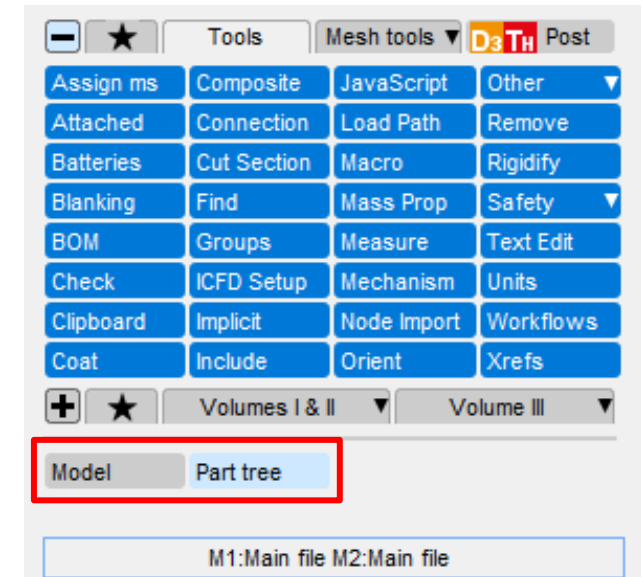


# Part Tree



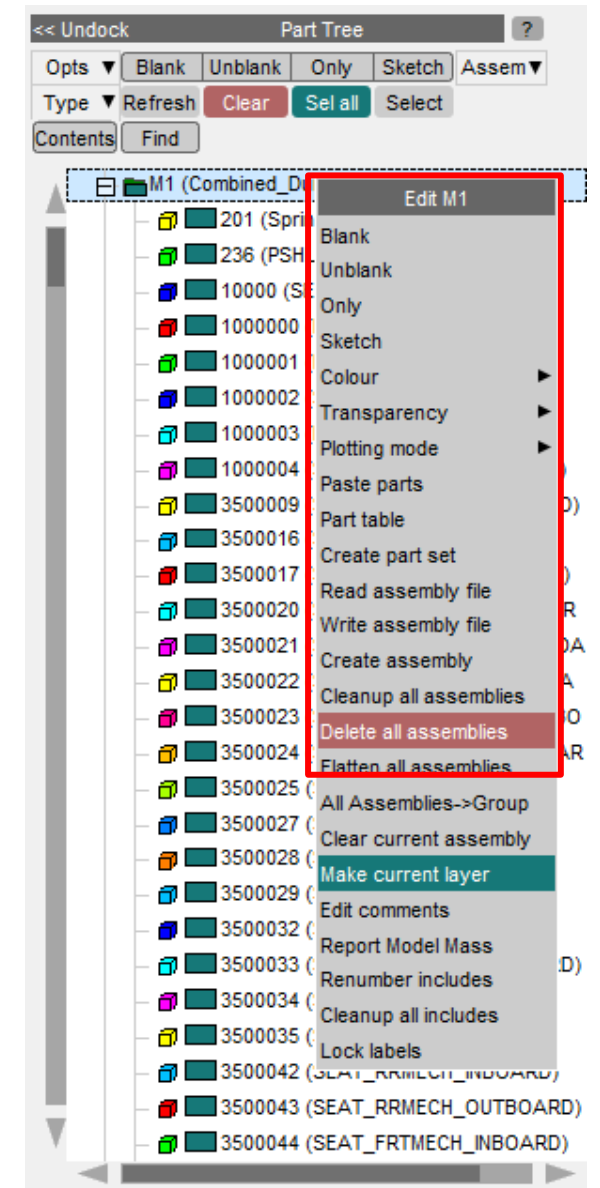
# What is the Part Tree?

- The part tree enables you to quickly navigate around a model.
- It is possible to manipulate, view and edit entities in a quick and easy fashion.
- The part tree is focussed around part manipulation, but it is also possible to view other types – e.g. materials and shells.
- There are various types of view expansion and contraction available, multiple selection and visualisation functions.
- This makes the part tree a very powerful PRIMER tool and therefore it is constantly available through the tabbed area, (shown below).



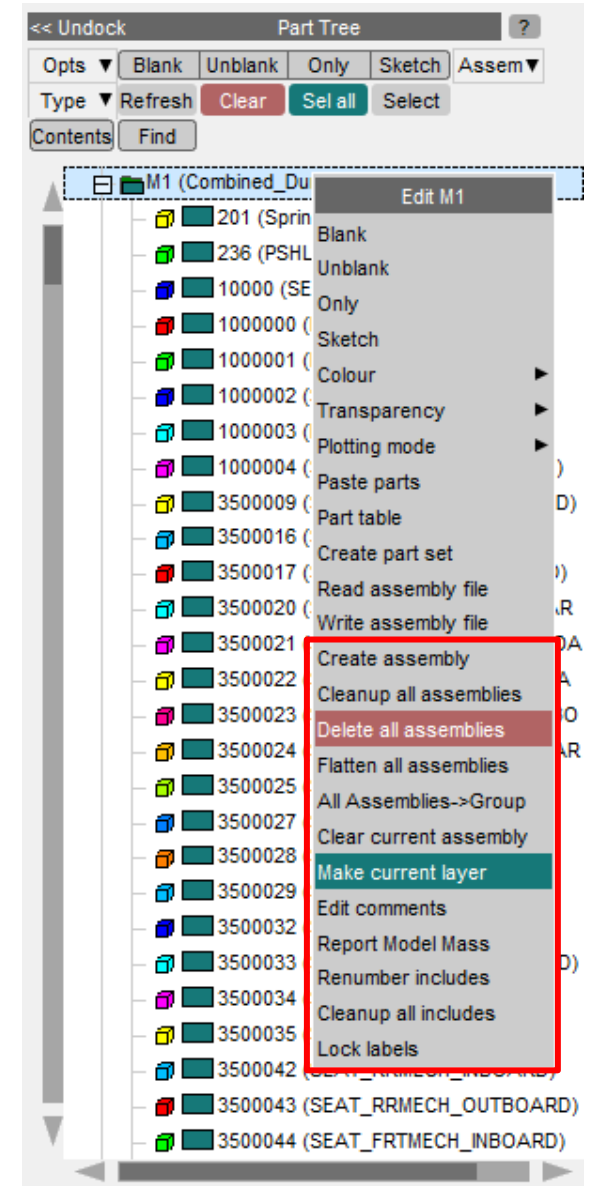
# Part Tree Panel (Right click on model)

- **Blank** – Blanks the entity.
- **Unblank** – Unblanks the entity.
- **Only** – Blanks all other entities and unblanks the entity.
- **Sketch** – Sketches the entity.
- **Colour** – Colours the entities (or elements associated with the entity) with the selected colour.
- **Transparency** – Set the transparency for the entities (or elements associated with the entity) to the selected value.
- **Plotting mode** – Allows you to specify how a particular entity will be seen on the screen; wireframe, hidden, shaded or current.
- **Paste Parts** – Moves the last cut parts into the selected include file or assembly.
- **Part table** – Brings up the part table for the selected parts.
- **Create part set** – Create a part set with currently selected parts as the contents.
- **Read assembly file** – Read an assembly file.
- **Write assembly file** – Write out an assembly file.



