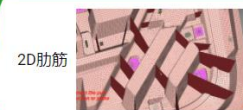
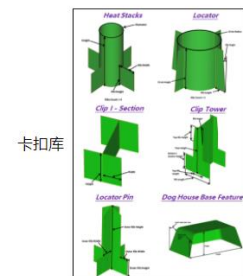
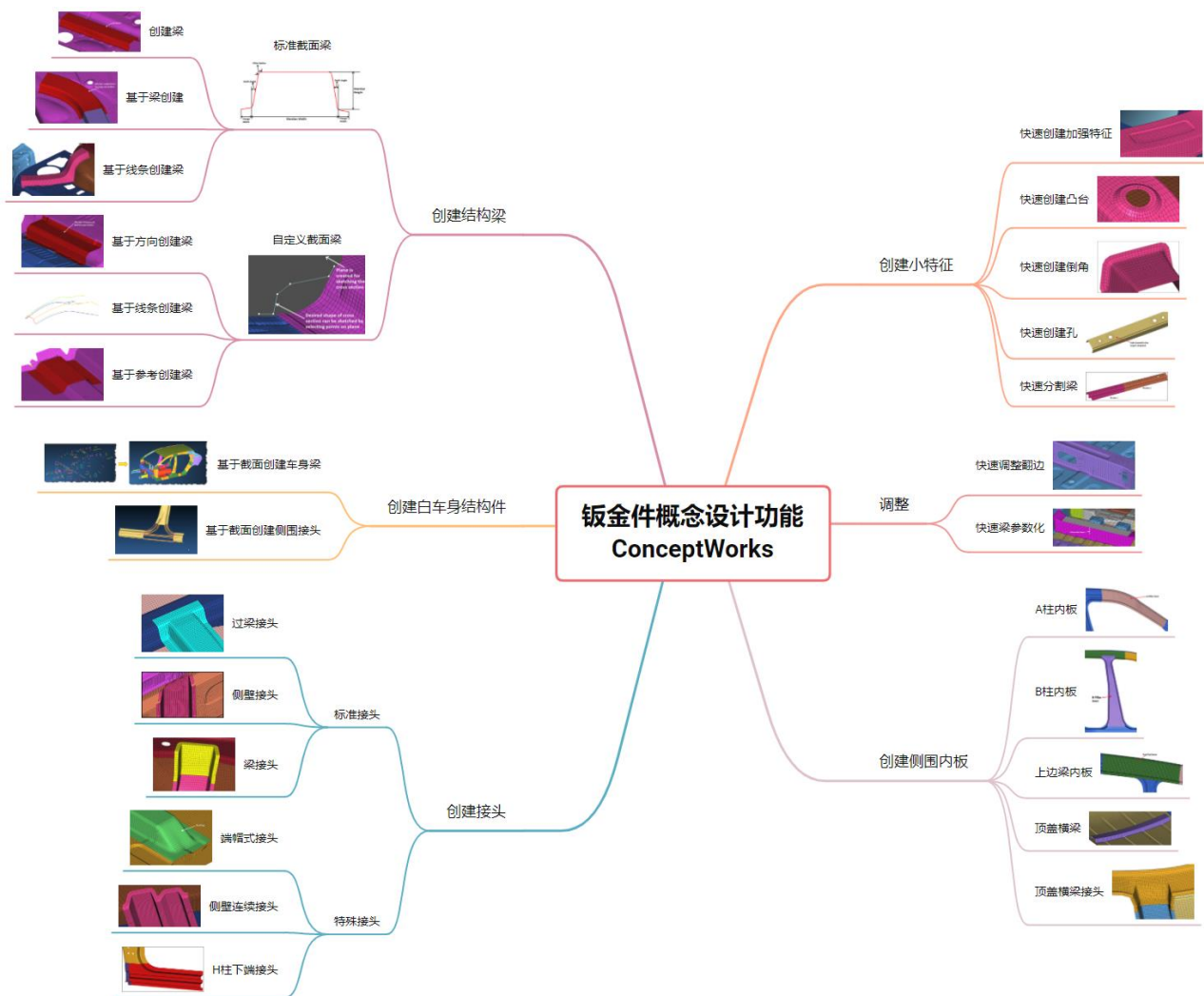


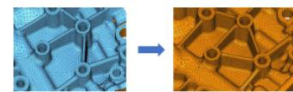
**DEP**  
**MeshWorks**

*The power of CAE to*  
**ACCELERATE. TRANSFORM. AUTOMATE. INNOVATE.**

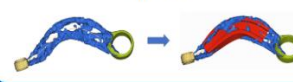


塑料件概念设计功能  
ConceptWorks

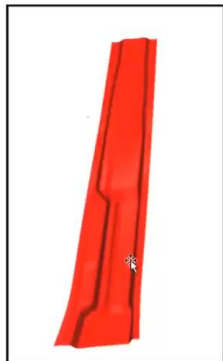
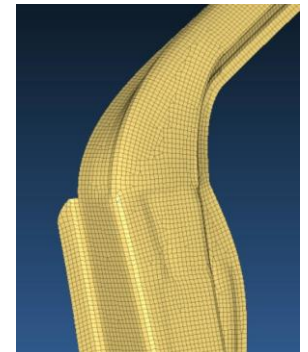
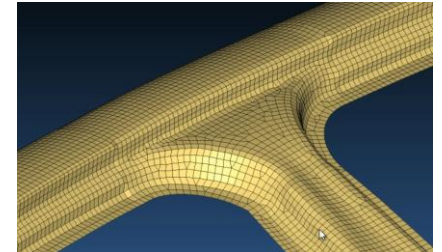
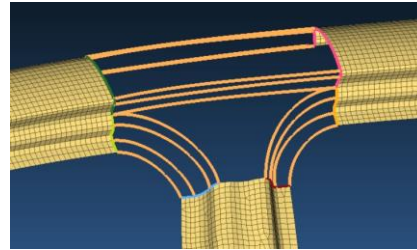
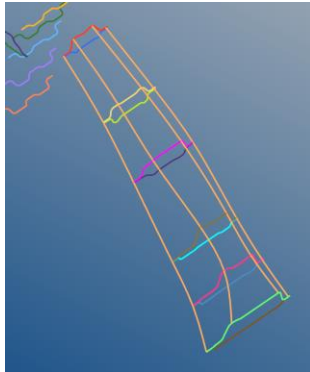
创建3D肋筋



