

Tips & Tricks: Handling clashing parts in Annotation OneSpace Modeling

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When parts clash in your drawings, Modeling and Annotation offer several solutions to help you see and address those clashes. Which solution is best? That depends on how many clashes the system detects, whether they come as a result of data conversion, and whether clashes are intentional (as in the case of pressfits). Use the solution that optimizes the quality of your drawing and speed of generation.

Clashes in Annotation

Unintentional clashing parts

When you modify parts or assemblies, unintentional part clashing can easily occur. These clashes can lead to unexpected results in the associated 2D drawing. In general, we recommend that you remove all unintentional clashes before generating 2D drawings.

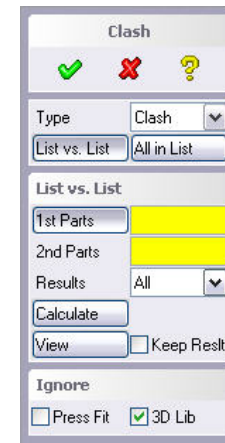
To detect unintentional part clashing in your design, use clash detection in OneSpace Modeling. Within seconds you'll see whether a clash exists in your parts or assembly. If a clash is found, OneSpace Modeling displays a viewport showing the interference volume in red. The results of your clash detection determines the best way to correct unintentional clashes:

If you find only a few unintentional clashes:

Use different Modeling commands like **Subtract**, **Machine**, or **Move** to correct the clashes.

Benefits:

- Remove unexpected results in the associated 2D drawing.
- Minimize unexpected results during prototyping, the manufacturing process, or FE analysis.



Clash Command

Clashes in Annotation

If you find many unintentional clashes:

Collision checking and solving interference problems can become quite time consuming when multiple clashes exist. Instead, use **Auto recognition** in Annotation.

Auto Recognition automatically identifies clashing parts and enhances their 2D view representation. Using this new option ensures a predictable representation in 2D.

The option can be activated in:

- The **Update Mode** menu in general for new drawing / view creation.
- The **View Properties** menu for each single view.

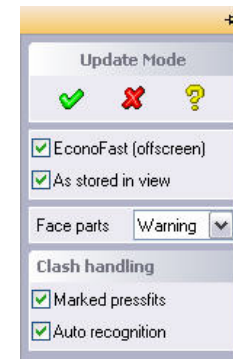
Use **Auto Recognition** for clashes in an assembly (especially micro clashes), or when all or some of the clashing parts are not pressfit parts, but rather accidental clashes. Use **Auto Recognition**, also, when you work with mixed resolution assemblies or parts.

Benefits:

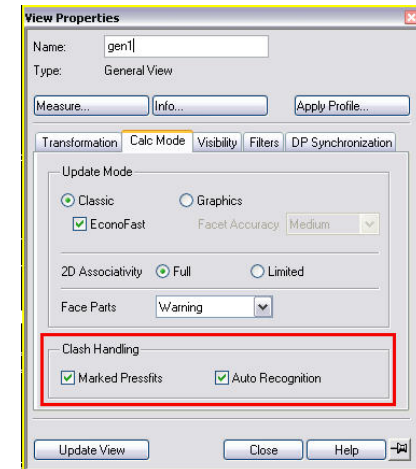
- The system automatically recognizes clashes and creates a predictable representation of views containing clashing parts.
- Fewer missing and excess geometry lines appear after an update, so drawings are more reliable.
- Less sensitive to geometric resolution differences)

Clashes resulting from data conversion

Clashes in a design often result from data conversion, which can cause a loss of data inaccuracy when importing parts. For solving these micro clashes, we recommend the **Auto Recognition** feature (described above).



Update Mode



View Properties

Clashes in Annotation

Intended part interference

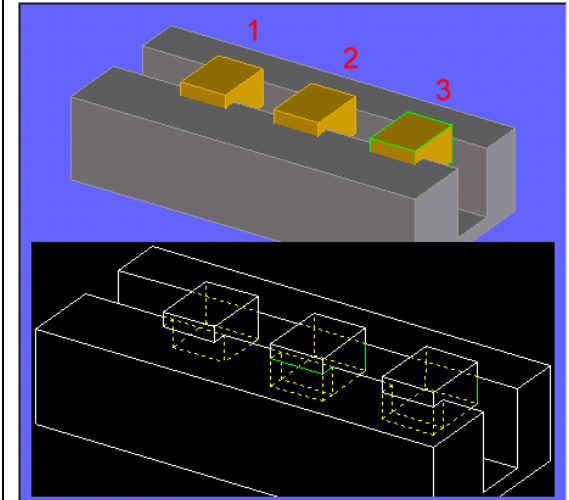
Some parts are meant to clash in the design (such as pressfit parts). Mark these in the 2D drawing as **Pressfits**. With **Pressfits**, users can visualize part interference in the related 2D drawing.

Typically, use this functionality as follows:

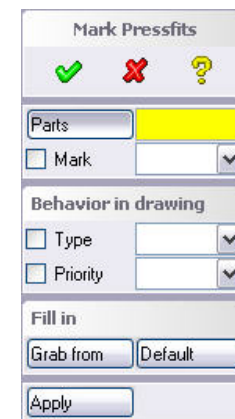
1. When adding a pressfit part into an assembly, mark the pressfit part.
2. All subsequent 2D drawing updates will then handle the pressfit part correctly.

To mark pressfits, click **Part & Assembly >Modify >Pressfits**. Commands and options include:

- **Parts:** Use this option to select the part or parts which are to be handled in a special way during view updates. You can also specify a complete assembly in which all parts in the assembly will be handled in a special way.
- **Mark:** Use this option to specify whether the pressfit mark should be added to the contents or the instance of the part. Marking the part contents means that all shared parts will be handled in the same way. Marking the part instance allows more control over the pressfit attributes of each individual part, even if it is shared.
- **Type:** If the type is set to **Pressfit Part**, this activates the special handling during view updates for the part. By setting the type to **Standard Part**, you can switch off the special update handling for parts where you already know that they do not really clash or overlap with other parts (this can be used to reduce view update times).
- **Priority:** The priority specifies in which way the pressfit parts should be handled during view updates. If the priority is set to **Low**, the marked part is subtracted from any other parts with which it clashes (in other words, the other parts have higher priority in the drawing). For example, this is typically useful for parts made of rubber that are pressed into metal parts.



Display of pressfits parts in Annotation
1: Low, 2: Medium, 3: High Priority



Mark Pressfits

Clashes in Annotation

Consider this...

Avoid marking clashing parts with resolutions very different from pressfit parts. The resolution of the involved pressfit parts will be changed to the lowest resolution during view calculation and may cause corrupt bodies.

If the priority is set to **High**, all parts that clash with the marked part are subtracted from it. To see all lines of both overlapping parts in the drawing, set the priority to **Medium**.

Disadvantage:

Drawing generation time increases with the number of pressfit parts in the model.

Benefits:

All lines of overlapping parts can be visualized in the drawing.