
Pro/ENGINEER to/from Unigraphics Data Translator User's Guide

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Elysium Inc.

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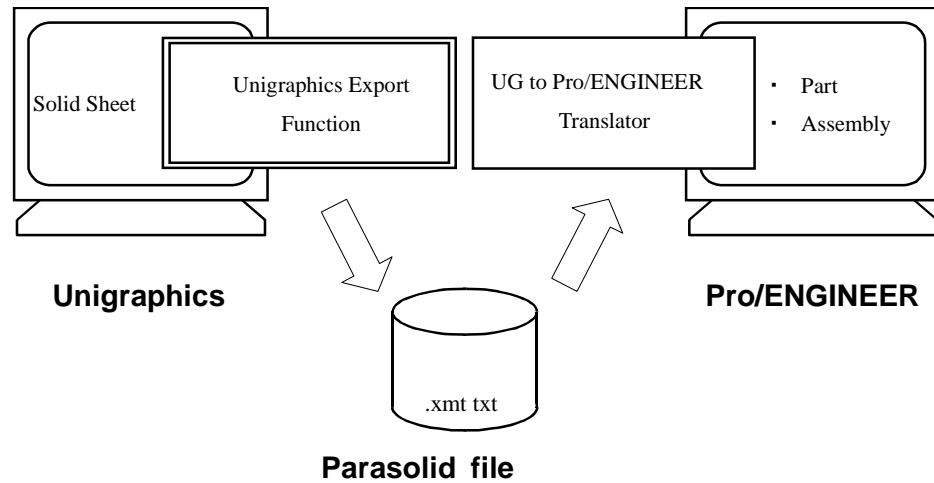
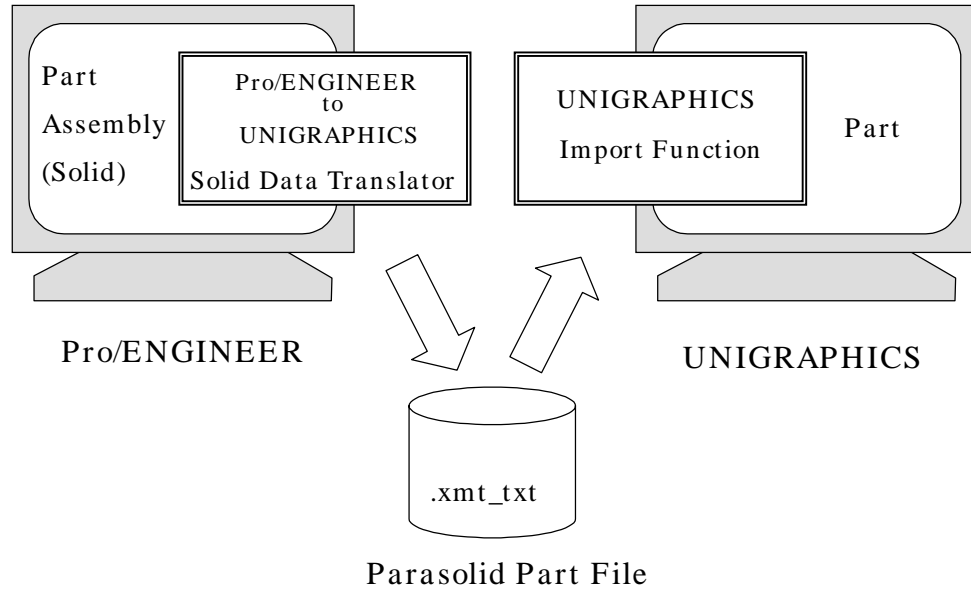
About this manual

This manual describes how to install and run the Elysium Pro/ENGINEER-Unigraphics translators. It was written for both system administrators and end-users, although the installation instructions require some familiarity with basic UNIX systems or NT systems administrations tasks and general networking concepts.

For more information about installing, configuring, and running the Elysium License Server software, see the Elysium License Server User's Guide.

About the Elysium Pro/ENGINEER-Unigraphics translators

The Elysium Pro/ENGINEER-Unigraphics translators are a set of software applications used to translate Pro/ENGINEER solid models to and from Unigraphics, in the form of Parasolid data files (.xmt files). The translators (import and export) both run as Pro/ENGINEER applications, so you need to have Pro/ENGINEER installed and properly licensed in order to use the translators.



Getting started with the translators

Requirements

Pro/ENGINEER-Unigraphics is supported on the following platforms:

- HP-RISC/HP-UX
- SGI/IRIX
- IBM/AIX
- Sun SPARC/Solaris
- Windows NT (Intel)

Pro/ENGINEER version 2000i or 2000i2, with manufacturing code 1999390 or later. Versions with earlier manufacturing codes may import data inconsistently. The Pro/ENGINEER manufacturing code is printed on the Pro/ENGINEER CD. Alternatively, you can check the manufacturing code while running Pro/E by opening the Help->About Pro/ENGINEER window.

Unigraphics V11.0 through V16.0.

Units

Millimeters (mm) are the default units.

Accuracy

Generally, the translator maintains a geometric accuracy of 0.01 mm. However, if Pro/ENGINEER's accuracy lower bound is greater than 0.01, the model is translated using that accuracy lower bound. Pro/ENGINEER's accuracy lower bound is given by the following formula:

$$\text{model_size} * \text{accuracy_lower_bound_tolerance}$$

where `model_size` is the length of a diagonal of the bounding box associated with the solid model.