创建3D梁



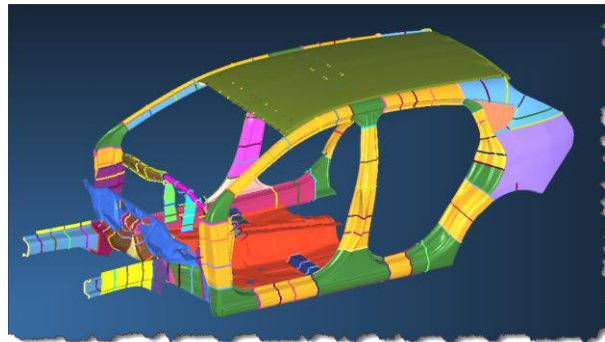
铸件概念设计功能  
ConceptWorks



Without Trajectory

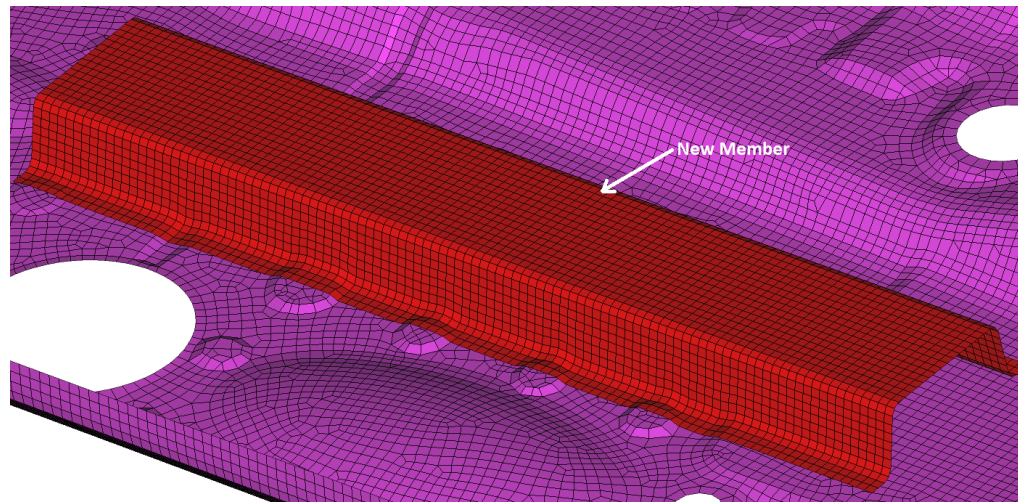
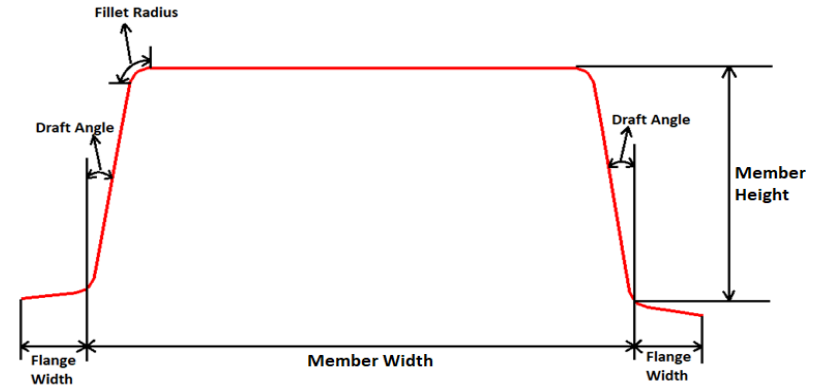
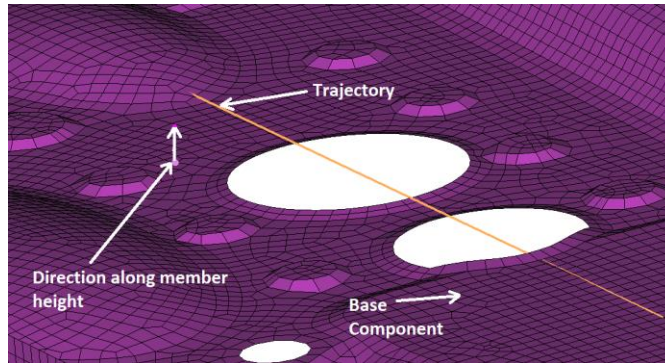


