

## ***1D BOLTS WITH PRETENSION***

**[PRETENSIONED BARS FROM RBES]**

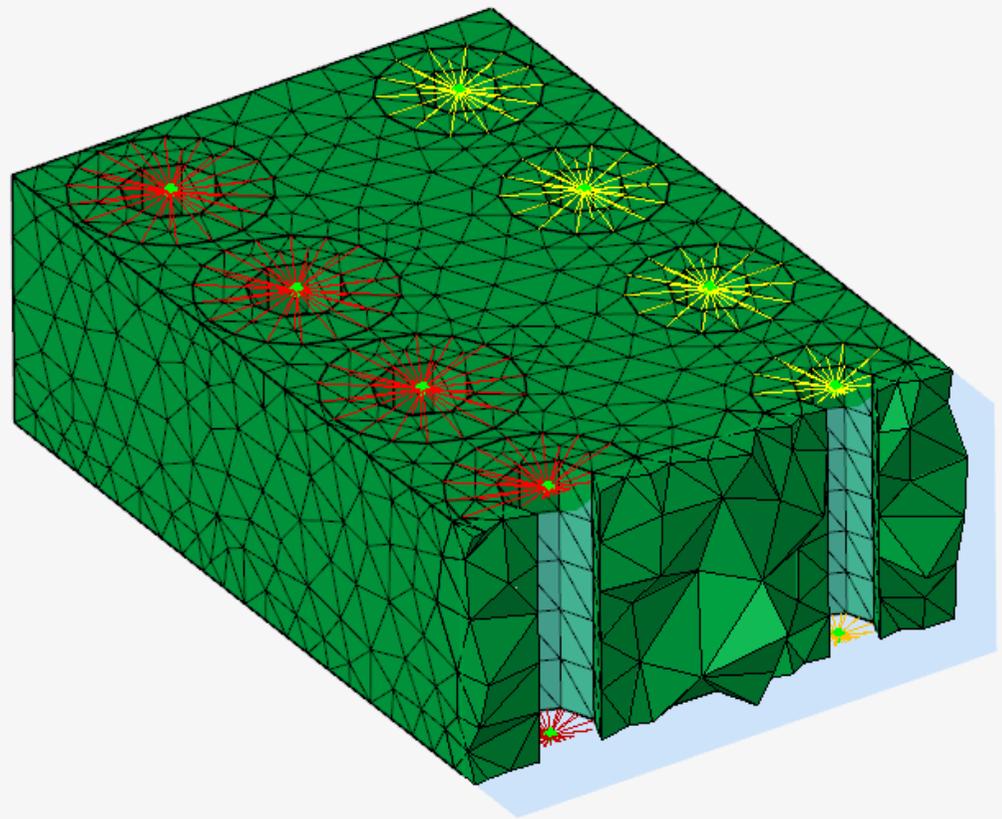


Start the script to connect Lower and Upper RBE Bodies through 1D Bolts with pretension

Assembly Browser

Name	Property	Material
Assembly		
mesh_gda_MMKS.gda		
* RBE2_2B	Yellow	---
* RBE2_2A	Yellow	---
* RBE2_1B	Red	---
* RBE2_1A	Red	---
beam_example_0_	Green	---

The script will search for the nearest center nodes across the two RBE groups and join them.



The screenshot displays the Altair SimLab 2025 software interface. The top menu bar includes File, View, Solutions, Sketch, Geometry, Mesh, Analysis, Results, Electronics, Advanced, Inspect, Automation, Script Tools, and Custom. The Home ribbon contains icons for Files, Measure, Move, Fast Spring\_Set, Create Bars, and 1D Bolts with Pretension. The Assembly Browser on the left shows a tree view with 'mesh\_gda\_MMKS.gda' containing 'RBE2\_2B', 'RBE2\_2A', 'RBE2\_1B', 'RBE2\_1A', and 'beam\_example\_0\_'. The '1D Bolts with Pretension' dialog box is open, showing the following settings:

- RBE Body - Top: RBE2\_1A
- RBE Body - Bottom: RBE2\_1B
- Diameter: 10 mm
- Number Of Bars: 2
- Pretension Force: 100 N
- Material: 1001
- Density: 7.8e-09 kg/mm3
- Young's Modulus: 208000 MPa
- Poisson's Ratio: 0.3
- Damping Coefficient: 0.04
- Analysis Property: One property
- Element Type: BAR

Callouts provide additional information:

- An orange callout points to the RBE Body fields: "Pick merged RBE bodies, 1 on each side".
- A blue callout points to the Diameter, Number Of Bars, and Pretension Force fields: "Bolt diameter, number of bars, pretension force".
- A green callout points to the Material section: "Define Material Use different IDs if you don't want to overwrite existing materials".
- Another green callout points to the Element Type field: "Element Type (BAR / BEAM)".

On the right, a 3D model of a bolted assembly is shown, with red and yellow bolts visible on a green rectangular block.

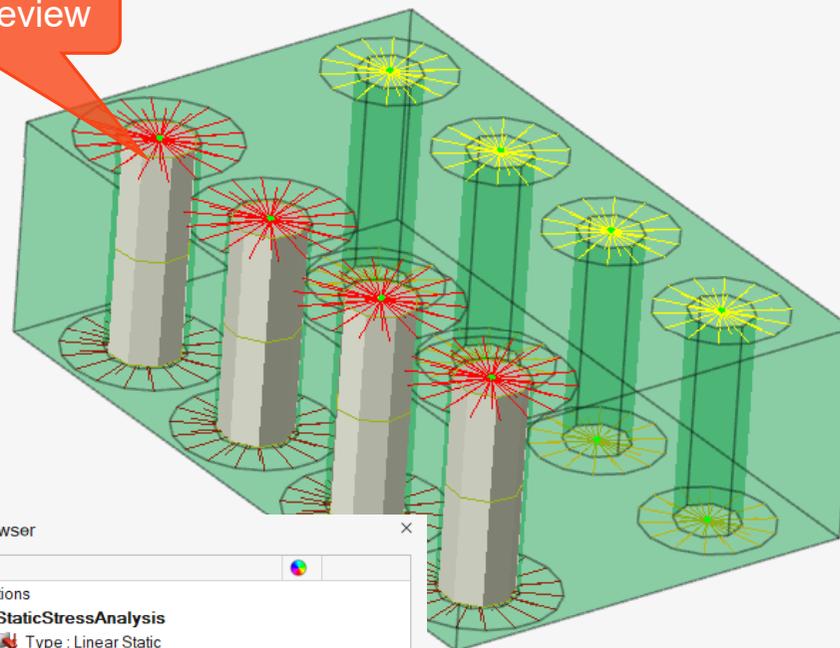


Home

Assembly Browser

Name	Property	Material
Assembly		
mesh_gda_MMKS.gda		
<b>Body 770</b>	1001	1001
* RBE2_2B		---
* RBE2_2A		---
* RBE2_1B		---
* RBE2_1A		---
beam_example_0_		---

Diameter preview



Property Browser

Name	ID	Entity
Materials		
Solid		
1001	1001	
Aluminium		
Cast Iron		
Steel		
Fluid		
Multiphase		
Polymer		
Orientations		
Properties		
1001	1001	Bar
Tables		

Material and Property

Solution Browser

Name
Solutions
StaticStressAnalysis
Type: Linear Static
Mesh
Settings
Loads and Constraints
BAR_PT_10000001
BAR_PT_10000002
BAR_PT_10000003
BAR_PT_10000004
Results

Pretension Loads