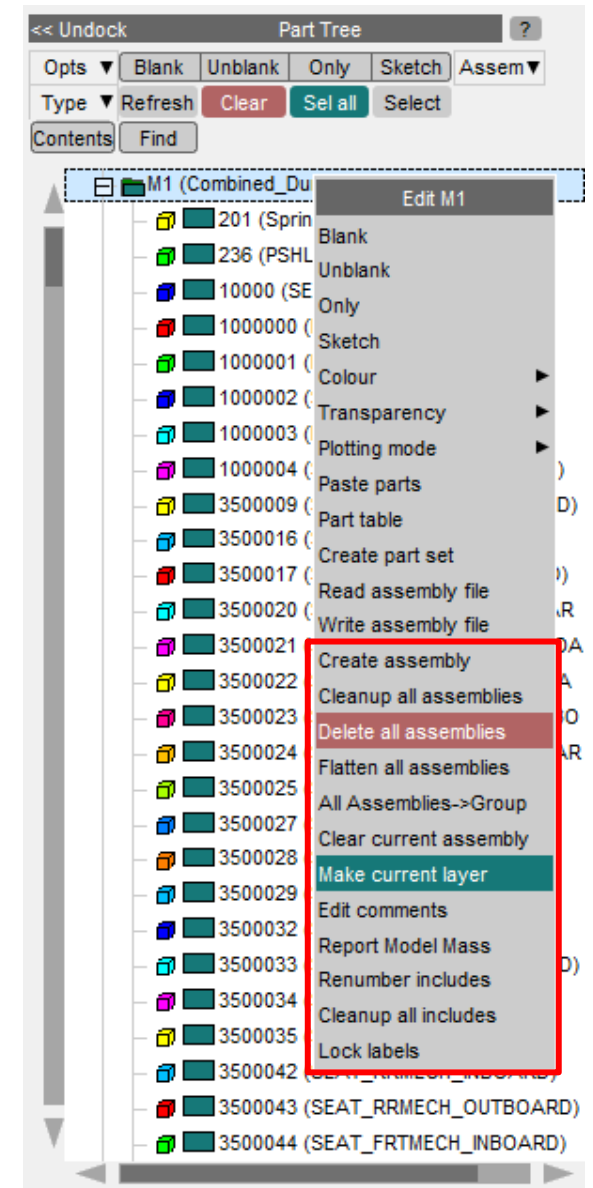
# Part Tree Panel (Right click on model)

- **Create assembly** – Create an assembly in the selected model or as a child of the selected assembly.
- **Clean-up all assemblies** – Delete entities not longer required/used in all assemblies.
- **Flatten all assemblies** – Flatten all assemblies in the selected model (confirmation will be required).
- **All assemblies -> Group** – Moves all selected assemblies to groups.
- **Clear current assembly** – Clears the current assembly (newly created entities will not go into an assembly).
- **Make current layer** – Makes the master model the current layer onto which newly created entities will be put.



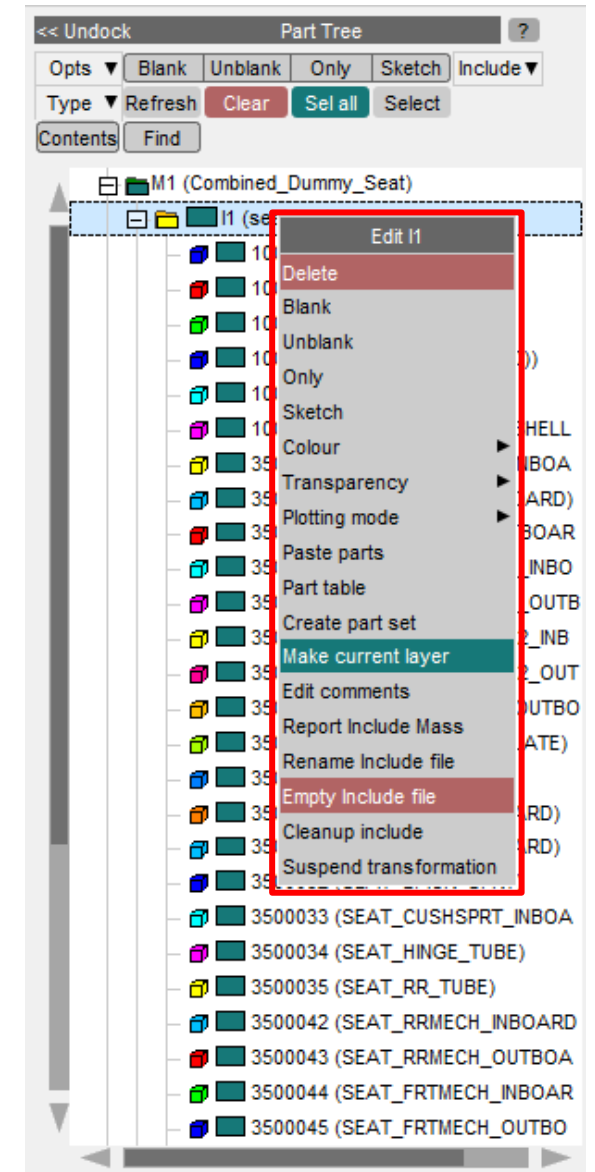
# Part Tree Panel (Right click on model)

- **Edit comments** – Edit the header comments for a model or include file.
- **Report Model Mass** – Calculates the model mass, and model Centre of Gravity.
- **Renumber Includes** – Invokes the renumber include panel, allowing you to specify any ranges for the include files.
- **Clean-up all includes** – Delete entities not longer required/used in all includes.
- **Lock labels** – Invokes a panel that can be used to specify 'locked' label ranges that relevant entities cannot be renumbered out of.



