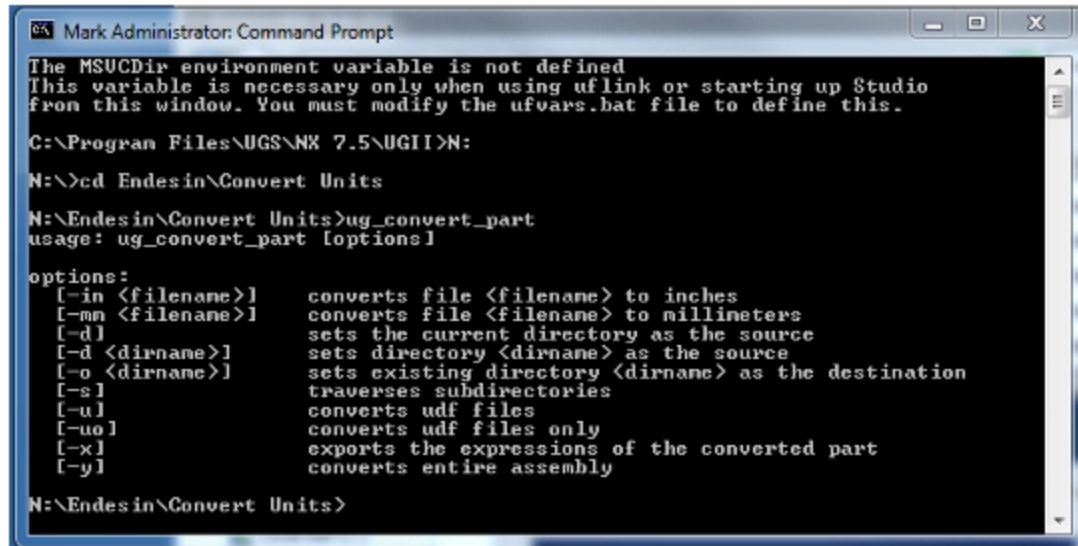
The MSUCDir environment variable is not defined
This variable is necessary only when using uflink or starting up Studio
from this window. You must modify the ufvars.bat file to define this.

C:\Program Files\UGS\NX 7.5\UGII>N:

N:\>cd Endesin\Convert Units

N:\Endesin\Convert Units>
```

Now, we need to run the `ug_convert_part` program. If you just type in `ug_convert_part` and hit Enter, you will get information on how to use it as follows



```
Mark Administrator: Command Prompt

The MSUCDir environment variable is not defined
This variable is necessary only when using uflink or starting up Studio
from this window. You must modify the ufvars.bat file to define this.

C:\Program Files\UGS\NX 7.5\UGII>N:

N:\>cd Endesin\Convert Units

N:\Endesin\Convert Units>ug_convert_part
usage: ug_convert_part [options]

options:
  [-in <filename>]  converts file <filename> to inches
  [-mn <filename>]  converts file <filename> to millimeters
  [-d]              sets the current directory as the source
  [-d <dirname>]    sets directory <dirname> as the source
  [-o <dirname>]    sets existing directory <dirname> as the destination
  [-s]              traverses subdirectories
  [-u]              converts udf files
  [-uo]             converts udf files only
  [-xl]             exports the expressions of the converted part
  [-y]             converts entire assembly

