

Part Table



What is the part table?

- The part table allows you to easily view and change information relating to parts in your model.
- The table can be opened by either:
 - Selecting parts/include files/assemblies/models in the part tree, right clicking and selecting “Part table” from the pop-up menu.
 - Using the “Table” option in the “Keywords->Part” menu.
 - Using the quick picking for PART with part table mode selected.



The Part Table Panel

- Each row in the table represents one part, and by default the rows are sorted by ascending part ID.
- The column used for sorting can be changed by clicking on the appropriate column header.
- Additionally, clicking on a column header again will sort by descending order instead of ascending order.
- The column which is currently used for sorting has an arrow drawn on the header, as shown in the below image.

PART TABLE

Dismiss View... Refresh Write... Clear Sel all Show all Total Parts: 806 (4 selected)

Table Changes: Undo Apply Select Show sel

Part ID	Part title	Part type	Sect ID	Sect Gauge	Mat ID
P1	rigid patch 1	SHELL	17000009	EL_SH_THK	42600101
P2	rigid patch 2	SHELL	17000009	EL_SH_THK	42600101
P3	rigid patch 3	SHELL	17000009	EL_SH_THK	42600101
P4	rigid patch 4	SHELL	17000009	EL_SH_THK	42600101
P5	rigid patch 5	SHELL	17000009	EL_SH_THK	42600101
P6	rigid patch 6	SHELL	17000009	EL_SH_THK	42600101
P7	rigid patch 7	SHELL	17000009	EL_SH_THK	42600101
P8	rigid patch 8	SHELL	17000009	EL_SH_THK	42600101
P9	Forward Floor Reinforcement	SHELL	1	EL_SH_THK	10020450
P10	Subframe_FR	SHELL	1	EL_SH_THK	10010270
P11	Final Part	SHELL	1	EL_SH_THK	26061611
P12	Tonneau Side Track RH	SHELL	1	EL_SH_THK	26063611
P13	20_T4A_RR_UNDERBODY_PA	SHELL	1	EL_SH_THK	10010270
P14	Final Part	SHELL	1	EL_SH_THK	26061611
P15	Flap TR 20180809	SOLID	2	<undefined>	69001000
P16	Newest Front Panel TR 20180	SHELL	1	EL_SH_THK	26061611
P17	Volume.1	SOLID	2	<undefined>	69001000
P18	Volume.1	SOLID	2	<undefined>	69001000

Part Table Panel Buttons

- **View** – Displays a list of possible columns that can be viewed.
- **Refresh** – Refresh the information on the table with the latest from the model.
- **Write...** - Writes out the part table information to a file (various file types available)
- **Sel all** – Selects all parts in the part table.
- **Show all** – Displays all originally selected parts.
- **Select** – invokes a 'Select parts' pop up window.
- **Show sel** – Only displays selected (highlighted) parts.