With Trajectory



# Member Creation (Pre-Defined Member)

## New Member



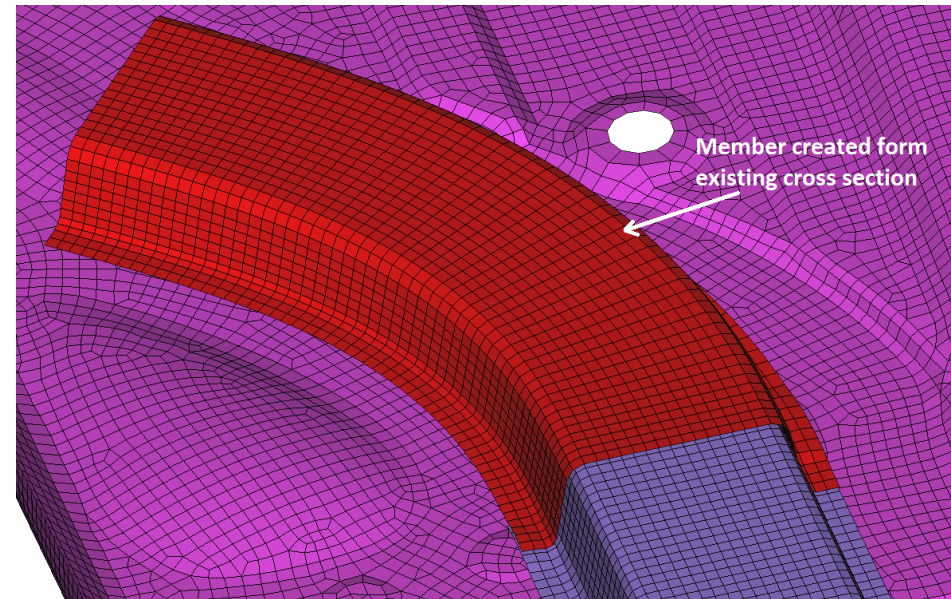
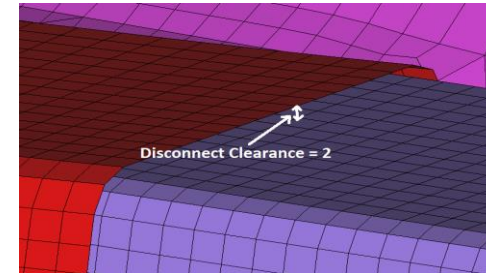
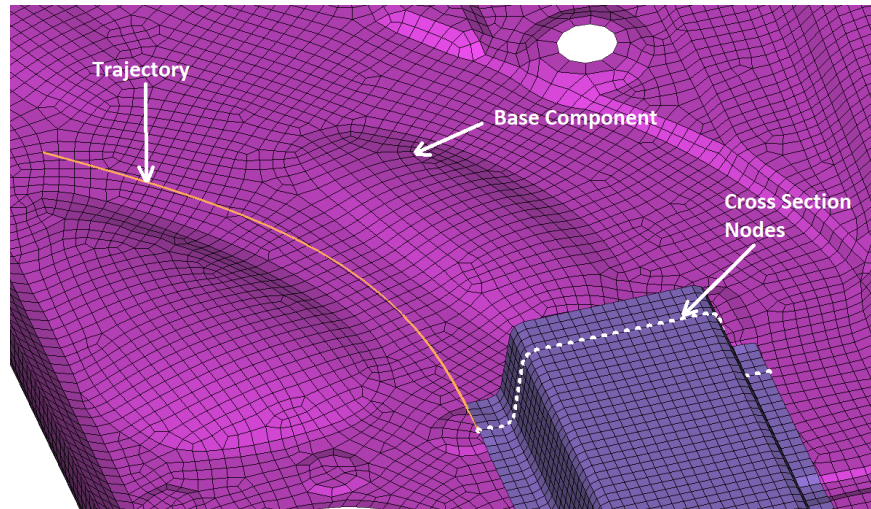
### Create new member

Create Member		Input							
<input checked="" type="radio"/> New Member	<input type="radio"/> From Existing Member	<input type="radio"/> Trajectory Based Member	<input type="button" value="Create Trajectory"/>	<input type="text" value="CAD Curves"/>	<input type="button" value="Member Height"/>	<input type="text" value="38"/>	<input type="button" value="Element Size"/>	<input type="text" value="5"/>	<input type="button" value="Execute"/>
			<input type="text" value="Select axis along height"/>	<input type="text" value="X-Axis"/>	<input type="button" value="Member Width"/>	<input type="text" value="98"/>	<input type="button" value="Fillet Radius"/>	<input type="text" value="6"/>	<input type="button" value="Reverse"/>
			<input type="text" value="Select Base Components"/>	<input type="text" value="Components"/>	<input type="button" value="Flange Width"/>	<input type="text" value="15"/>	<input type="button" value="Thickness"/>	<input type="text" value="1.5"/>	<input type="button" value="Return"/>
					<input type="button" value="Draft Angle"/>	<input type="text" value="10"/>	<input type="checkbox"/> Follow Base Component		<input type="button" value="Reset"/>



# Member Creation (Pre-Defined Member)

## From Existing Member



**Create member from an existing member**

Create Member

☐ New Member

☒ From Existing Member

☐ Trajectory Based Member

Input

Select CS nodes:

Select Trajectory:

Create Trajectory

Base Components

Element size:

Thickness:

☐ Disconnect Clearance

Components:

Execute

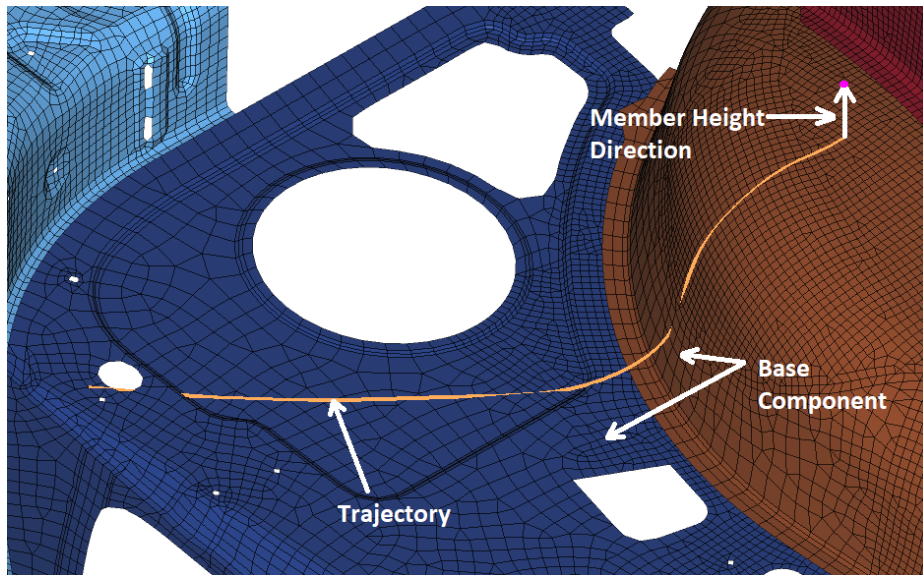
Reverse

Reset

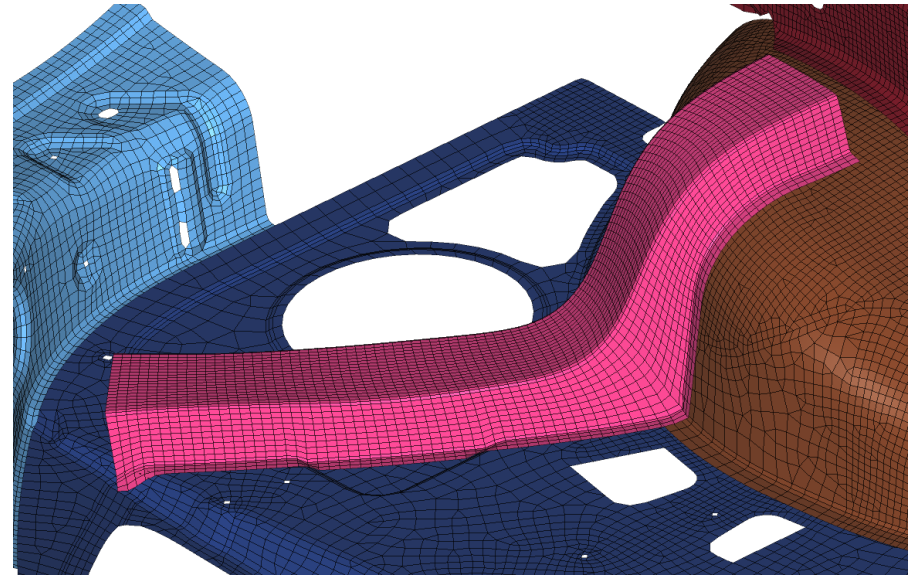
Return

# Member Creation (Pre-Defined Member)

## Trajectory Based Member



INPUT



OUTPUT

**Trajectory Based Member**

Create Member

☐ New Member

☐ From Existing Member

☒ Trajectory Based Member

Input

Create Trajectory

CAD Curves

Select axis along height

X-Axis

Select Base Component

Components

Member Height

-50

Member Width

115

Flange Width

15

Draft Angle

10

Element Size

6

Fillet Radius

6

Thickness

1.5

Preview Profile

Rotate Angle

+

10

-

Execute

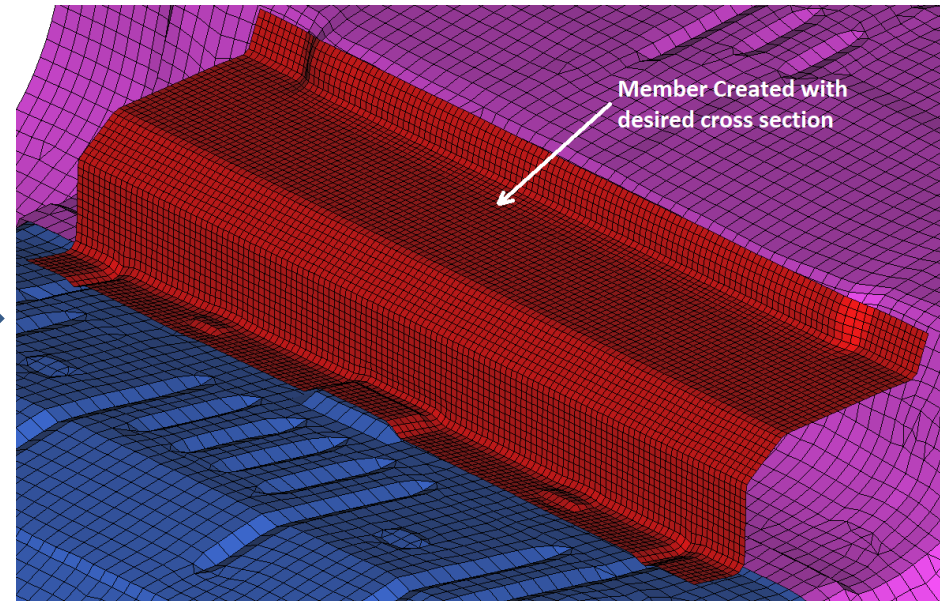
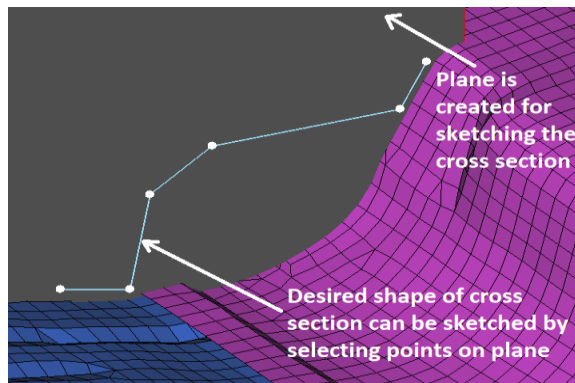
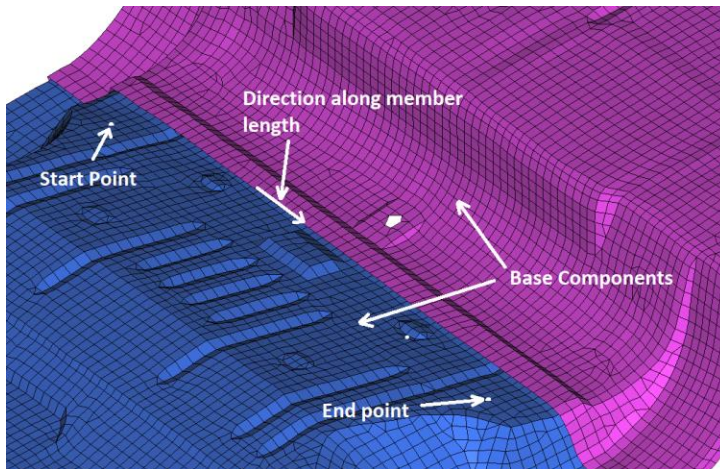
Reset