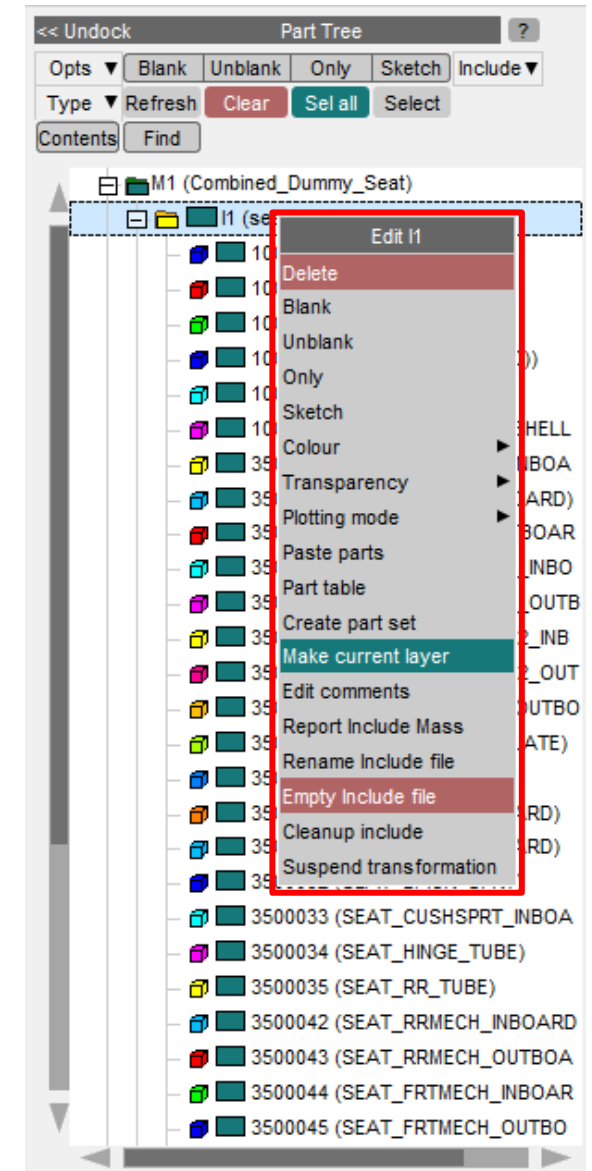
# Part Tree Panel (Right click on include)

- **Sketch** – Sketches the include contents.
- **Colour** – Colours the include contents (or elements associated with the entities) with the selected colour.
- **Transparency** – Set the transparency for the include contents (or elements associated with the entities) to the selected value.
- **Plotting mode** – Allows you to specify how a particular entity will be seen on the screen; wireframe, hidden, shaded or current.
- **Paste Parts** – Moves the last cut parts into the selected include file or assembly.
- **Part table** – Brings up the part table for the parts within the selected include(s).
- **Create part set** – Create a part set with currently selected parts as the contents.



# Part Tree Panel (Right click on include)

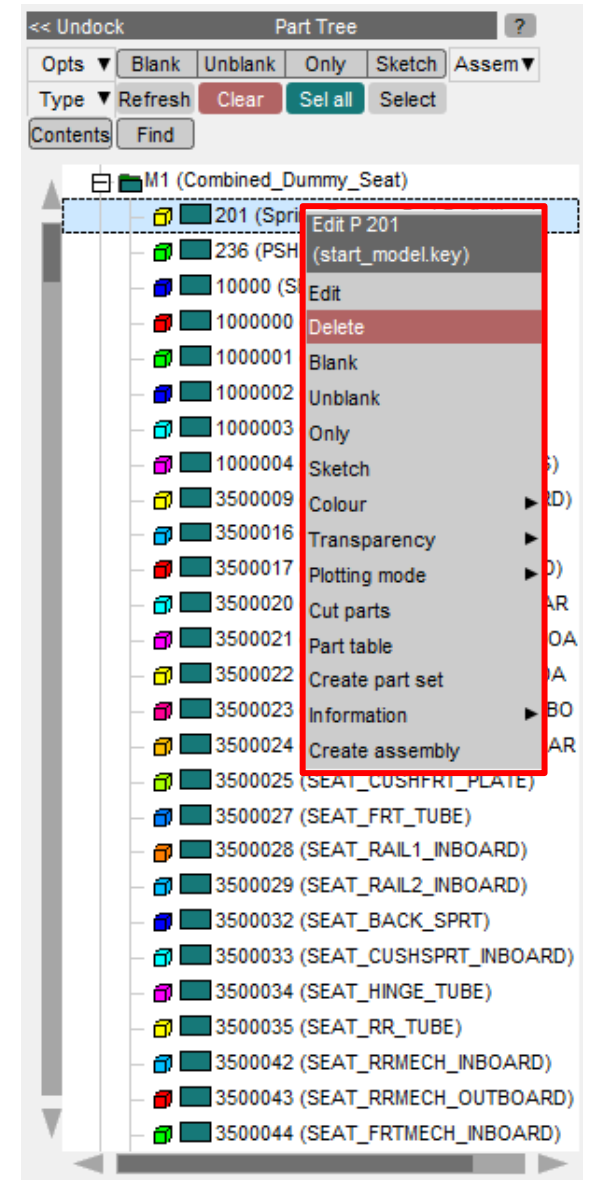
- **Make current layer** – Set the selected include as the current layer. All newly created items will be added to this include.
- **Edit comments** - Edit the header comments for a model or include file.
- **Report Include Mass** – Will invoke a window displaying the mass, C of G and Inertia Tensor of the Include file.
- **Rename Include File** – Will allow you to rename the include file.
- **Empty Include File** – Will delete all entities from the include file.
- **Clean-up include** – Will delete any entities in the include that are no longer required/used.
- **Suspend transformation** – Suspends and transformation applies to the selected Include file.