PART TABLE

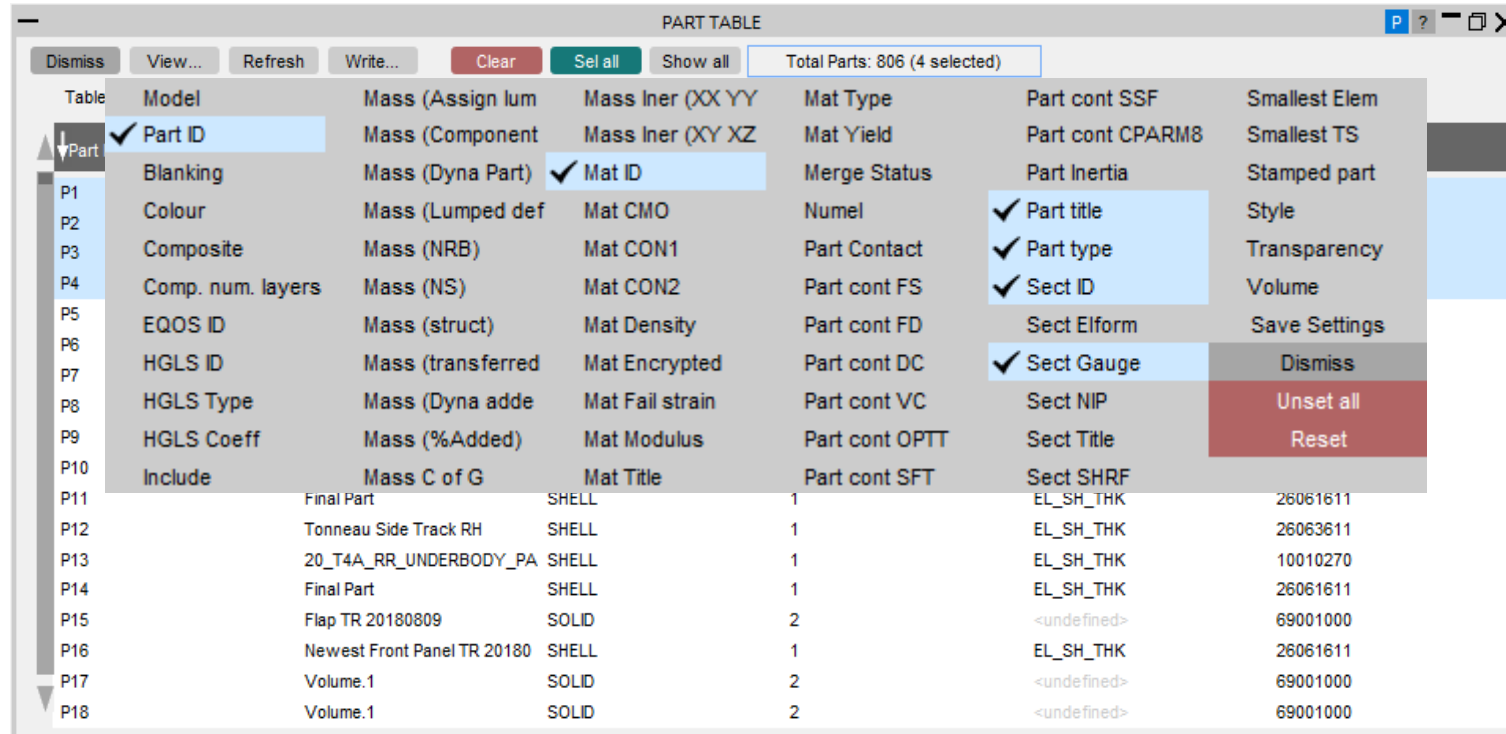
Dismiss View... Refresh Write... Clear Sel all Show all Total Parts: 806 (4 selected)

Table Changes: Undo Apply Select Show sel

Part ID	Part title	Part type	Sect ID	Sect Gauge	Mat ID
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P4	rigid patch 4	SHELL	17000009	EL_SH_THK	42600101
P5	rigid patch 5	SHELL	17000009	EL_SH_THK	42600101
P6	rigid patch 6	SHELL	17000009	EL_SH_THK	42600101
P7	rigid patch 7	SHELL	17000009	EL_SH_THK	42600101
P8	rigid patch 8	SHELL	17000009	EL_SH_THK	42600101
P9	Forward Floor Reinforcement	SHELL	1	EL_SH_THK	10020450
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P12	Tonneau Side Track RH	SHELL	1	EL_SH_THK	26063611
P13	20_T4A_RR_UNDERBODY_PA	SHELL	1	EL_SH_THK	10010270
P14	Final Part	SHELL	1	EL_SH_THK	26061611
P15	Flap TR 20180809	SOLID	2	<undefined>	69001000
P16	Newest Front Panel TR 20180	SHELL	1	EL_SH_THK	26061611
P17	Volume.1	SOLID	2	<undefined>	69001000
P18	Volume.1	SOLID	2	<undefined>	69001000