The translator uses a default value of 0.0001 for accuracy lower bound tolerance. You can change that value by setting the appropriate parameter in the configuration file. The valid range is 0.0001 to 0.000001.

For example, if the `model_size` is 1 m, the default accuracy lower bound is 0.1 mm (1000 * 0.0001). If you set the accuracy lower bound tolerance to 0.000001, the accuracy lower bound is 0.001 mm.

Installing license server files

The Elysium license server manages the various software licenses to Elysium products. The client-server architecture allows you to run Elysium products on different machines on your network, subject to the number and type of licenses for a particular product, expiration dates, and so on.

Although you do not need to have the license server running in order to install the Elysium Pro/ENGINEER-Unigraphics translator software, you will need to have it running in order to perform translations. You will also need valid license passwords.

For instructions to install and configure the Elysium license server software, see the Elysium License Server User's Guide.

Obtaining your license passwords

In order to issue license passwords, we need information about the machine that runs the Elysium license server.

For Windows NT or Windows 2000, run an MSDOS command prompt (Start/Programs/Command Prompt), then enter the command

```
- ipconfig /all
```

Network information about your computer is displayed. The computer's MAC address is shown as "physical address".

If you plan to use an Elysium license server running on UNIX, use one of the commands below to get your machine's identification number (sometimes referred to as its "hostid").

```
- SGI/IRIX: /sbin/sysinfo -s  
- HP/HP-UX: /bin/uname -i  
- IBM/AIX: /bin/uname -m  
- Sun/Solaris: /usr/bin/hostid
```

Send the information you obtained above to support@elysiuminc.com, or fax it to (408) 213-0470. You will receive your license password(s) by return email or fax within a business day.

Follow the instructions given in the Elysium License Server User's Guide to install your license passwords.

General installation notes

The installation process for both UNIX and Windows NT, Windows 2000 platforms involves copying files from the installation media (CD) to your hard drive.

Installing Unigraphics to/from Pro/ENGINEER on a UNIX system

Mounting the CD and installing files

1. Mount the CD-ROM.

Hints for using the CD on UNIX platforms:

We've found that mounting CD's on HP-UX systems can be a bit tricky. Try a command like this

```
mount -F cdfs -o cdcase,ro /dev/dsk/c1t2d0 /cdrom
```

Of course, the "/dev/dsk/..." will depend on your hardware configuration.

As for AIX, try something like this

```
mount -v'cdrfs' -f'' -r'' /dev/cd0 /cdrom
```

Recent versions of Solaris will automatically mount a CD, provided your Volume Management daemon (vold) is running properly.

2. Create a directory to install the translator files.
3. Run the installation setup script.

You'll need to supply the following information to the installation script: the installation or target directory; the source directory, i.e., the CD file system; the product ID of the translator; the version of Pro/ENGINEER you have; the license server hostname; the license client/server port number.

How you start the installation script depends on the particular UNIX platform you're running.