Return



# Member Creation (User-Defined Member)

## Direction Based



**OUTPUT**

**Customized Member**

Methods

☒ Direction Based

☐ Trajectory Based

☐ Reference Based

Input

Select Start and End Point

Nodes

Define Direction along Member Length

X-Axis

Select Base Components

Components

Sketch Cross Section

Undo Plane and CS

Select Profile

CAD Curves

Element Size

6

Thickness

1.5

☐ No Flange Adjustment

Execute

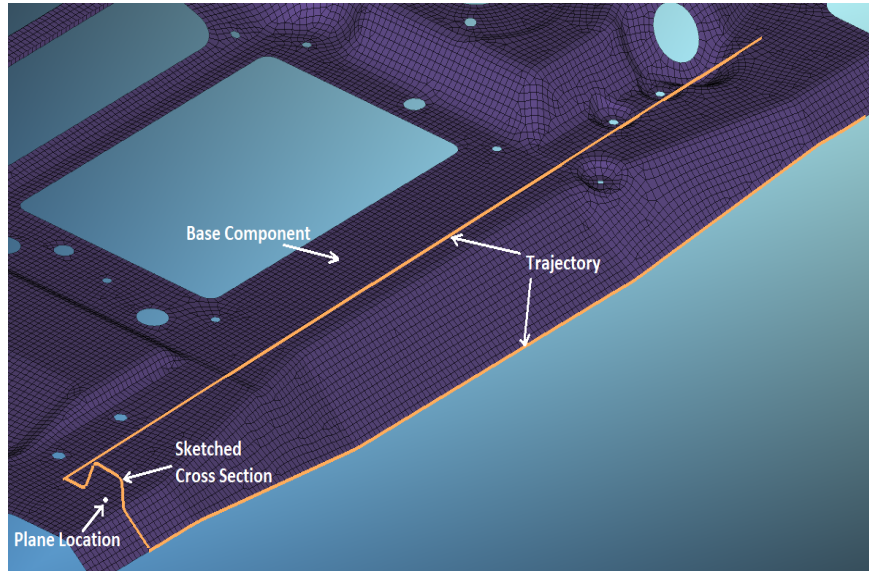
Reverse

Reset

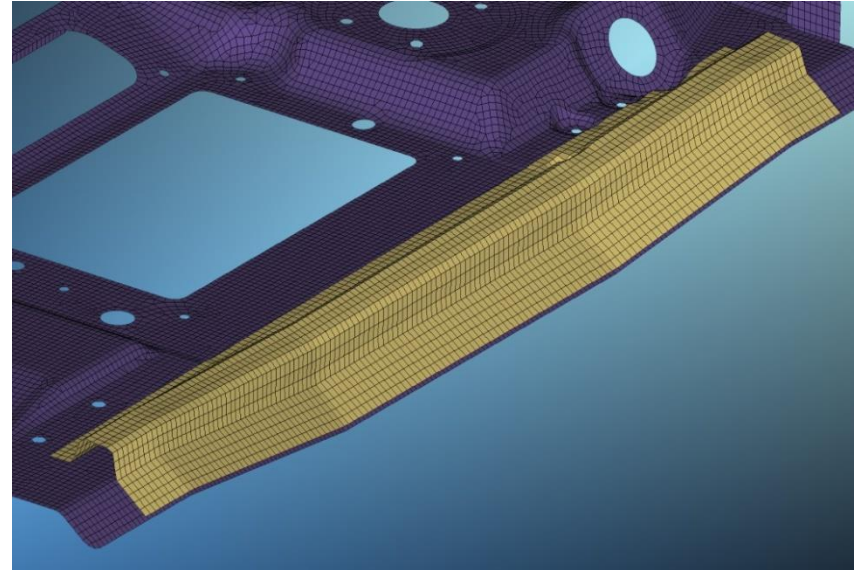
Return

# Member Creation (User-Defined Member)

## Trajectory Based



INPUT



OUTPUT

**Customized Member**

Methods

- ☐ Direction Based
- ☒ Trajectory Based
- ☐ Reference Based

Input

Select Sketch Plane Position: **Nodes**

Define Plane: **X-Axis**

Select Base Component: **Components**

Profile Creation

Sketch Cross Section

Undo Plane and CS

Select Cross Section: **Components**

Trajectory Creation

Select Nodes: **Nodes**

OR

Sketch Trajectory

Select Existing Trajectories: **Components**

Element Size: **6**

Thickness: **1.5**

☐ Method 2

☐ Retain Trajectories

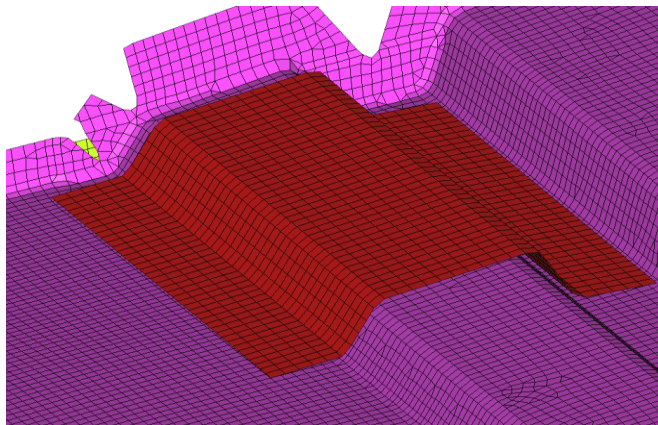
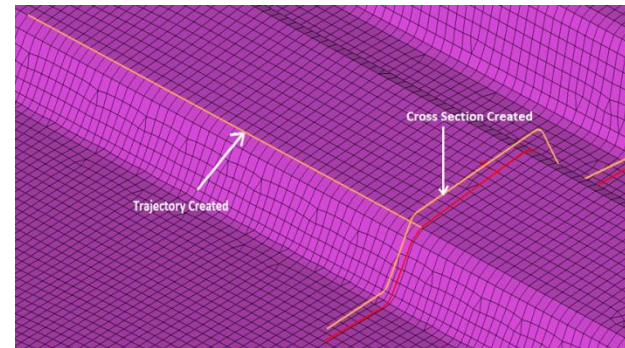
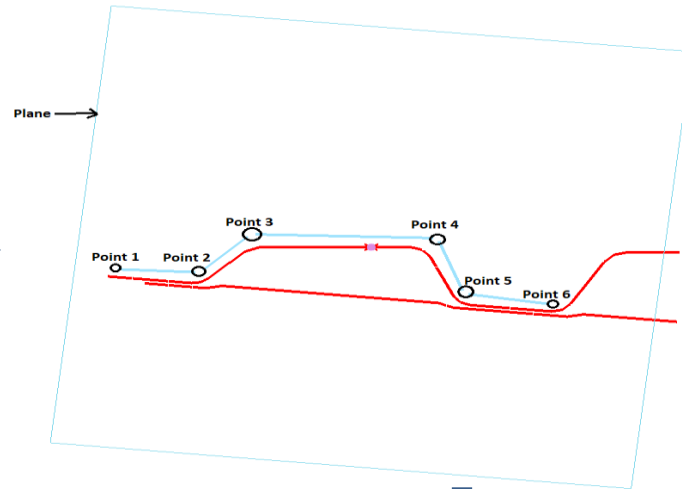
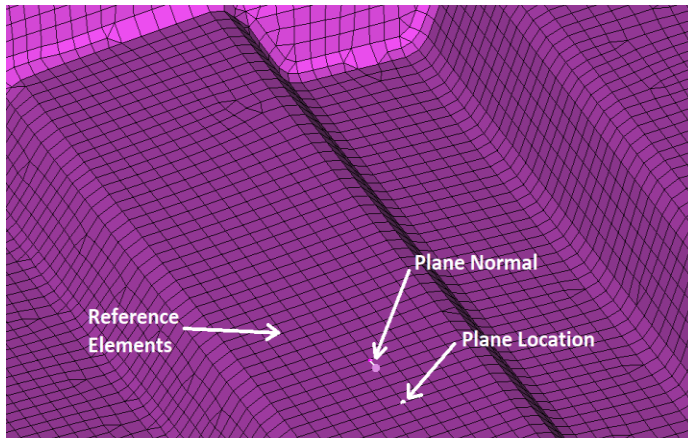
**Create** **Undo**