# Part Tree Panel (Right click on part)

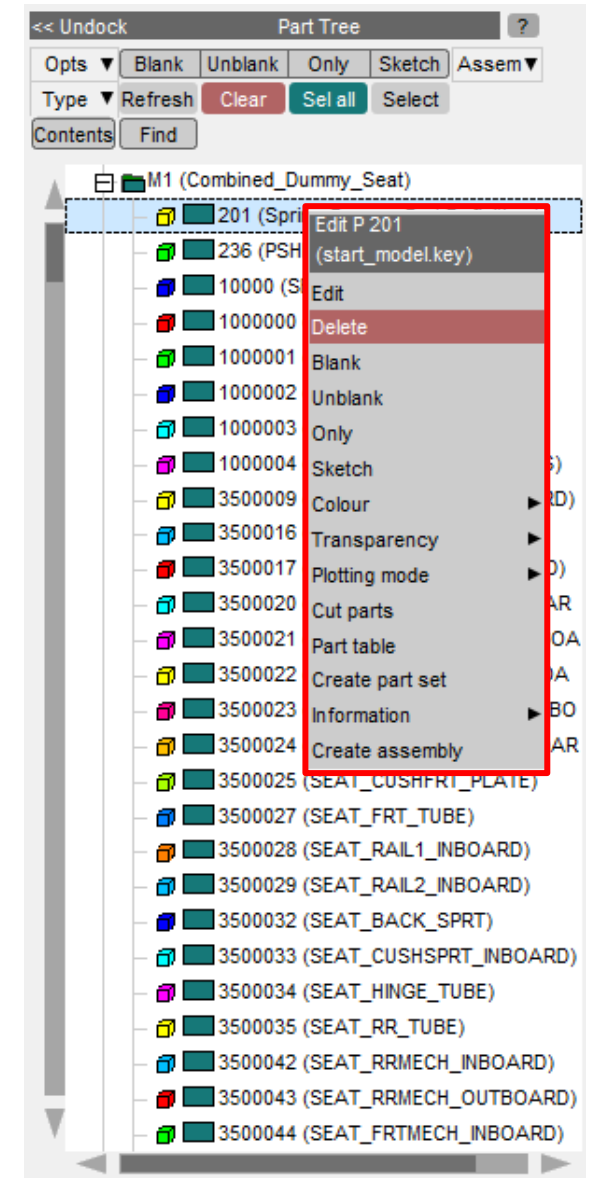
- **Edit** - Will invoke the standard editing panel for the selected entity.
- **Delete** – Will delete the selected entities.
- **Blank** – Blanks the entity.
- **Unblank** – Unblanks the entity.
- **Only** – Blanks all other entities and unblanks the entity.
- **Sketch** – Sketches the entity.
- **Colour** – Colours the entities (or elements associated with the entity) with the specified colour.





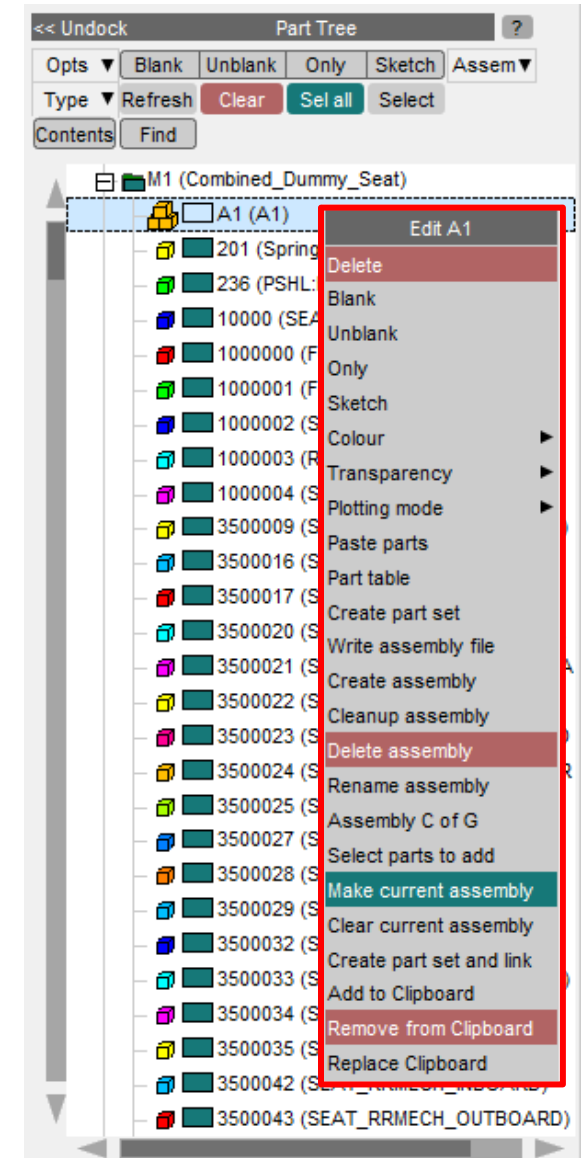
# Part Tree Panel (Right click on part)

- **Transparency** – Set the transparency for the entities (or elements associated with the entity) as the specified value.
- **Plotting mode** – Allows you to specify how a particular entity will be seen on the screen; wireframe, hidden, shaded or current
- **Cut parts** – Marks the part as those to be moved upon receiving a paste command
- **Part table** – Brings up the part table for the selected parts.
- **Create part set** – Create a part set with currently selected parts as the contents.
- **Information** – Invokes a pop-up that displays information relating to the selected entity.
- **Create assembly** – Creates a new assembly.