HP-UX: `cd_mnt_dir/INSTALL/SETUP\;1`

IRIX: `cd_mnt_dir/install/setup`

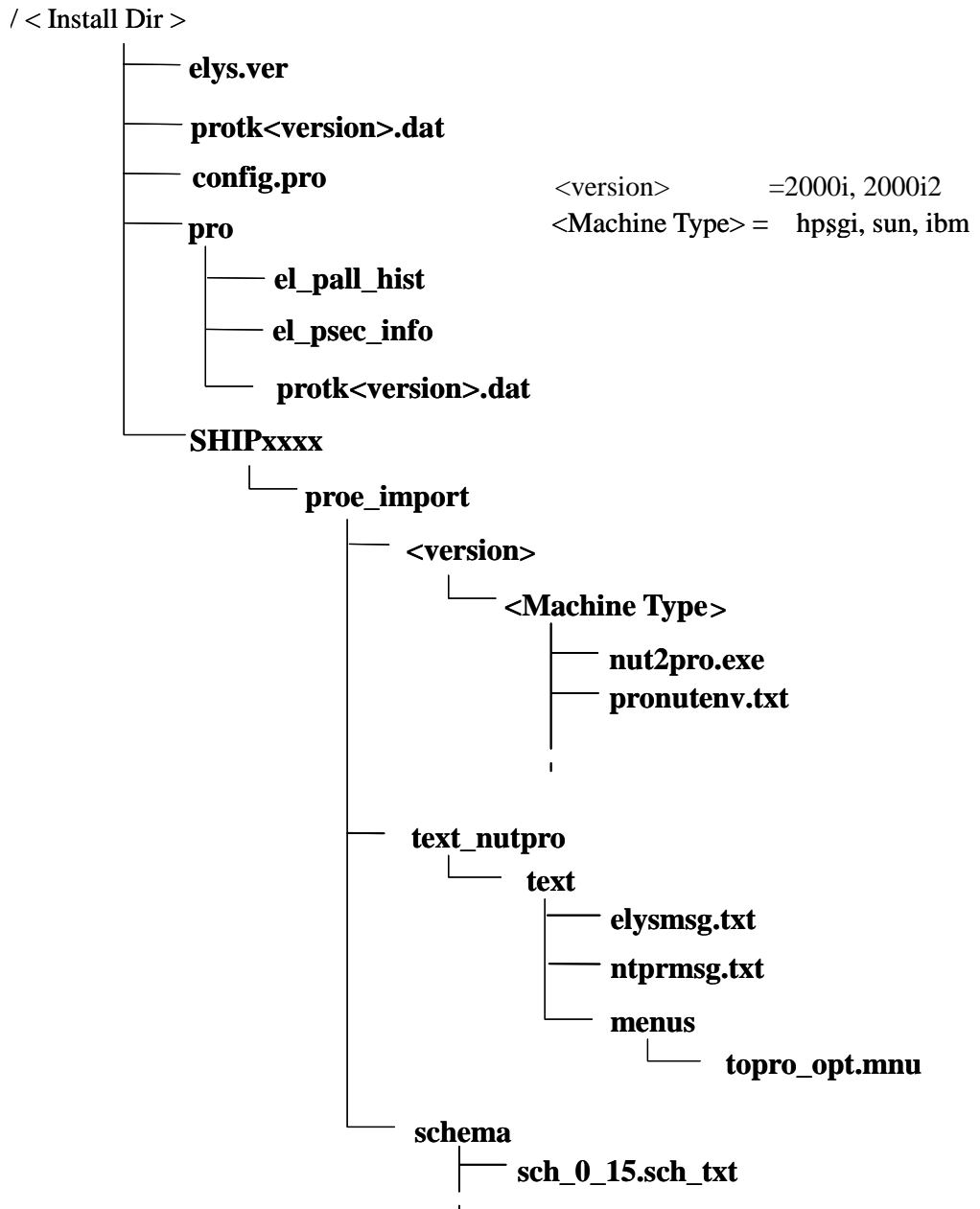
AIX: `cd_mnt_dir/install/setup`

Solaris: `cd_mnt_dir/cdrom0/install/setup`

Where `cd_mnt_dir` is the path to the directory where you mounted the CDROM. Follow the instructions given by the installation script to install the translator.

4. Verifying the installation

You can compare your installation with the one shown here.



Completing the installation

You'll need to copy the `protk.dat` file (renamed from `protkproe_ver.dat`) and the `config.pro` file to the directory where Pro/E is started in order for Pro/E to recognize the translator. If files by those names already exist in your Pro/E start-up directory, merge the contents of the files created by the ProSet utility, above, into the existing files.

Caution: If you find the lines

```
NAME          To_ProE_Elysium_Translators_SHIPnnnnnn
EXEC_FILE     $ELY_INSTDIR\pro\exe\nut2pro.exe
TEXT_DIR      $ELY_INSTDIR\pro\text_nutpro
REVISION      20
END
```

in your existing protk.dat file, remove that block of text from the file using your favorite editor, and then merge in the contents of the `protkproe_ver.dat`.

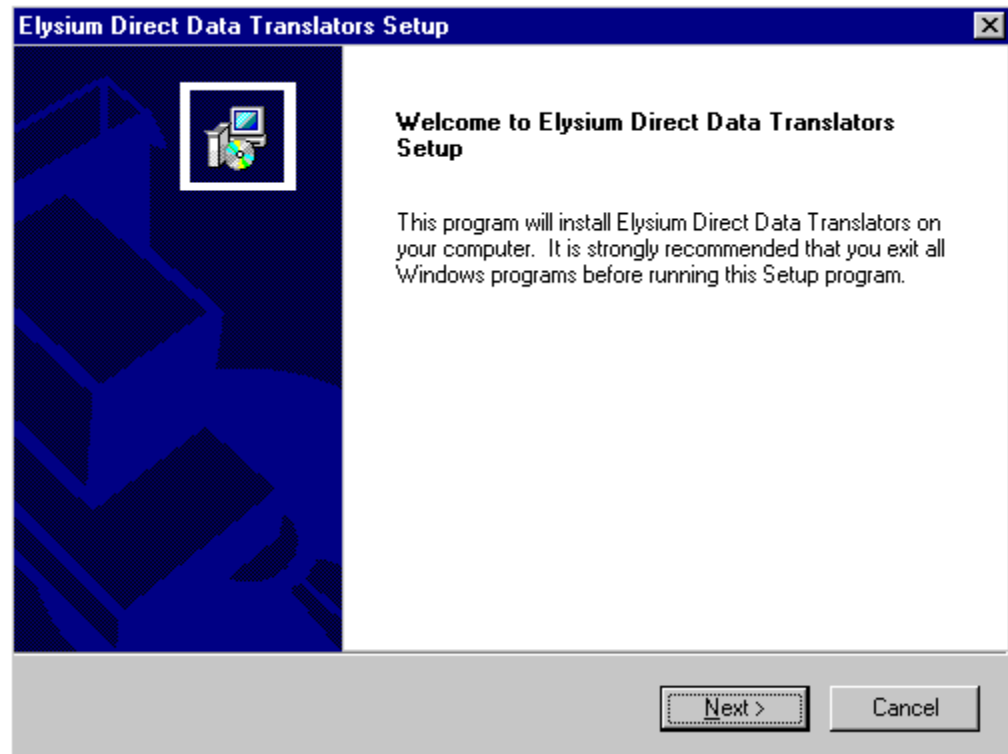
For additional information about the Pro/E configuration file, `config.pro`, see Pro/Help or the Pro/E documentation.