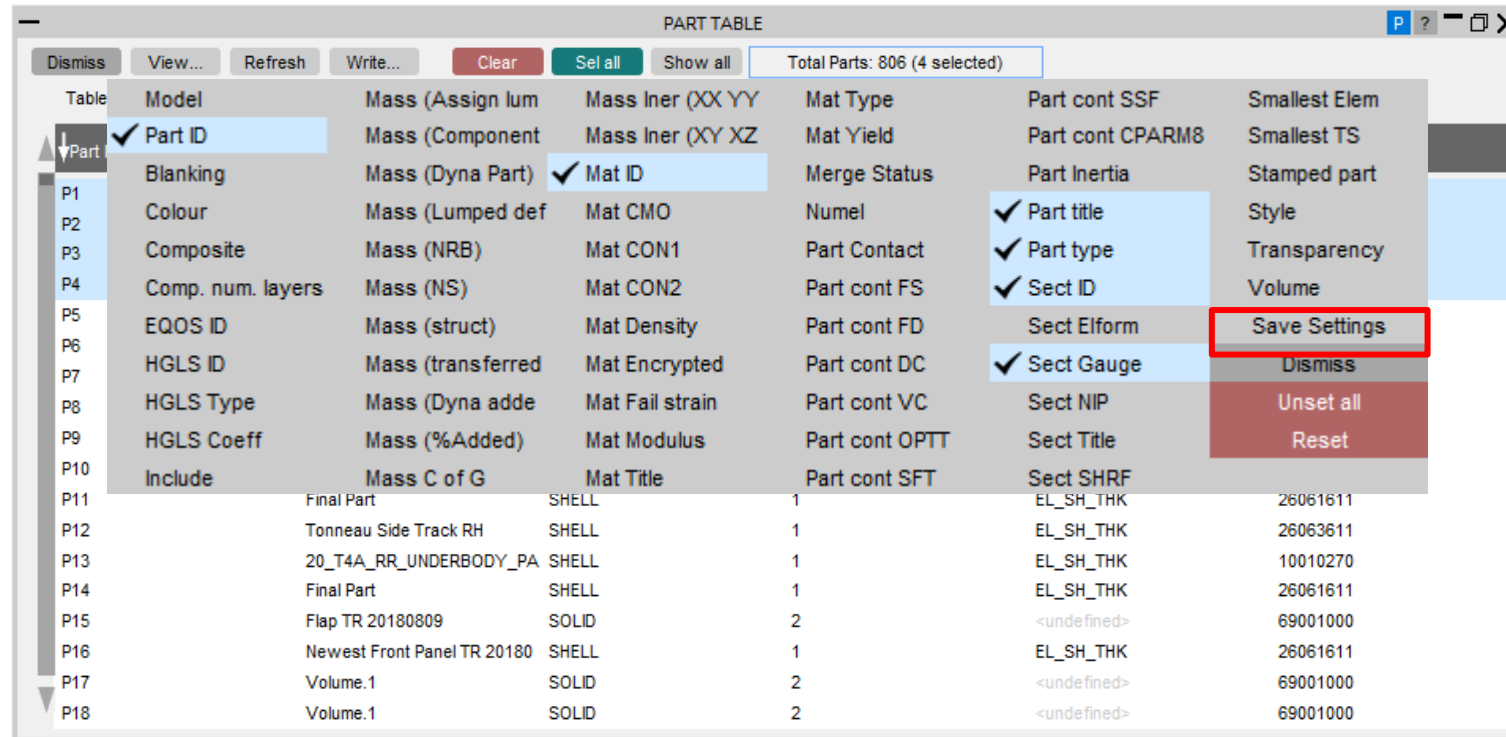
Changing which columns are shown

- It is possible to change which columns are shown within the table. This is done by pressing “View”, and the below options will be displayed.
- The fields which are currently displayed in the table have a tick next to the column title.



Changing the default table columns

- By default the table will show the Part ID, Part title, Part type, Section ID, Gauge and Mat ID columns.
- To change the default columns, select the columns you want to see then click on “Save Settings”. This will automatically add a preference primer*part_table_columns to your home oa_pref file with the appropriate columns.



Changing a value in the part table

- To change the value for a field, you must select the parts you want to change then right-click on the column you want to change.
- This will give you various options for investigating or modifying the values.
- If any changes are made to the part properties in the table the text will appear as red rather than black.
- The “Apply” button must then be pressed to update the information in the model.