**Execute** **Reverse** **Reset** **Return**



# Member Creation (User-Defined Member)

## Reference Based

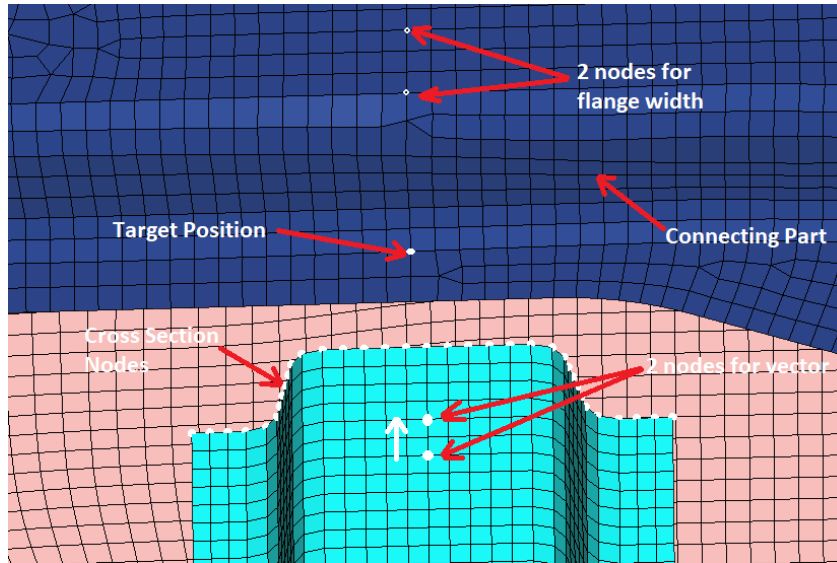


### Customized Member

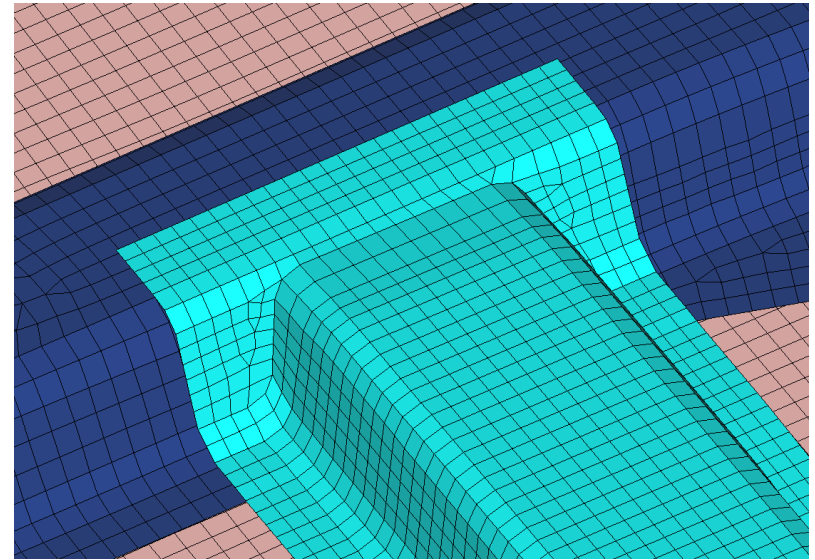
Methods	Reference Creation	Profile Creation	Trajectory Creation	Execution
<input type="radio"/> Direction Based	Define Location: <span>Nodes</span>	Sketch Cross Section	Select Nodes: <span>Nodes</span>	<input type="button" value="Execute"/> <input type="button" value="Reset"/> <input type="button" value="Return"/>
<input type="radio"/> Trajectory Based	Define Vector: <span>X-Axis</span>	Select Cross Section: <span>Components</span>	OR	
<input checked="" type="radio"/> Reference Based	Select Reference Elements: <span>Elements</span>	Element Size: <span>6</span> Thickness: <span>1.5</span>	Sketch Trajectory	
			Select Existing Trajectories: <span>Components</span>	<input type="checkbox"/> Method 2 <input type="checkbox"/> Retain Trajectories
			<input type="button" value="Create"/> <input type="button" value="Undo"/>	