Installing Pro/ENGINEER to/from Unigraphics on a Windows NT system

You need Administrator privileges in order to install Elysium translator software.

Insert the Elysium Translator CD into your CD-ROM drive.

The Elysium Direct Data Translators Setup program starts automatically. (If the setup program does not start automatically, run the \winnt\setup.exe program found on the Elysium Translator CD. You can do that using Run... from the Windows NT Start menu.) Follow the instructions given by the installation wizard.



Configuring files required to run the translator (runtime files)

In order to complete the installation of the translator, you need to create/edit and install three files: `protk.dat`, `prodlist.txt`, and `config.pro`. We provide an interactive utility, `ProeSet`, to help with that. You can run it by selecting Translator setting for Pro/E from the Windows NT Start menu (look in the Elysium Translators folder under the Programs folder).

Select the version of Pro/E

2000i2

Specify location of license server

HOSTNAME

PORT 7890

Following products are selected now.
Please push "Edit" button if you want to modify.

Product Name	Ship Number
Pro/E to UG(Parasolid)	200112
UG(Parasolid) to Pro/E	200112

Edit

Create Exit

Enter your license server HOSTNAME and the license server PORT number. The installed products appear in the list window. Click Create. The `pronutenv.txt` file is created under the translator installation folder, for example, in `... \proexx\exe`.

Check that the variables `ELY_SEC_SERVER` and `ELY_SEC_PORT` in the file `install_dir\proexx\exe\pronutenv.txt` are correct.

```
==== Elysium Data Translator Environment ====
```



```
ELY_SEC_SERVER = lupin
ELY_SEC_PORT = 7890
...
END
```

If it is wrong, operate ProeSet again to reset them.

Checking the application setting file

When you start Pro/ENGINEER, the Pro/E Toolkit application settings file (protk2000i.dat, for example) is read to locate the translator applications. Your file should look like the following.

```
NAME          From_ProE_Elysium_Translators
EXEC_FILE     $ELY_INSTDIR\proe2000i\exe\pro2nut_v2000i.exe
TEXT_DIR      $ELY_INSTDIR\proe2000i
REVISION      20
END
```

If it doesn't, you may correct it with a text editor. You will be copying that file to a runtime directory in a later step.

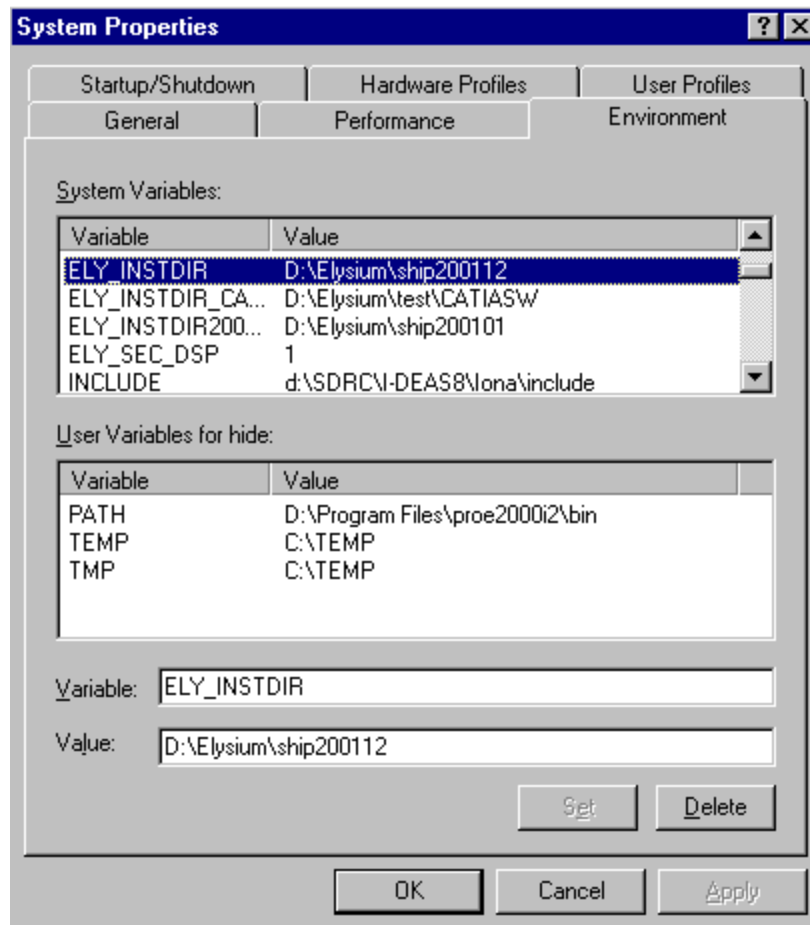
Checking your environment

Open the System Control Panel, and click the Environment tab to display the list of environment variables. Check that the following variable is set.

```
ELY_INSTDIR   translator_install_dir
```

Where *translator_install_dir* is the installation directory you selected when performing the translator installation.

If it does not exist or wrong, correct it.



Installing the translator's Pro/ENGINEER Toolkit file, protk.dat

You need to copy the Toolkit application settings file (protk2000i.dat, for example) from its location under the Elysium translator installation directory to a specific directory under the Pro/E installation, and changing the file name to protk.dat. If the protk.dat file already exists there, you may need to merge the contents manually using a text editor.