PART TABLE

Dismiss view Refresh Write... Clear Sel all Show all Total Parts: 808 (4 selected)

Table Changes: Undo **Apply** Select Show sel M1 Mass: 4.6607 CofG: 5116.3, -128.24, 797.89

Part ID	Part title	Part type	Sect ID	Sect Gauge	Mat ID	Sect NIP
P1	rigid patch 1	SHELL	17000009	EL_SH_THK	42600101	2
P2	rigid patch 2	SHELL	17000009	EL_SH_THK	42600101	2
P3	rigid patch 3	SHELL	17000009	EL_SH_THK	42600101	2
P4	rigid patch 4	SHELL	17000009	EL_SH_THK	42600101	2
P5	rigid patch 5	SHELL	17000009	EL_SH_THK	42600101	2
P6	rigid patch 6	SHELL	17000009	EL_SH_THK	42600101	2
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P8	rigid patch 8	SHELL	17000009	EL_SH_THK	42600101	2
P9	Forward Floor Reinforcemen	SHELL	1	EL_SH_THK	10020450	2
P10	Subframe_FR	SHELL	1	EL_SH_THK	10010270	2
P11	Final Part	SHELL	1	EL_SH_THK	26061611	2
P12	Tonneau Side Track RH	SHELL	1	EL_SH_THK	26063611	2
P13	20_T4A_RR_UNDERBODY_	SHELL	1	EL_SH_THK	10010270	2
P14	Final Part	SHELL	1	EL_SH_THK	26061611	2
P15	Flap TR 20180809	SOLID	2	<undefined>	69001000	<undefined>
P16	Newest Front Panel TR 2018	SHELL	1	EL_SH_THK	26061611	2
P17	Volume.1	SOLID	2	<undefined>	69001000	<undefined>
P18	Volume.1	SOLID	2	<undefined>	69001000	<undefined>

Change Sect NIP
Sketch

Mass in part table

The part table allows the display of part mass information in a variety of ways:

- **Mass (Assigned Lumped)** – Sum of lumped massed which are PRIMER assigned masses.
- **Mass (Component)** – Is an attempt to describe the engineering mass of a part. This is the sum of structural and non-structural mass belonging to nodes of parts including lumped mass for both deformable and rigid parts. Mass is NOT transferred from deformable to rigid parts/nrbs.
- **Mass (Dyna Part)** – Tries to use the same mathematical formulation as LS-DYNA. It is the sum of structural and non-structural mass belonging to nodes of a part including lumped mass for rigid parts. A deformable part loses mass where nodes attach to a rigid part where as a rigid part gains mass where it attaches to deformable nodes.
- **Mass (Lumped def)** – Is the sum of lumped mass (including assign mass) attached to the nodes of a deformable part (excluding nodes on rigid part/nrb). For rigid parts the lumped mass is included in the Dyna Part mass, so it is not included in the column total.
- **Mass (NRB)** - Sum of nodal mass (including lumped mass) 'lost' from nodes of deformable part to nrb.
- **Mass (NS)** (non-structural mass) – Is the mass that applies on shell or beam parts as a result of mass per unit area setting on the section card. It may also be applied using the *ELEMENT_MASS_PART card.



Mass in part table (continued)

- **Mass (Transferred)** – For rigid part sum of element mass ‘gained’ from deformable nodes. For deformable part sum of element mass ‘lost’ to nodes of rigid part. Element mass ‘lost’ to nrbs is given in the ‘NRB mass’ column.
- **Mass (Dyna Added)** – Sum of timestep added mass on all elements of deformable part (to be consistent with Dyna whether nodes are rigid or not is ignored in this context).
- **Mass (% Added)** – Sum of timestep added mass as ratio of component mass (i.e. dyna part mass + nrb mass + lumped mass).
- **Mass (C of G)** – C of G of deformable part which will be adjusted to include effects of lumped mass/mass of NRB nodes/timestep added mass if those columns are active. If you want the same answers as the Dyna d3hsp ‘mass properties of part’ then de-activate ‘NRB Mass’, ‘Lumped Mass’ and ‘Dyna Added Mass’ columns to remove that mass from the calculation.
- **Mass Iner (XX, YY, ZZ)** – XX/YY/ZZ Inertia terms of deformable part which will be adjusted to include effects of lumped mass/mass of NRB nodes/timestep added mass of those columns are active. If you want the same answers as the Dyna d3hsp ‘mass properties of part’ then de-activate ‘NRB Mass’, ‘Lumped Mass’ and ‘Dyna Added Mass’ columns to remove that mass from the calculation.
- **Mass Iner (XY, XZ, YZ)** – XX/XY/YZ Inertia terms of deformable part will be adjusted to include effects of lumped mass/mass of NRB nodes/timestep added mass of those columns are active. If you want the same answers as the Dyna d3hsp ‘mass properties of part’ then de-activate ‘NRB Mass’, ‘Lumped Mass’ and ‘Dyna Added Mass’ columns to remove that mass from the calculation.



