

# Rigidify



# What is rigidify?

- **Rigidify** is used to rigidify selected parts of the model.
- This function can be used in replacing complex deformable meshes with rigidified representations to reduce runtime.
- This function takes care of the rigid constraint clashes, tied contacts etc.
- However, the consequences of applying **Rigidify** to the model are considerable and irreversible. It is therefore recommended that the user always saves the model before they press **Apply**.



# Options when using rigidify

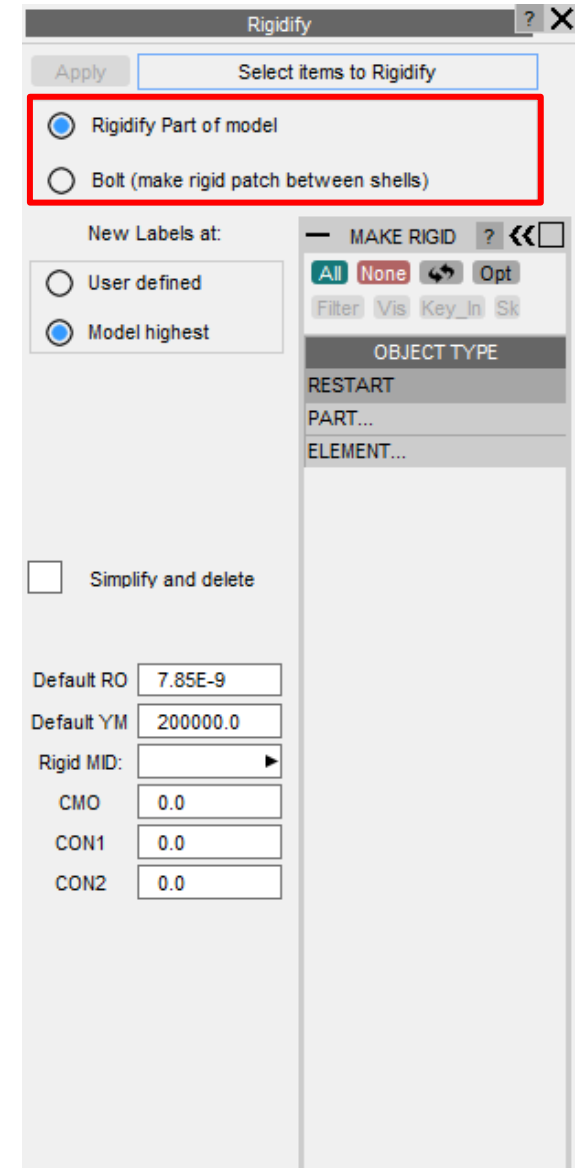
## • Rigidify Part of Model:

- Rigidify Part of Model is designed to make rigid a selection of parts, elements or part sets in a model.
- If some elements of a part are selected, it does this by creating new rigid parts and moving the selected elements into them.

## • Bolt (make rigid patch between shells):

- Create Rigid Patch (Bolt) will rigidify a selection of elements and if they belong to different parts create a merge onto the first part selected.
- The option is available to copy the selected elements rather than just move them into the new rigid part.

- **CMO**, **CON1** and **CON2** are mass constraint options. These options are used to define rigid material properties for both part and bolt.



# How rigidify will change the model

- All the structural elements (shells, thick shells, solids and beams) that have been selected will end up in a rigid part slaved to the dummy master rigid part.
- **Selection of a deformable part** – if a part is selected directly or all the elements of a part are selected, a new material will be generated and the part material reference updated. The part will be merged to the dummy master part.
- **Selection of deformable elements** – if some elements of a deformable part are selected, a new part and material will be created, and the elements will be moved into this part. The part will be merged to the dummy master part.
- **Selection of a rigid part or an element of a rigid part** – in this case only the merge to the dummy master is made.
- The rigidified parts will all be written to a group, so the user can easily determine the mass properties.
- The “Simplify and delete” option can be used to delete the selected entities and replace them with a **\*PART\_INERTIA** definition with the equivalent mass properties of the selected entities. The **\*PART\_INERTIA** definition will be connected into the model in the same way as the original entities.



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