Model Nesting is the process of orienting multiple models in the build area for a more efficient build. This guide shows how to use the import feature to add models to the build area. The copy and paste features are used to duplicate a model. When nesting models it is not uncommon to accidentally orient models too close to each other. Using features in the Z Print software it is possible to detect these model collisions.

In a commercial environment, nesting models allows for increased productivity and reduced costs. Projects are able to be completed faster because of reduced time required to build prototype models. The non-attached support structure used by Z Corp 3D Printers allow for complex nesting options not available with many other Rapid Prototyping machines.

Reference the Z Print Software Manual for more details on specific features.

Legend

The colors in this legend correspond with specific processes on the inside pages.

- **Import/Duplicate**
  Import and duplicate models into Z Print.
- **Model Nesting**
  Layout multiple models in the build area.
- **Collision Detection**
  Use Z Print to check for collisions.

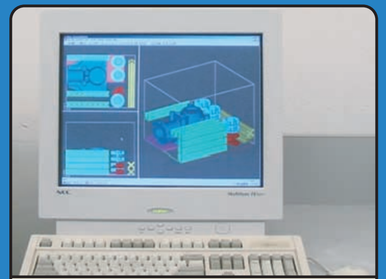
Equipment

- **Computer**
- **Z Print Software**

Environment

Classroom, Office, or Computer Lab

Z Corporation
Z®Print Software
Z CORPORATION



Computer Running Z Print Software

Definition

collision - When two models are mistakenly merged during the nesting process.

About Z Corporation

Z Corporation manufactures office-compatible 3D printers that quickly and inexpensively produce real physical models directly from digital data. The 3D Printers use ink-jet printing technology to deposit a binder onto a powder, building the parts layer by layer. The finished parts are exact representations of the design created in CAD or other digital data. These models can be handled, reviewed and exchanged to enhance communication in the product design and development process. 3D Printers are used in a broad range of industries including automotive, defense, consumer products, electronics, architecture, medical, and geographic information systems.

z corporation

Technician Education in Rapid Prototyping and Virtual Manufacturing Technologies

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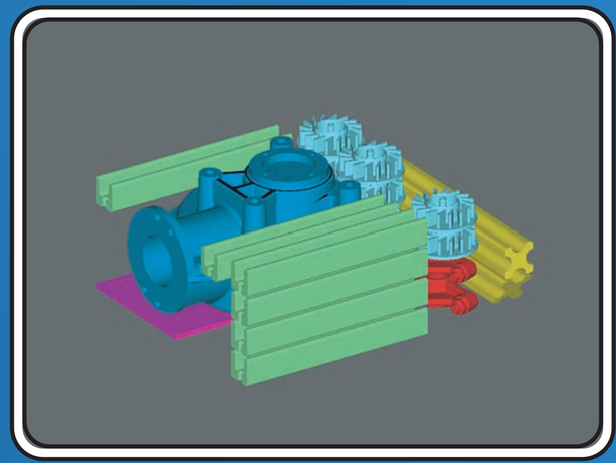
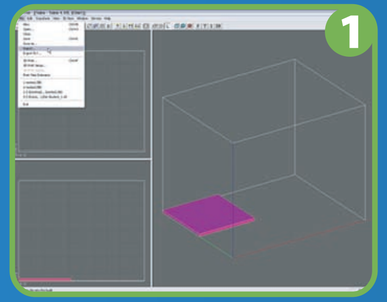
RPT 2

Model Nesting

Maximizing the Build Area



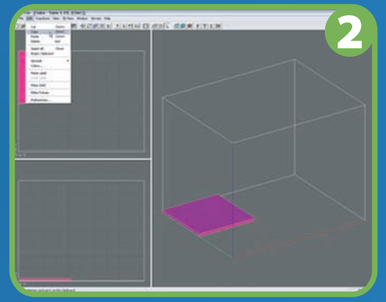


Importing

When settting up the build area for mutiple models, each model must be imported separately.