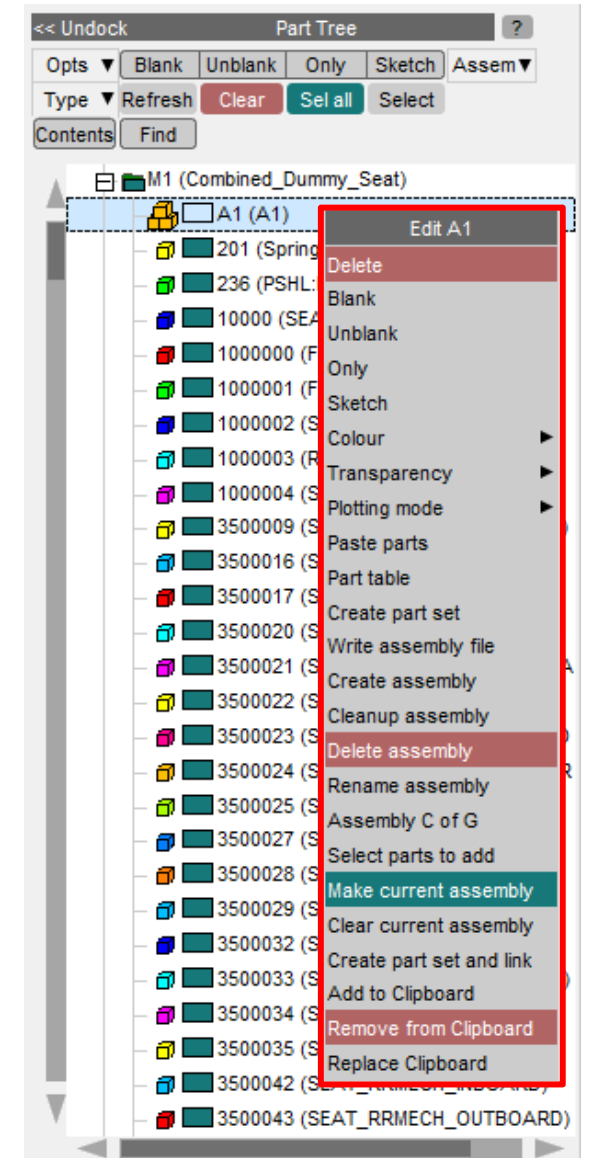
# Part Tree Panel (Right click on assembly)

- **Write assembly file** – Write out an assembly file.
- **Create assembly** – Creates a new assembly.
- **Clean-up assembly** – Will delete any entities in the that are no longer required/used.
- **Delete assembly** – Will delete the assembly from the model.
- **Rename assembly** – Allows you to rename the assembly.
- **Assembly C of G** – Will give the centre of gravity of the assembly.
- **Select parts to add** – Will allow you to select the parts to add to the assembly.



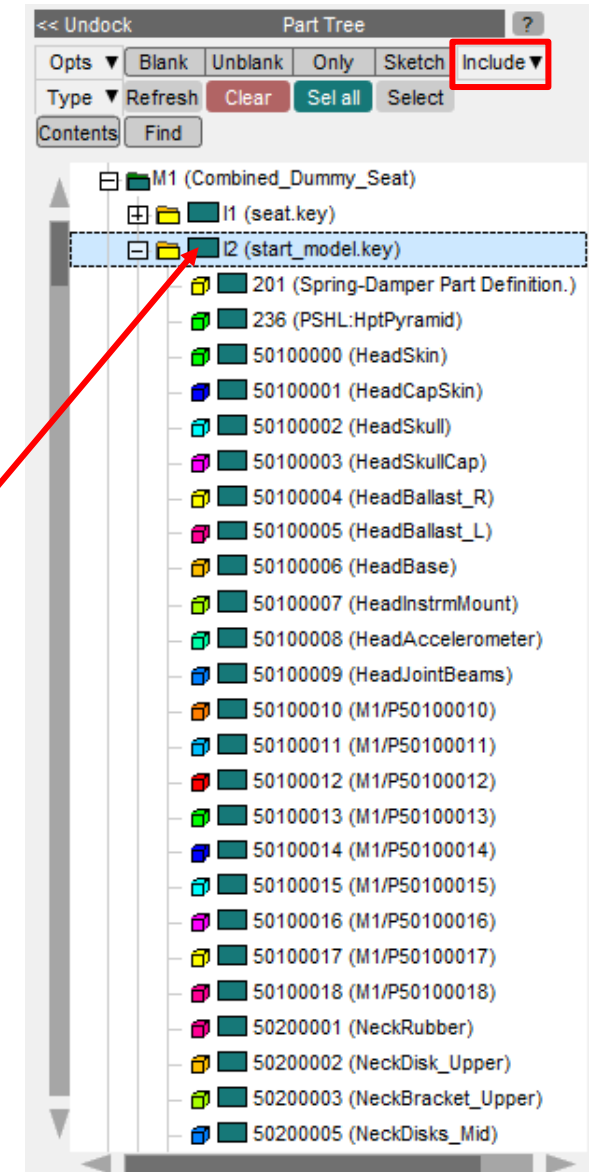
# Part Tree Panel (Right click on assembly)

- **Make current assembly** – Will allow the user to add items to the current assembly.
- **Clear current assembly** – Clears the current assembly (newly created entities will not go into an assembly).
- **Create part set and link** – Creates a part set and then links this to the selected assembly.
- **Add to Clipboard** – Adds the selected assemblies to the clipboard.
- **Remove from Clipboard** – Removes the selected assemblies from the clipboard.
- **Replace Clipboard** – Will replace the items on the clipboard with the current selected items.



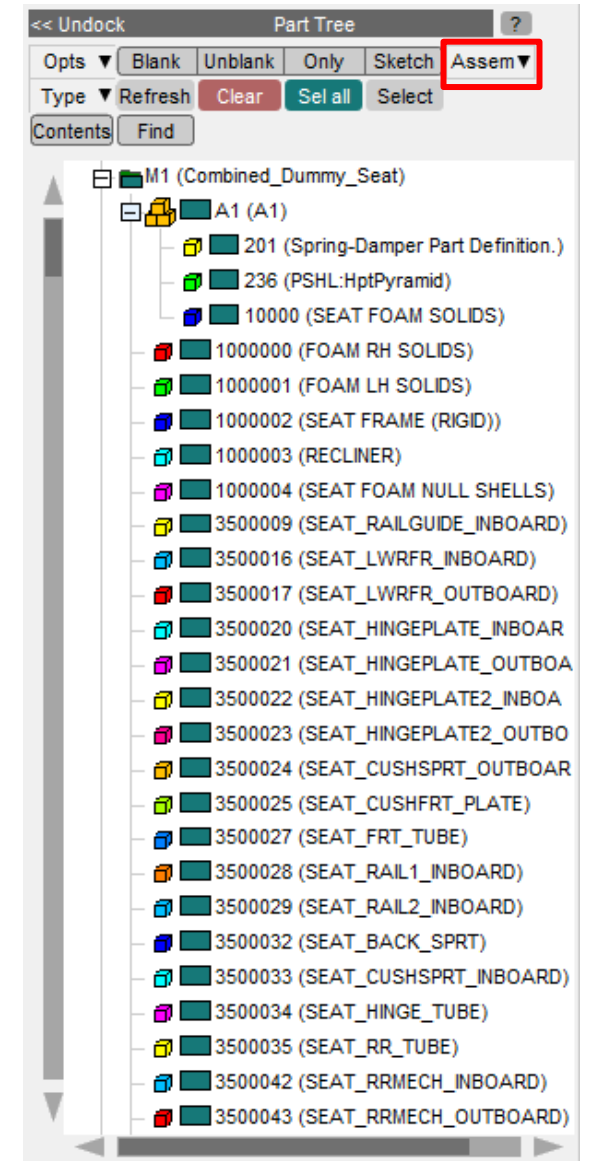
# Part Tree Panel (Include)

- When in “Include” mode, the Include file structure of the model is shown.
- Parts can be dragged from one Include to another – this has the same effect as putting the parts on the Clipboard and moving them to an Include file with the “Find referenced items”.
- It is also possible to “Make current layer” which sets the current layer to the relevant include file (the layer is where PRIMER creates new entities). This will turn the include green as seen on the right.
- You can also cut and paste parts using the “right-click” menu.
  - When a single or multiple selection of parts is shown, right click and cut parts.
  - Then right-click over the include file and paste parts.