N:\Endesin\Convert Units>
```

# WORKING WITH UNITS IN NX

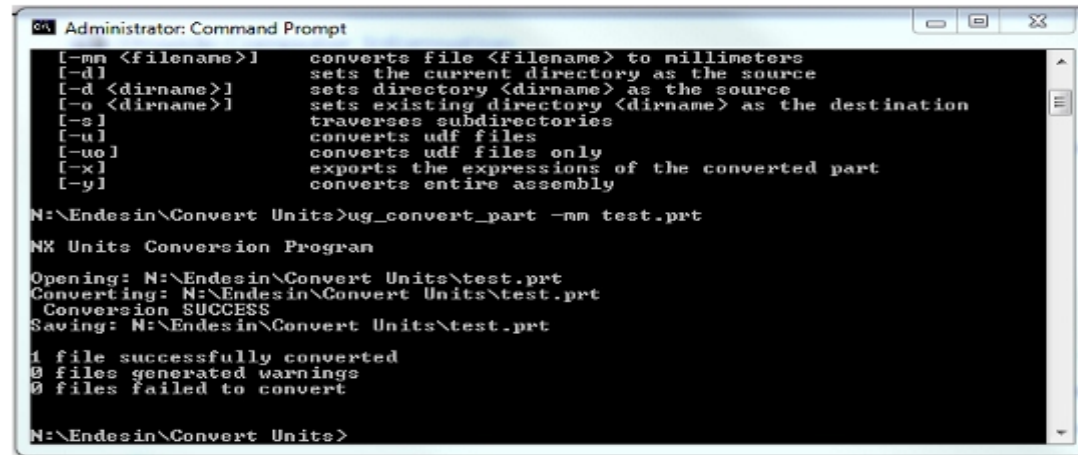
So, basically, you type `ug_convert_part` and then `-in` or `-mm` depending on whether or not you want to convert the part to inches or millimeters, then you type in the filename if you just want to do one file, or you can type `-d` if you want to do the entire directory of you can type `-d -s` if you want to convert the entire directory and its subdirectories.

## Examples

Probably the best way to explain this is with examples.

To convert a part in `N:\Endesin\Convert Units` called `test.prt` from inches to millimeters:

`ug_convert_part -mm test.prt`



```
Administrator: Command Prompt

[-mm <filename>]  converts file <filename> to millimeters
[-d]              sets the current directory as the source
[-d <dirname>]    sets existing directory <dirname> as the source
[-o <dirname>]    sets existing directory <dirname> as the destination
[-s]              traverses subdirectories
[-u]              converts udf files
[-uo]             converts udf files only
[-x]              exports the expressions of the converted part
[-y]              converts entire assembly

N:\Endesin\Convert Units>ug_convert_part -mm test.prt

NX Units Conversion Program

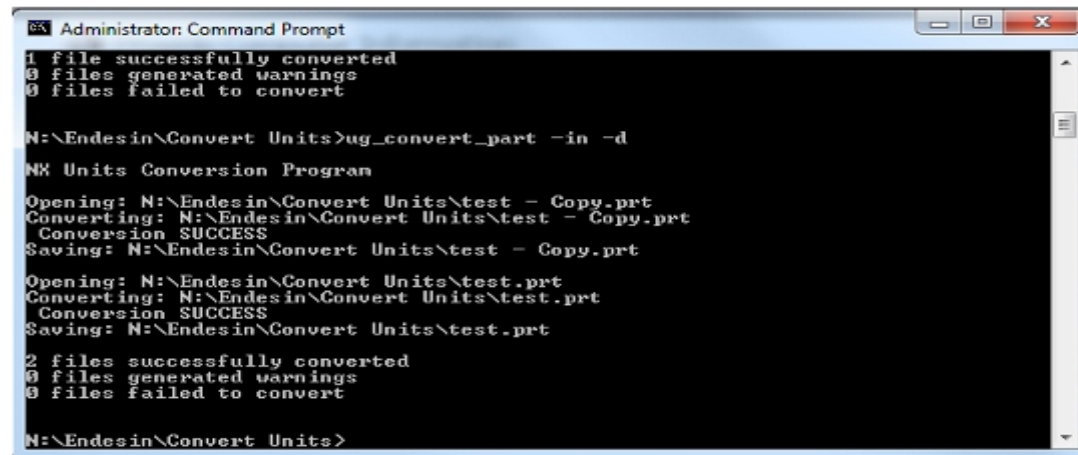
Opening: N:\Endesin\Convert Units\test.prt
Converting: N:\Endesin\Convert Units\test.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\test.prt

1 file successfully converted
0 files generated warnings
0 files failed to convert

N:\Endesin\Convert Units>
```

To convert the entire `Convert Units` directory from millimeters to inches:

`ug_convert_part -in -d`



```
Administrator: Command Prompt

1 file successfully converted
0 files generated warnings
0 files failed to convert

N:\Endesin\Convert Units>ug_convert_part -in -d

NX Units Conversion Program

Opening: N:\Endesin\Convert Units\test - Copy.prt
Converting: N:\Endesin\Convert Units\test - Copy.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\test - Copy.prt