Example for Pro/E 2000i (enter as a single line in a Command Prompt window, or use the Windows Explorer):

```
copy install_dir\proe2000i\exe\protk2000i.dat  
proe_install_dir\text\protk.dat
```

Where *install_dir* is your translator installation directory, and *proe_install_dir* is the directory where Pro/ENGINEER is installed.

Using Pro/ENGINEER to/from Unigraphics translator

Running the translator

Before you start Pro/ENGINEER, check that the license server is running and that you'll be able to obtain a valid license for the translator.

1. Start Pro/ENGINEER.

The following messages are displayed:

```
>>> Exec file   : /home/proe/pro2nut/exe/sgi/pro2nut.exe
>>> Text dir    : /home/proe/pro2nut/text_pronut
```

```
-----
Elysium Direct Solid Translators
for Pro/ENGINEER V20
```

```
developed by
ELYSIUM CO.,Ltd.
-----
```

2. Open or create a part or assembly model.

3. Run the translator.

Select Elysium then toUG (or fromUG) from the Pro/ENGINEER File menu.

About exporting from Pro/ENGINEER to Unigraphics

What's translated

Pro/ENGINEER solid feature models created in part or assembly mode.

Geometric and topological information. The translator generates a Parasolid part file with complete solid information.

Face color attributes.

What's not translated

Models with no volumes, such as those that are only surfaces or only coordinate axes.

Features other than solid features, such as datum surfaces and coordinate axes.

Parametric information. After translating and importing into Unigraphics, you can add features (perform boolean operations, create fillets, and so on), but you cannot modify dimensions.

When you convert assembly models, the topology of the parts is translated, but not the captive information.

Entity attributes other than face color.

Pro/ENGINEER modeling tips

Modeling accuracy

Create models with absolute accuracy of 0.01 mm

Pro/ENGINEER utilizes both relative and absolute accuracy. Its default accuracy is 0.0012, relative.

The relationship between relative accuracy and absolute accuracy can be expressed as follows.

$$\text{abs_accuracy} = \text{bounding_box} * \text{rel_accuracy} / 12$$

If the distance between two points is less than the absolute accuracy, they are considered a single point.

We recommend you create models using absolute accuracy of 0.01 mm when you want to translate them. Looser accuracy settings may poorly affect later operations on the translated model in Unigraphics.

Creating assembly parts using relative accuracy may also negatively impact later operations on the translated model, since the parts that make up the assembly are effectively of different accuracies.

Geometry errors

Use the Pro/ENGINEER Geometry Check function to identify errors that may cause problems with the translated model.

(In Pro/ENGINEER V20 or later)

1. Select Info.
2. Select Geometry Check from the Info menu.

Select the feature number you want to check from the Geometry Check menu.

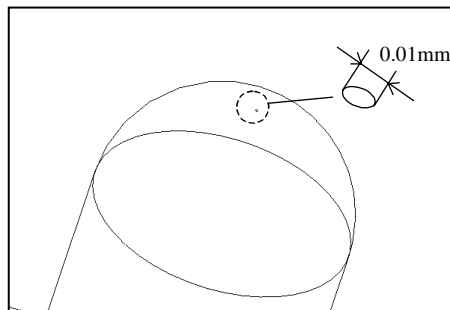
For further information, refer to the following manuals:

- *Introduction to Pro/ENGINEER*
- *Pro/ENGINEER Part Modeling User's Guide*

For the best translation results, we recommend you check your model often in Pro/ENGINEER, and fix errors and warnings as you find them.

Tiny patches

Pro/ENGINEER sometimes creates a tiny patch which Geometry Check cannot detect. The following is an example.

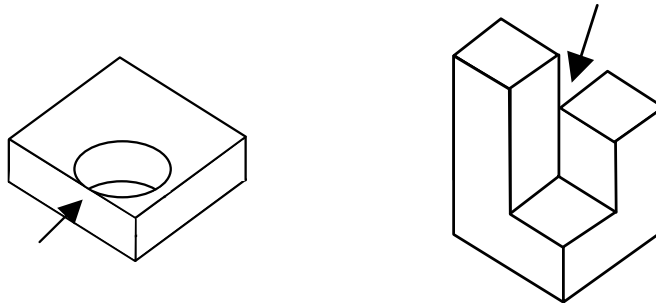


At the top of the cylinder with radius 1 mm, a half-dome of radius 0.995 mm is created. That causes a tiny plane to be created at the very top of the half-dome. Geometry Check does not issue an error or warning in this case.

The translator tries to find and remove tiny patches, but some cases, such as the example above, are very difficult to handle automatically. Try to avoid those types of situations when modeling in Pro/ENGINEER.

Non-manifold conditions

Non-manifold features are physically impossible states for a part, such as zero thickness surfaces, or more than two surfaces meeting at an edge.



Non-manifold conditions may result in failure to complete the translation.

Solid vs. surface-based

You can create solid-based models, initially, or you can create surface-based models that are then sewn to make a solid part. However, the latter method tends to produce models of inferior accuracy. We recommend you create solid-based models in Pro/ENGINEER.

Imported features

The translator is designed to support models created natively in Pro/ENGINEER. Avoid using features that have been imported from IGES or other CAD systems. Imported features make your model less accurate.

Pro/ENGINEER files and versions

Make sure you have all the files, such as assembly files, sections files, and part files, that originally made up a part or assembly model prior to translating the model.