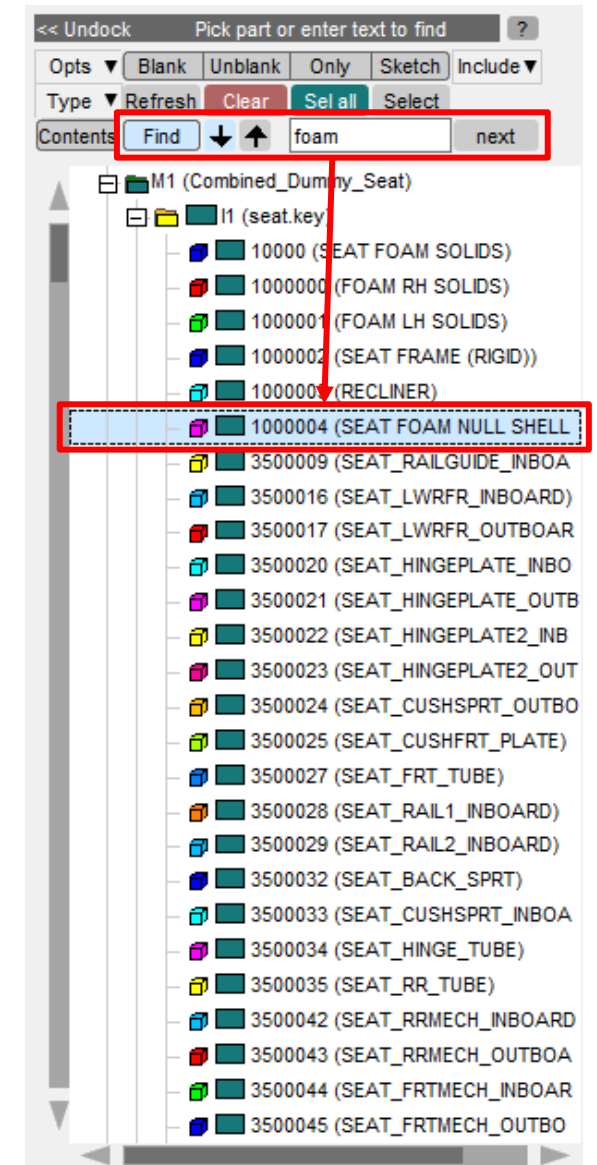
# Part Tree Panel (Assembly)

- Assemblies are user-defined hierarchical groupings of entities.
- They exist only in PRIMER and do not affect the output analysis file (they are written in comment lines).
- Assemblies provide a way of grouping entities together to enable quick model manipulation and viewing.
- Entities from different include files can be grouped together, and the hierarchy is stored in what is known as an assembly file.
- Assemblies are created by right-clicking on a model (or existing assembly) in the part tree.
- Parts can then be dragged into the assembly; the clipboard can also be used to move parts into an assembly.



## Part Tree Panel (Find)

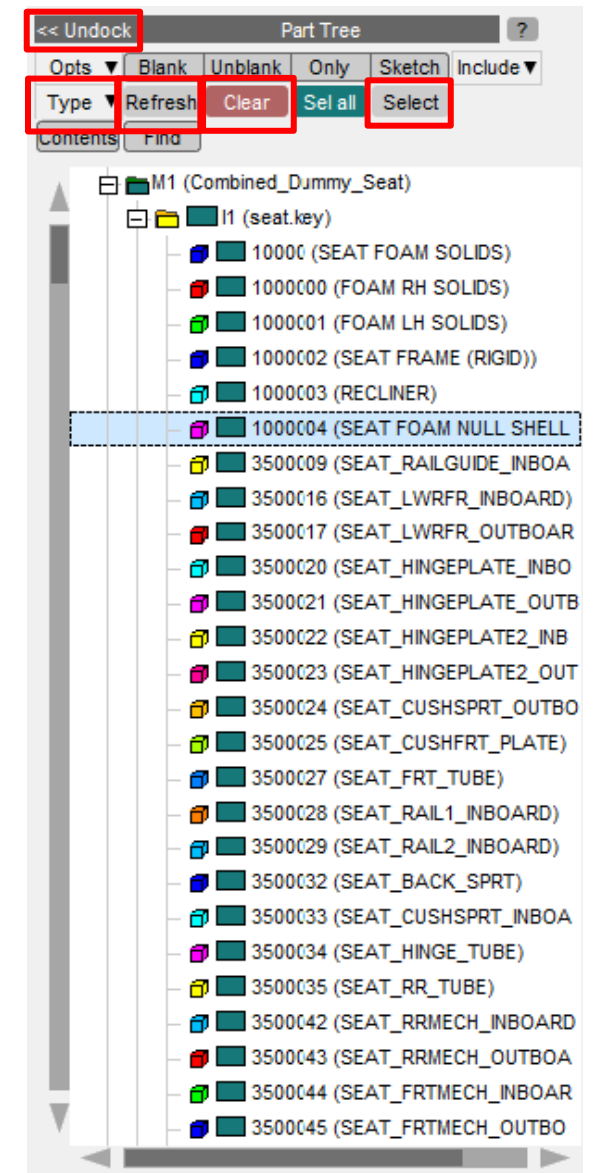
- The **Find** button is available only when **Contents** is switched off, and it gives a search option.
- Text or an ID number is entered in the text field, PRIMER will then find a part whose title contains the text, or a part with an ID matching the number.
- The arrows determine whether the search direction is up or down from the current selection.
- Next** will find the next matching item.
- The search will only find matches for currently enabled options.