C of G and Inertia in part table

- The CofG and Inertia tensor of individual parts may be displayed by using the drop down from the appropriate row.
- If multiple parts are selected, the combined CofG will be displayed. These values will be echoed in the dialogue box.
- The value given in the top row, just below the column header, is the combined CofG and combined Inertia for the parts displayed in the table.

PART TABLE

Dismiss View... Refresh Write... Clear Sel all Show all Total Parts: 808 (4 selected)

Table Changes: Undo Apply Select Show sel M1 Mass: 4.6607 CofG: 5116.3, -128.24, 797.89

Part ID	Mass C of G [5.2389e+03, -1.4909e+02, 7.9074e+02]	Mass Iner (XX YY ZZ) [1.8715e+06, 2.9714e+07, 3.0471e+07]	Mass Iner (XY XZ YZ) [1.9296e+06, 3.2340e+05, -3.1206e+04]
P1	[5.1183e+03 -6.1011e+02 6.7299e+02]	[9.8602e-03 1.3428e-02 1.3175e-02]	[-4.6320e-04 -6.5019e-03 -5.1821e-04]
P2	[5.7700e+03 -5.7188e+02 8.1023e+02]	[1.4233e-03 1.4905e-03 2.9048e-03]	[9.4912e-05 -1.7047e-05 -4.0120e-05]
P3	[5.7700e+03 5.7188e+02 8.1023e+02]	[1.4233e-03 1.4905e-03 2.9048e-03]	[-9.4912e-05 -1.7052e-05 4.0124e-05]
P4	[5.1204e+03 6.0989e+02 6.7455e+02]	[8.0673e-03 9.9558e-03 1.0529e-02]	[2.4435e-04 -4.8194e-03 3.3263e-04]
P5	<undefined>	<undefined>	<undefined>
P6	<undefined>	<undefined>	<undefined>
P7	<undefined>	<undefined>	<undefined>
P8	<undefined>	<undefined>	<undefined>
P9	[5.0600e+03 6.1014e-04 9.9187e+02]	[2.2215e+02 2.7167e+00 2.2455e+02]	[0.0000e+00 3.9760e-03 0.0000e+00]
P10	[4.8219e+03 4.5617e-04 4.7919e+02]	[3.5556e+03 3.1444e+02 3.8635e+03]	[0.0000e+00 2.7361e+01 0.0000e+00]
P11	[6.5365e+03 4.3302e-02 1.0745e+03]	[1.9036e+02 7.7836e+00 1.8312e+02]	[2.9601e-03 -6.8290e-01 1.2798e-02]
P12	[5.7013e+03 7.1663e+02 1.4254e+03]	[8.8154e-01 2.5047e+02 2.5041e+02]	[1.0154e-02 1.3387e-02 6.7077e-02]
P13	[5.4549e+03 1.0807e-02 4.9585e+02]	[1.6598e+03 2.0338e+03 3.6935e+03]	[1.0665e-01 2.4122e+00 0.0000e+00]
P14	[6.5058e+03 -9.9694e-09 1.4048e+03]	[1.0005e+02 1.1558e+00 9.9865e+01]	[0.0000e+00 4.6946e-01 0.0000e+00]
P15	[6.3904e+03 -1.0871e-01 1.1799e+03]	[1.3489e+03 4.1410e+01 1.3081e+03]	[0.0000e+00 1.3191e-01 -1.5254e-01]
P16	[5.0158e+03 -8.6944e-03 1.2288e+03]	[7.7602e+02 7.4263e+01 7.0226e+02]	[0.0000e+00 -1.6566e+00 0.0000e+00]
P17	[6.4143e+03 -4.6704e+02 1.1629e+03]	[6.9847e-01 3.6753e-01 3.5414e-01]	[0.0000e+00 -1.5147e-04 -1.0881e-05]
P18	[6.4143e+03 4.6684e+02 1.1629e+03]	[6.9848e-01 3.6754e-01 3.5415e-01]	[0.0000e+00 -1.5145e-04 0.0000e+00]

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