If some of the files happen to be missing, Pro/ENGINEER will attempt to regenerate the model. However, the regenerated model may be significantly different than the original, or may contain some errors that might lead to translation problems.

The best way to help ensure a problem-free translation is to export all the files associated with the Pro/ENGINEER model, then use the exported model (files) for the translation.

The translator supports models created using Pro/ENGINEER V19 or later. Older models may translate, but we cannot make any guarantees.

You can check what version of Pro/ENGINEER created a model by looking at the first line in the model file. For example,

```
#UGC : 2 PART 996 420 0 1 1 15 2000 9837 0000078f \
```

The second to the last number is the ship number written on the CD-ROM, and the third to the last number is the version of Pro/ENGINEER with “00” added. The example above shows that the ship number is 9837 and the version is 20.

Unigraphics modeling tips

Unigraphics to Pro/ENGINEER translates solid bodies and sheet bodies from Parasolid part files into Pro/ENGINEER models. That means you must first save your native Unigraphics model in Parasolid format in order to translate.

Some Unigraphics models may have conditions that lead to errors in translation to Pro/ENGINEER. Some of those conditions are discussed in the following paragraphs.

Model using the default accuracy

Do not loosen the modeling tolerance in Unigraphics. Tolerances larger than the default may result in loops that are geometrically closed, but topologically unclosed.

There are basically two classifications of data in solid models, often referred to as geometry and topology.

Geometry	shape or position, such as points, curves, surfaces, and so on
Topology	connections or relationships geometry, such as between curves and other curves, curves and surfaces, and so on

When the geometry data and the topology data are inconsistent or contradictory, it is said there is an error (or errors) in the model.

For example, when two surfaces are connected topologically, but there is a gap between them, that is an error.

Check models using Examine Geometry

Unigraphics has standard functions to check models. In particular, look for errors such as tiny entities, self-intersecting faces, and spiked or cut faces. Remove any errors found prior to translating.

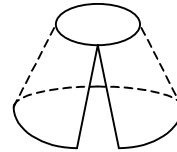
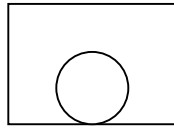
Here are the steps to check for model consistency in Unigraphics.

1. Select Info/Analysis/Examine Geometry.
2. Choose Select All Checks and click OK.
3. Use the Select All function to pick all classes.
4. Check the diagnostic results in the list window.

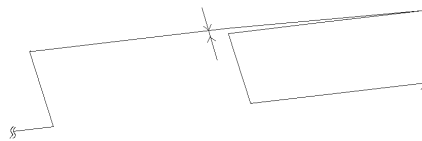
Here are some examples.

1. [Examine Geometry] - [Objects] - [Tiny]
There are some very short curves or very small faces in the model. Those may be created unintentionally during modeling.
2. [Examine Geometry] - [Faces] - [Self-intersection]

Faces are self-intersecting or have a loop.



3. [Examine Geometry] - [Faces] - [Spike/Cut]



4. [Examine Geometry] - [Edges] - [Tolerances]

Edges with larger gaps than the tolerance specified in the Examine Geometry dialog are detected. Unigraphics, and its Parasolid kernel, is a tolerant modeler in that it can handle a certain degree of inaccuracy and still treat the model as a solid. However, sometimes those inaccuracies will cause the translated model to not be a solid.

For additional information about the Examine Geometry and other functions, refer to the *Unigraphics Essentials* manual.

Use imported data with caution

The translator is designed to support models created natively in Unigraphics. Avoid using features that have been imported from IGES or other CAD systems, particularly when those imported features introduce inaccuracies in your model.

Troubleshooting

We present common startup problems first, followed by those situations that have to do with the solid model itself.

Common UNIX startup problems

Problem: Pro/ENGINEER fails to run from the directory where the `protk.dat` file is installed.

The translator version specified in the `protk.dat` file might not match the version of Pro/E you are running. Check the version of the `nut2pro.exe` executable using the `what` command. For example,

```
cd <install_dir>/SHIPXXXXXX/proe_import/<proe_ver>/<arch>
what nut2pro.exe | more
```

If the versions don't match, reinstall the correct UGPro version.

Problem: The translator logo messages do not display when I start Pro/ENGINEER.

Problem: Elysium Import is not listed in the Pro/ENGINEER Import menu.

Problem: There is no "from UG" on the Elysium Import menu.

Problem: The translator does not run after selecting "from UG" on the Elysium Import menu.

The problems above can usually be traced to problems with the `protk.dat` file. Make sure that file is in the directory from where you launch Pro/E.

Common Windows NT startup problems

Problem: Pro/ENGINEER fails to run.

Problem: The translator logo does not display when I start Pro/ENGINEER.

Problem: Elysium Import is not listed in the Pro/ENGINEER Import menu.

Problem: There is no “from UG” on the Elysium Import menu.

The problems above are often related to a missing `protk.dat` file. Double check the steps that describe how to copy the `protk.dat` file.

Problems exporting from Pro/ENGINEER to Unigraphics

Occasionally, the translator fails to convert part or all of the data from Pro/ENGINEER into Unigraphics. For example, a solid in Pro/E is not regenerated successfully when imported into Unigraphics, and you only see a sheet body in UG. There are generally three possibilities: 1. The Pro/E data contains errors which prevent the translator from completing its job successfully; 2. The run-time environment is limiting, for example, memory or swap space is lower than required; 3. The translator program code has an error.