# Part Tree Panel

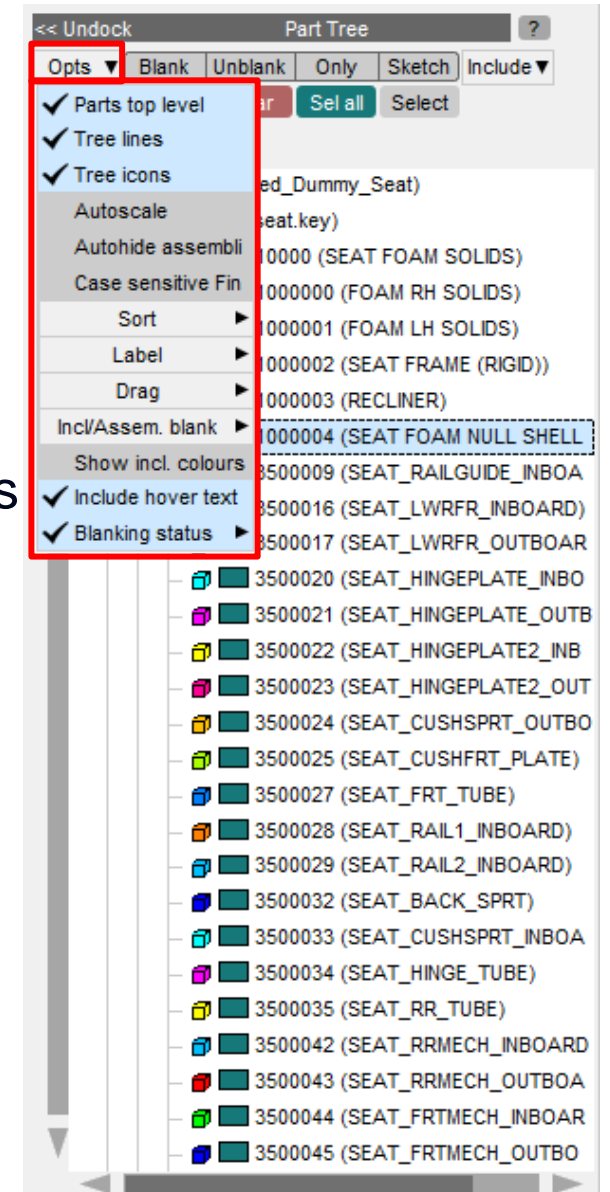
- **<< Undock** – This will ‘undock’ the panel from the right hand side of the graphics window and will invoke the menu so that it can be positioned around the screen/desktop and always available.
- **Type:**
  - A pop-up menu will be invoked where it is possible to select a variety of different item types to be displayed in the tree in addition to parts.
  - These appear below the parts in the tree, and most of the options (edit, blank etc.) are available through the “right-click” menu.
- **Refresh** – This will refresh the part tree if an update has not been called for automatically.
- **Clear** – The “Clear” button will empty the current selection.
- **Select:**
  - The “Select” button invokes an object menu for selecting parts.
  - Selection can also be made via the “Quick Pick” option “Locate in Tree”.
  - Note that selections can be Include files, Assemblies or Models as well as parts. For example, click “Only” then an Include file to display only that Include file.





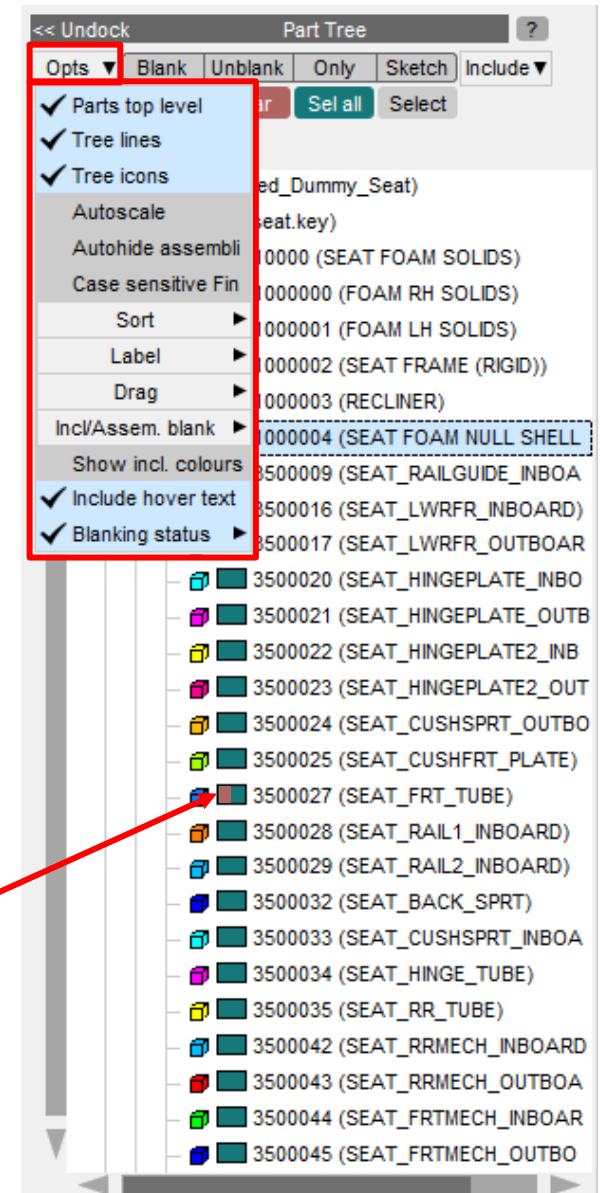
# Part Tree Panel (“Opts” Submenu)

- **Parts top level** – Will show the parts as being the first layer in the part tree, rather than having the word “PART” and then having to expand the list further.
- **Tree lines** – Displays the lines on the tree so can make it easier to understand how a model is constructed.
- **Tree icons** – Displays the icons next to the graphics bar in the part tree.
- **Autoscale** – Will turn on autoscaling for parts that have been selected. For example, if you select a part and press “only” this will autoscale to this part in the graphics window.
- **Case sensitive Find** – Will only show parts in the part tree if the case between the search and parts match exactly. If turned of, case is not considered.
- **Sort** – Select how the part tree is sorted.
- **Label** – Select how each part is shown in the part tree. For example, can select so that only the ID of each part is shown, or only the name of each part is shown.