# Joint Creation (Standard Joints)

## Joint Over Member



Input



Output

**Joint Over Member**

Create Joint

☒ Joint Over Member

☐ Side Wall Joint

☐ Member Joint

Joint Profile

Select Cross Section Nodes

Nodes

Define Vector

Nodes

Connecting part

Components

Select Target Position

Nodes

Select 2 nodes to define Flange Width

Nodes

Element Size

5

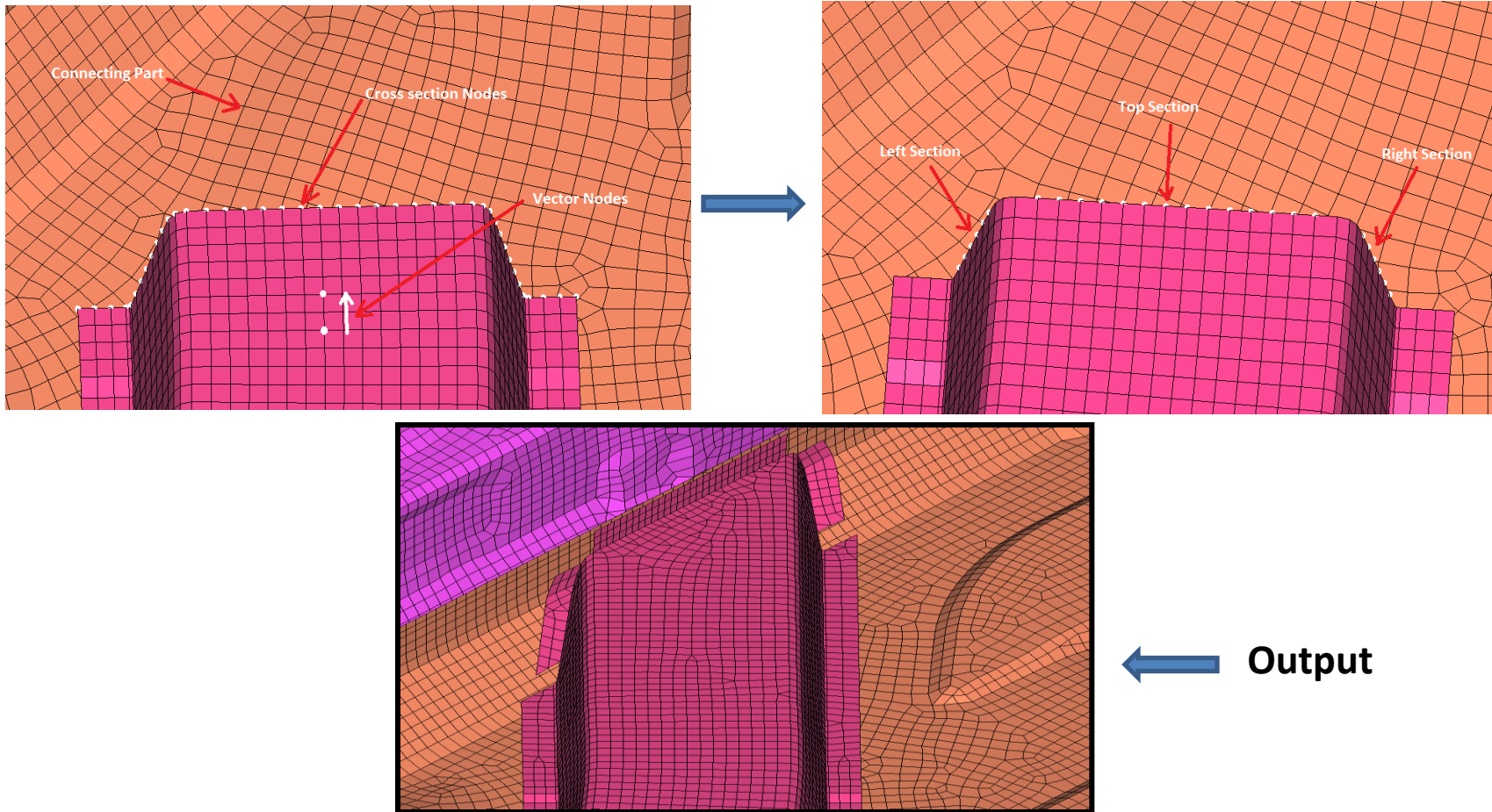
Execute

Reset

Return

# Joint Creation (Standard Joints)

## Side Wall Joint



← Output

**Side Wall Joint**

Create Joint

☐ Joint Over Member

☒ Side Wall Joint

☐ Member Joint

Joint Profile

Select Cross Section Nodes: Nodes

Define Vector: Nodes