The paragraphs that follow discuss some of the symptoms and what you can try to solve the problems.

Translator stops prematurely

Some of the causes include data inconsistencies in the Pro/E model and memory shortages at run-time. In those cases, there is often no Unigraphics Parasolid file saved. You see error message dialogs, or errors are displayed in a start-up (command text) window.

If you see the message, “Failed to set rollmark!”, try increasing the temporary file storage area allocated by the translator. Do that by setting the environment variable, ROLBK, to a value greater than the default, 128 (MB). The value of ROLBK should be a multiple of 4.

Here are some examples of customizing the translator ROLBK setting in the pronutenv.txt file.

UNIX systems

In a text editor, open the file *install_dir/proe_export/pro_ver/platform_type/pronutenv.txt*, where *install_dir* is the path to the installed translator software, *pro_ver* is the Pro/E version you chose, and *platform_type* is hp, ibm, sgi, or sun. The complete path might look something like

```
/opt/elysium/SHIP200112/proe_export/2000i2/sun/pronutenv.txt
```

Add the following line before the END line.

```
ROLBK=256
```

Windows systems

In Notepad, open the file *install_dir/proe_export/pro_ver/nt/pronutenv.txt*, where *install_dir* is the path to the installed translator software, and *pro_ver* is the Pro/E version you chose. Add the following line before the END line.

ROLBK=256

Another possibility is that the Pro/E data has some errors or inconsistencies. Follow the steps given later in this manual to Analyze and check your Pro/E model.

If the model seems to be error-free and the translator still fails to convert it, contact us about the problem. In some cases, we can duplicate the problem or perform a successful translation at our support or development facilities.

Translation appears to be in an infinite loop

When translating a large model or assembly, the translator messages show

```
>>> WRITE PARASOLID FILE
>>> DONE !
```

and yet the process appears to still be running, your Pro/ENGINEER license may have timed out. A similar problem may occur with different error messages displayed. Press Ctrl-C on your keyboard to force the translation process to exit. Once you stop the translator with Ctrl-C, you must restart the Pro/ENGINEER application in order to invoke the translator again.

You can increase the value of `timeout_multiplier` in your Pro/E configuration by editing the Pro/E `config.pro` file. You can do that from within the Pro/ENGINEER application (version V20 and later).

1. Select Utilities/Preferences/Edit Config from the Pro/E menu bar.
2. Add the line

```
timeout_multiplier 10
```

For more information about Pro/ENGINEER configuration options, see the manuals *Pro/ENGINEER Fundamentals* and *Introduction to Pro/ENGINEER*.

Data only partially converted

When there are errors or inconsistencies in the Pro/E model, the translator sometimes creates only sheet bodies instead of solid bodies in the resulting Parasolid data. You can tell what was created by looking at the messages displayed during the translation.

```
>>> KNIT SHEET BODY
>>> BODY TYPE = SOLID
```

or

```
>>> BODY TYPE = SHEET
```

Follow the steps given later in this manual to Analyze and check your Pro/E model. If you don't find any errors, try manually creating a solid body after importing into Unigraphics. A summary of those steps is also given later in this manual.

Analyzing your Pro/ENGINEER model

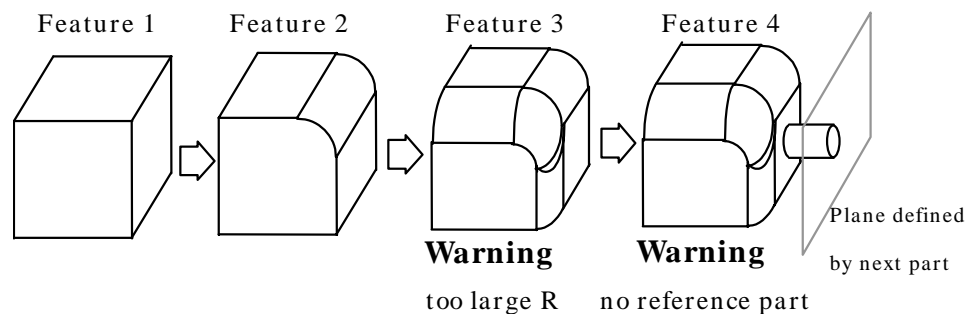
Pro/ENGINEER models may contain geometry or topology errors that impact successful solid data (B-rep) translation. In our experience, models created using old versions of Pro/ENGINEER tend to have such errors. Here we describe techniques you can use to analyze and correct some modeling errors.

1. Regenerate the model.
2. Check Model Info.
3. Run a Model Mass Properties analysis.
4. Run Geometry Check.

Regenerate the model

Pro/ENGINEER, versions V20 and later, can regenerate features based on the saved modeling history. Select Info/Regen Info. Start regenerating features from the first feature in the history. Select Continue, and repeat for all features.

Warnings and error messages display if Pro/ENGINEER cannot regenerate certain features. Refer to Pro/ENGINEER documentation, *Pro/ENGINEER Fundamentals* and *Introduction to Pro/ENGINEER* for more information. If your model cannot be completely regenerated in Pro/ENGINEER, you may not be able to successfully translate it.



Resolve external references, such as missing assembly (.asm), section (.sec), and part (.prt) files. Copy missing files to your current (model) directory.