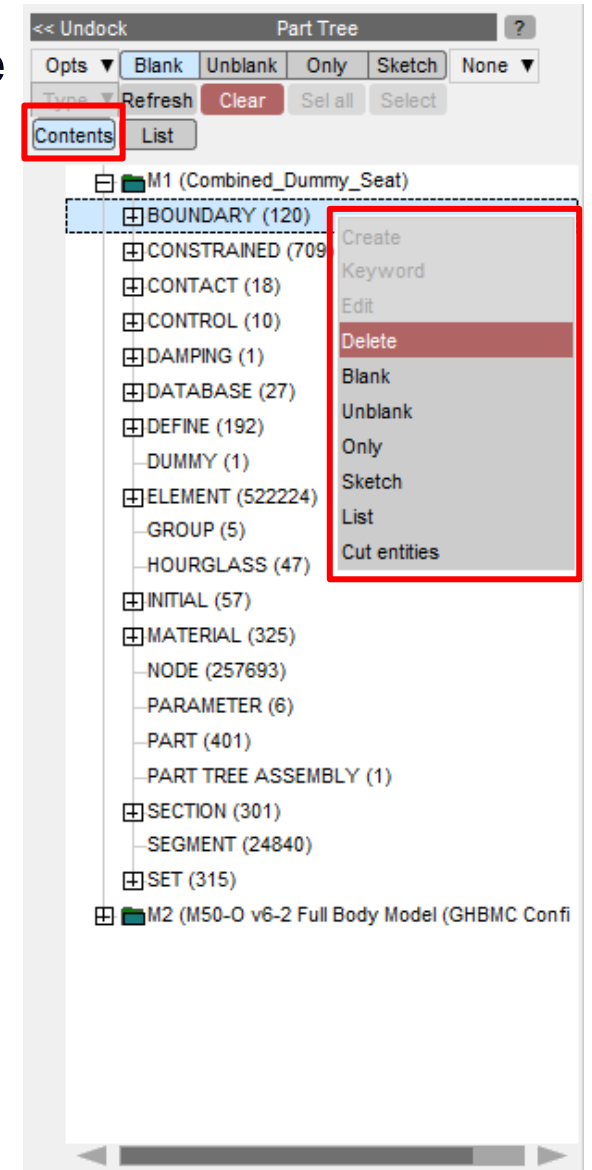
# Part Tree Panel (“Opts” Submenu)

- **Drag** – Controls which items are moved when using the part tree to move items between include files/assemblies by dragging. For example, when moving parts to a different include file you may wish to move the sections and materials as well.
- **Incl/Assem. blank** – Will allow you to control how items are treated when using blank/unblank/only on the part tree. For example, the elements within a part may be in a different include file to the part, but you may still wish to blank/unblank/only the elements.
- **Show incl. colours** – Will display include colours if colours are set for each individual include file.
- **Include hover text** – Will display hover text as your cursor moves over the part tree contents.
- **Blanking status** – Settings for displaying information on what is blanked/unblanked. For example, if half the parts are blanked within one include file, a graphical bar will be shown for that include file displaying that half the contents is blanked.



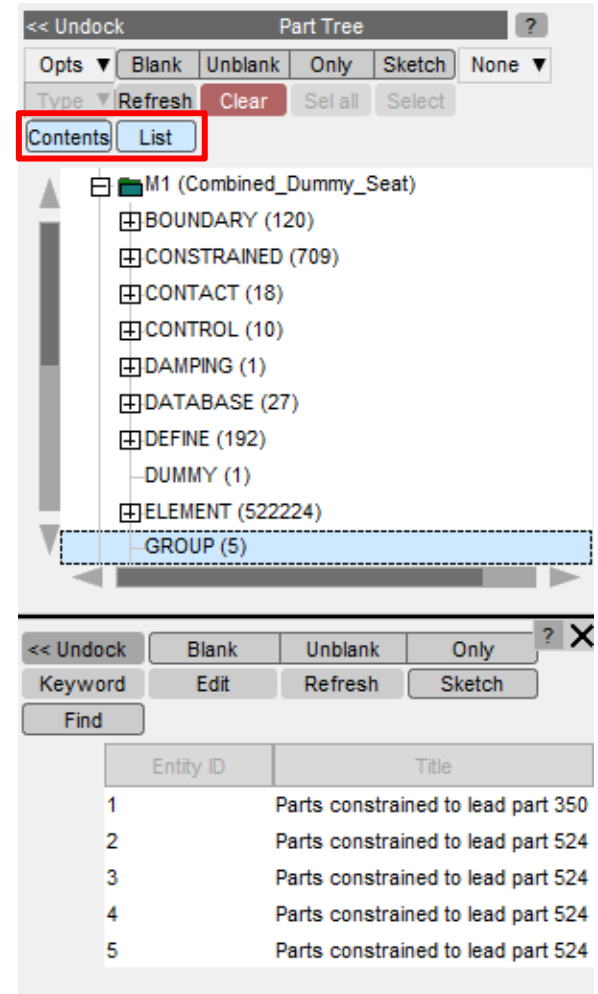
# Part Tree Panel (Contents)

- When **Contents** is switched on, the part tree displays each keyword in the model along with the number of entries of that particular keyword type arranged in alphabetical order.
- If “Include” is switched on in conjunction with “Contents”, the part tree displays the keywords and their numbers by include files.
- If Include is switched off, the keywords and their numbers are displayed for the entire model.
- Additional options available when an entity is right-clicked while in contents mode:
  - **Keyword** – When clicked this option invokes the generic keyword editor containing all the entities that belong to the selected branch.
  - **Edit** – Will invoke the editing panel relating to the single entity that is selected.
  - **Cut/Paste** – Allows you to move entities to different include files.
  - **List** – Invokes the Contents List window for the selected keyword.
  - **Delete** – This will bring up the standard deletion panel to allow you to delete the selected entities and associated entities.



# Part Tree Panel (Contents List)

- If multiple entities of a keyword type are permitted in a model, the entities of that type can be listed in a single Contents List window by means of the **List** button.
  - Keywords such as **\*CONTROL** and **\*DATABASE\_ASCII** are exceptions as only one entity of each such keyword types are allowed in a model.
- The Contents List window can alternatively be invoked by the means of a **List** option in the pop-up box for the keyword selected in the part tree.



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