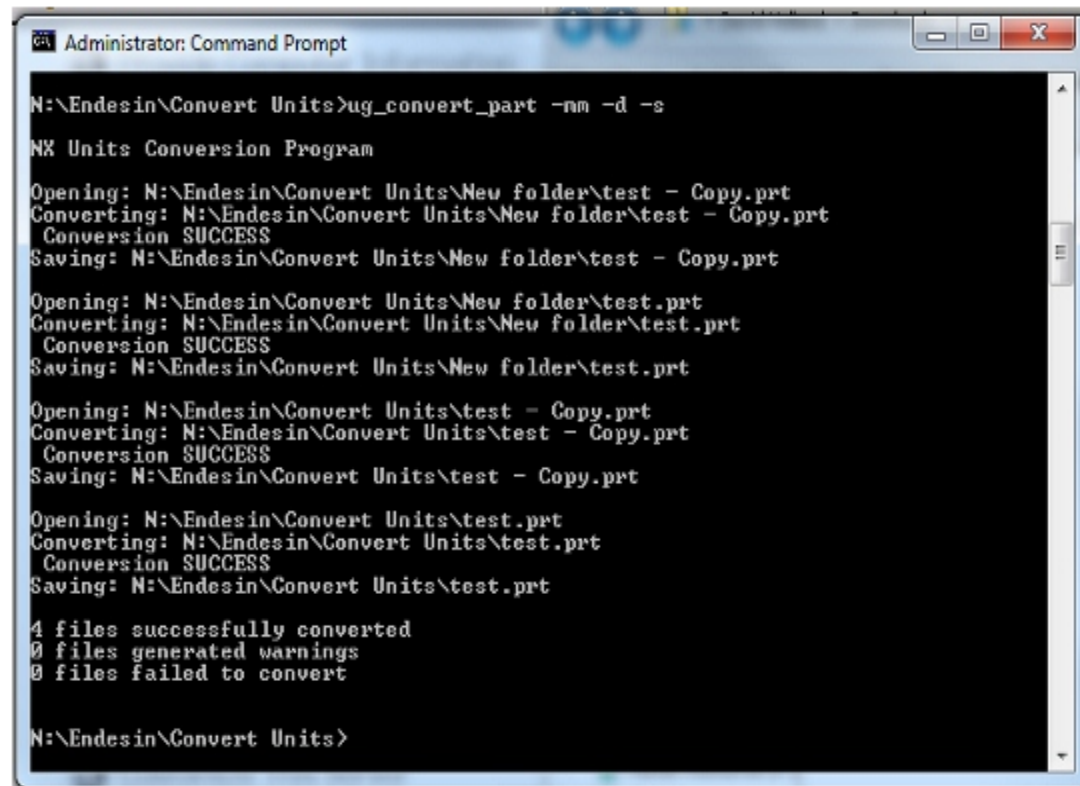
Opening: N:\Endesin\Convert Units\test.prt
Converting: N:\Endesin\Convert Units\test.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\test.prt

2 files successfully converted
0 files generated warnings
0 files failed to convert

N:\Endesin\Convert Units>
```

## WORKING WITH UNITS IN NX

To convert the entire Convert Units directory and its subdirectories from inches to millimeters:  
`ug_convert_part -mm -d -s -s`



```
Administrator: Command Prompt

N:\Endesin\Convert Units>ug_convert_part -mm -d -s

NX Units Conversion Program

Opening: N:\Endesin\Convert Units\New folder\test - Copy.prt
Converting: N:\Endesin\Convert Units\New folder\test - Copy.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\New folder\test - Copy.prt

Opening: N:\Endesin\Convert Units\New folder\test.prt
Converting: N:\Endesin\Convert Units\New folder\test.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\New folder\test.prt

Opening: N:\Endesin\Convert Units\test - Copy.prt
Converting: N:\Endesin\Convert Units\test - Copy.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\test - Copy.prt

Opening: N:\Endesin\Convert Units\test.prt
Converting: N:\Endesin\Convert Units\test.prt
Conversion SUCCESS
Saving: N:\Endesin\Convert Units\test.prt

4 files successfully converted
0 files generated warnings
0 files failed to convert

N:\Endesin\Convert Units>
```

That's pretty much it. You don't have to navigate to the folder where the files are that you want to convert, you can just add the path to the filename argument for `ug_convert_part` (or type in the directory path after the `-d`), but I recommend navigating to the folder, because if I include the path with the filename, I have to type it in about 5 times before I get it right.

## WORKING WITH UNITS IN NX

The MSUCDir environment variable is not defined  
This variable is necessary only when using uflink or starting up Studio  
from this window. You must modify the ufvars.bat file to define this.