Models are imported by selecting import from the file menu in the Z Print software.

Each model should be oriented before the next one is imported.

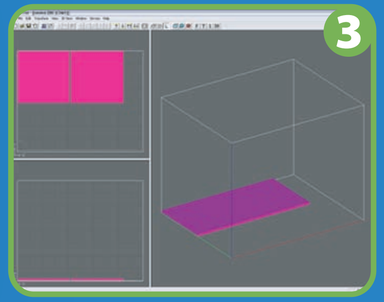


Duplicating

When setting up the build area for multiples of the same model, the copy and paste features are used.

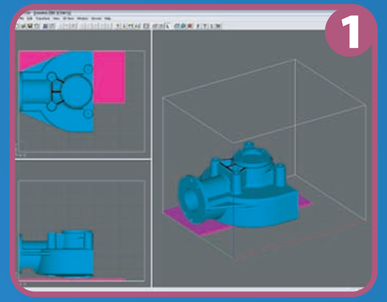
Models are copied, using the copy feature on the edit menu.

The copy of the model is then placed into the build area, using the paste feature on the edit menu.



Duplicating

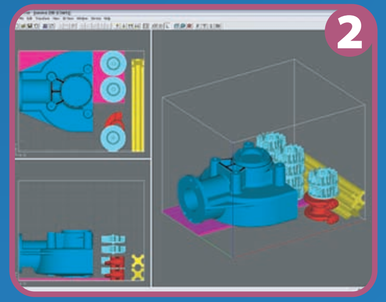
The Z Print software usually places the duplicate in the position for the build. Sometimes it may be necessary to adjust the placement of the model.



Nesting Models

It is recommended that large flat models are placed near the bottom of the build area to prevent warping when nesting models.

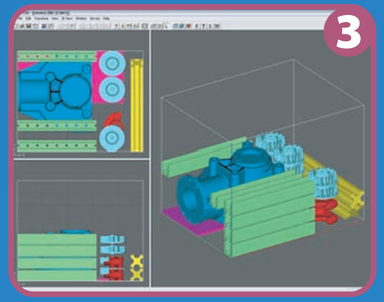
Large models should be placed were they can be removed easily from the build area when finished.



Nesting Models

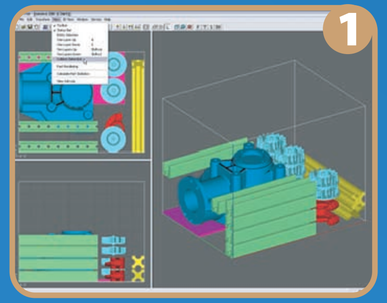
Long narrow models can be placed along side walls to save room when building.

Fragile models should be laid out for easy removal from the build area to prevent breaking when they are removed from the build area.



Nesting Models

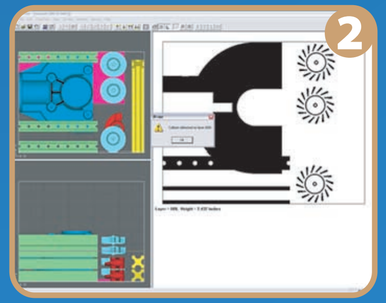
When new models are imported the Z Print software will optimize the lay out of models in the z axis for a faster build.



Collision Detection

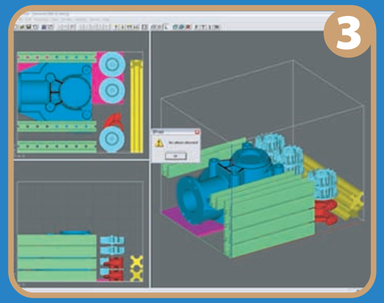
Collision detection is used to determine whether models have come into contact with each other during the nesting process.

The collision detection feature is accessed from the view menu.



Collision Detection

If a collision is detected and not fixed it will cause models to be built together as one, making them unusable.



Collision Detection

Fix any collisions that are detected by reorienting affected models and run collision detection again to verify that any collisions have been fixed.