Change invalid feature parameter values, such as those that are out of range.

Check Model Info

Select Info/Model. An information window appears listing the features that make up the model. Make sure that all original references can be found. Pro/ENGINEER attempts to regenerate parts with missing information, but the resulting model may not translate.

Run a Model Mass Properties analysis

Select Info/Model Analysis. Select Model Mass Properties, then click Compute. Input parameters at the prompts in the message window. Results of the computation are displayed. Check that the calculated volume and surface area are reasonable. If the mass properties calculations take an inordinately long time, the model may have errors.

Run Geometry Check

Select Info/Geometry Check

Pick the feature you want to check from the menu. Various Pro/ENGINEER manuals, *_Pro/ENGINEER Fundamentals_*, *_Introduction to Pro/ENGINEER_*, and *_Pro/ENGINEER Part Modeling User's Guide_*, describe the errors or warnings you may see. The Geometry Check menu is grayed-out if Pro/ENGINEER does not detect any data errors.

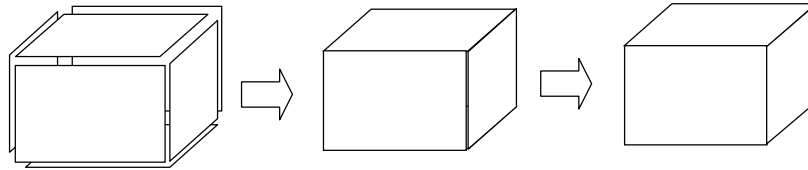
Data inconsistencies such as very short edges can be detected by the Geometry Check function. Models that have errors reported by Geometry Check may not translate. The Geometry Check function may suggest ways to correct or avoid certain errors.

Settings that control how the translator creates the (Parasolid) model

The translator attempts to create a Solid model by loosening the tolerance when the accuracy of the model is not very good. It uses the following steps:

1. Create each sheet.
2. Sew all sheets together.
3. Convert to a solid if there are no gaps.

The process is illustrated in the following figure.



SKP_KNT_SHT

If you don't want the surfaces to be sewn automatically set the environment variable `SKP_KNT_SHT` to 1. The translator skips the sewing, and the Parasolid part file consists of unconnected sheets even if the model has high accuracy.

NUM_KNT_AGN

The translator tries to sew the sheets by loosening the tolerance. You can set the number of retries using the environment variable `NUM_KNT_AGN`. The default is 4. When you set it to 0 the tolerance is not loosened. If you set it too large the translator program may terminate abnormally.

NUM_SLD_AGN

When there are gaps, the translator attempts to close the gaps by loosening the tolerance near the gap. You can set the number of retries using the environment variable `NUM_SLD_AGN`. Its default is 3. When you set it to 0 the tolerance is not loosened. If you set it too large the translator program may terminate abnormally.

You can set the environment variables by modifying the `pronutenv.txt` file, described earlier.

Checking your translated model in Unigraphics

In Unigraphics, select Info/Analysis/Examine Geometry to check the imported Parasolid model. For more information, see the *Unigraphics Essentials* manual.

Sewing sheet bodies in Unigraphics

1. Select Application/Modeling.
2. Select the Sew icon.
3. Uncheck Sew All Instances.

4. Select Sheet as the selection filter.
5. Set the Sew Tolerance (depends on the model precision).
6. Select Target Sheet, then pick one of the sheets in your model.
7. Select Tool Sheets, then pick all sheets with the exception of the one you selected as the target sheet.
8. Select OK.

The Sew command needs at least two sheets. If the imported model consists of only a single sheet with gaps, first separate the sheet, then sew the sheets.

1. Select Application/Modeling.
2. Select the Extract icon.
3. Select Same Type Surface, then click OK.
4. Select ALL in BODY.
5. Pick a sheet, then click OK. New, separated sheets are created.
6. Select Edit/Delete.
7. Pick the original sheet, then click OK.

For more information about modeling with sheets, see the *Unigraphics Modeling* manual.

Unigraphics V14.0.1

Unigraphics V14.0.1 has some problems when importing Parasolid V7.0 files. In that case, we provide an option to change the Parasolid version output by the translator. Set the environment variable ARMO_PS_VER90 to 1. Using that setting, the Parasolid file will be a V9.0 file.

Case-sensitivity in Unigraphics

Make sure you create Parasolid file names using lowercase letters. Unigraphics cannot import Parasolid files that have capital letters.

Problems with imported model data in Pro/ENGINEER

In cases where a translated model does not appear at all in Pro/ENGINEER, or where only partial translation occurs, there may be additional steps you can take.

In general, problems with translated data can be caused by

- Errors in the Unigraphics solid model
- Restrictions in the translator's runtime environment (memory, swap, and so on)
- Bugs in the translator software (highly unlikely, we think!)

When contacting Elysium tech support, be prepared to provide the error messages, if any, that you see in the ProE start-up window and error messages that may have occurred when creating the Parasolid file from the Unigraphics model.

Using Pro/ENGINEER functions to fix imported model data

Invalid data (faces, volumes) in Pro/E can often be fixed using the following Pro/E functions

- Feature/Redefine/Heal Geometry/Manual/Fix Bndries/Zip Gaps
- Feature/Redefine/Heal Geometry/Manual/Fix Bndries/Edit Bndry
- Feature/Redefine/Attribute