```
C:\Documents and Settings\latheesh.kv>ug_convert_part  
usage: ug_convert_part [options]
```

options:

|                  |                                                      |
|------------------|------------------------------------------------------|
| [-in <filename>] | converts file <filename> to inches                   |
| [-mm <filename>] | converts file <filename> to millimeters              |
| [-dl]            | sets the current directory as the source             |
| [-d <dirname>]   | sets directory <dirname> as the source               |
| [-o <dirname>]   | sets existing directory <dirname> as the destination |
| [-s]             | traverses subdirectories                             |
| [-u]             | converts udf files                                   |
| [-uo]            | converts udf files only                              |
| [-x]             | exports the expressions of the converted part        |
| [-y]             | converts entire assembly                             |

```
C:\Documents and Settings\latheesh.kv>cd desktop
```

```
C:\Documents and Settings\latheesh.kv\Desktop>ug_convert_part BRACKET.prt -in
```

NX Units Conversion Program

Opening: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

Converting: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

Conversion SUCCESS

Saving: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

1 file successfully converted

0 files generated warnings

0 files failed to convert

```
C:\Documents and Settings\latheesh.kv\Desktop>
```

```
C:\Documents and Settings\latheesh.kv\Desktop>ug_convert_part bracket.prt -mm
```

NX Units Conversion Program

Opening: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

Converting: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

Conversion SUCCESS

Saving: C:\Documents and Settings\latheesh.kv\Desktop\BRACKET.prt

1 file successfully converted

0 files generated warnings

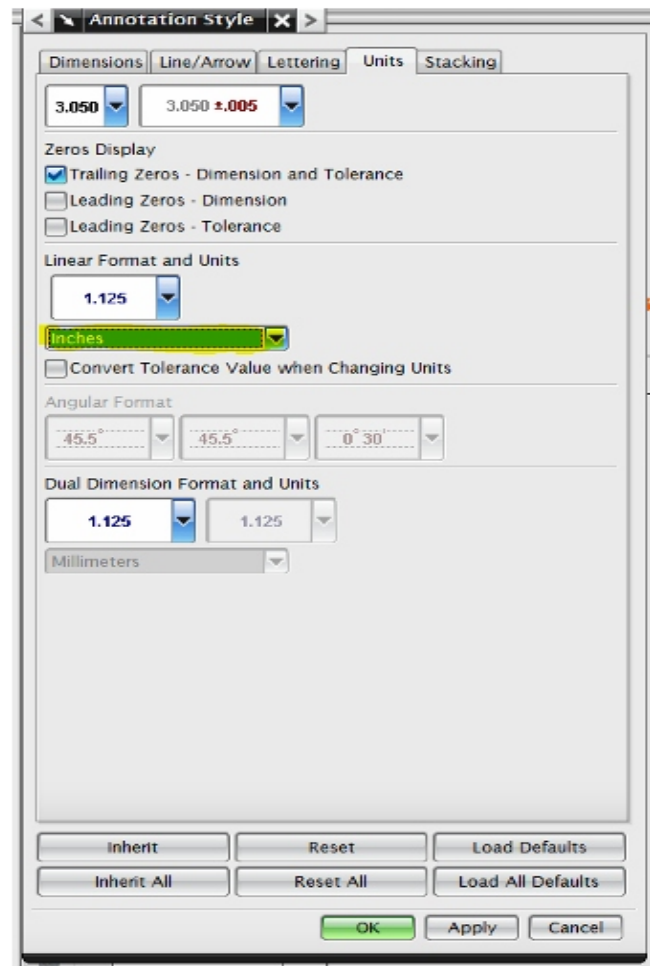
0 files failed to convert

# WORKING WITH UNITS IN NX

That's pretty much it. You don't have to navigate to the folder where the files are that you want to convert, you can just add the path to the filename argument for `ug_convert_part` (or type in the directory path after the `-d`), but I recommend navigating to the folder, because if I include the path with the filename, I have to type it in about 5 times before I get it right.

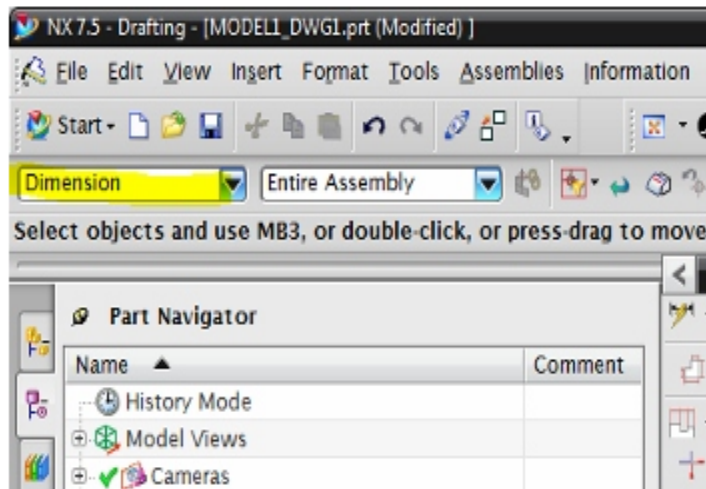
## Drawing Units

If all you want to do is change the dimension on a print from inches to millimeters or vice versa you can make those changes to the drawing dimensions directly without having to change the units for the underlying part file. Just place the cursor over the dimension you want to change, right click and select Style, click on the Units tab and change the Units as shown below. If you have tolerances on the dimensions, then you can click the Convert Tolerance Value when Changing Units box to automatically have the tolerances converted as well.



## WORKING WITH UNITS IN NX

If you want to change all of the dimensions at once, just change the selection filter to Dimension and then press Ctrl+A to select every dimension, then go to the Edit menu and click on Sytle. Make sure the entire drawing is visible when you hit Ctrl+A, and make sure you change the selection filter back to No Selection Filter when you're done.

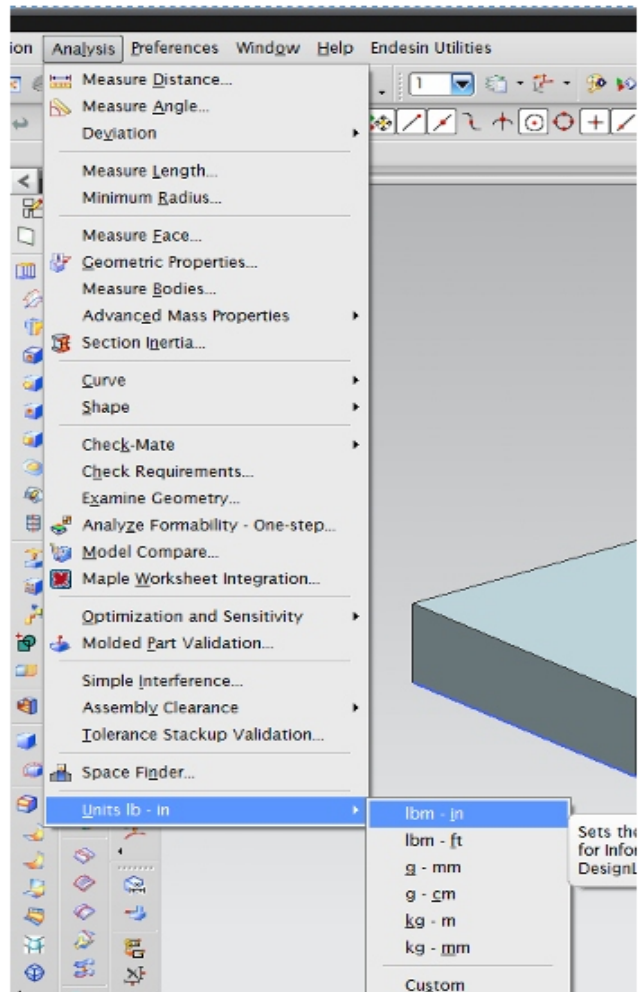




# WORKING WITH UNITS IN NX

## Measuring Units

You can also change the units that are displayed using the measuring tool and the information window without changing the units of the part file. Just go to Analysis Units and select the units you want.



That's it for units. Hope this was helpful.

LATHEESH K V