Connecting Part: Components

Flange Section

Top Section: Nodes

Left Section: Nodes

Right Section: Nodes

Element Size [Min]: 5

Element Size [Max]: 5.5

Flange Width: 20

Execute

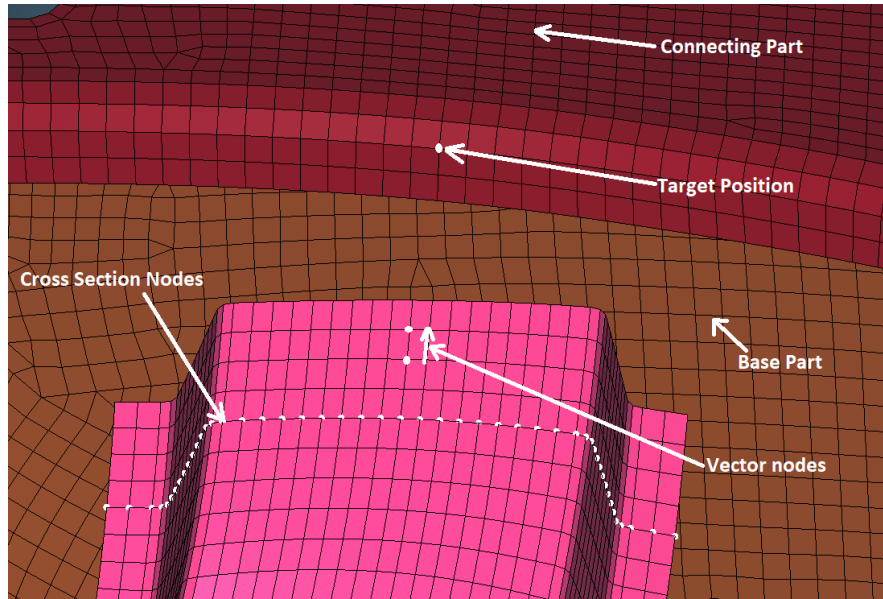
Reset

Return

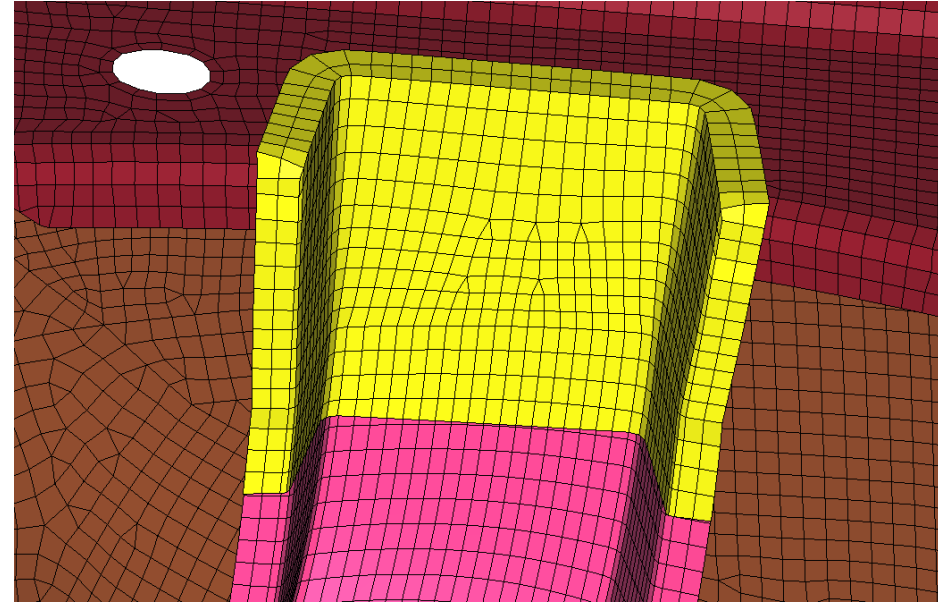


# Joint Creation (Standard Joints)

## Member Joint



INPUT



OUTPUT

**Member Joint**

Create Joint

☐ Joint Over Member

☐ Side Wall Joint

☒ Member Joint

Joint Input

Select Cross Section Nodes

Nodes

Connecting Part

Components

Base Part

Components

Define Vector

Nodes

Target Position

Nodes

Flare [%]

15

Element Size

6

Flange Width

15

Thickness

1.5

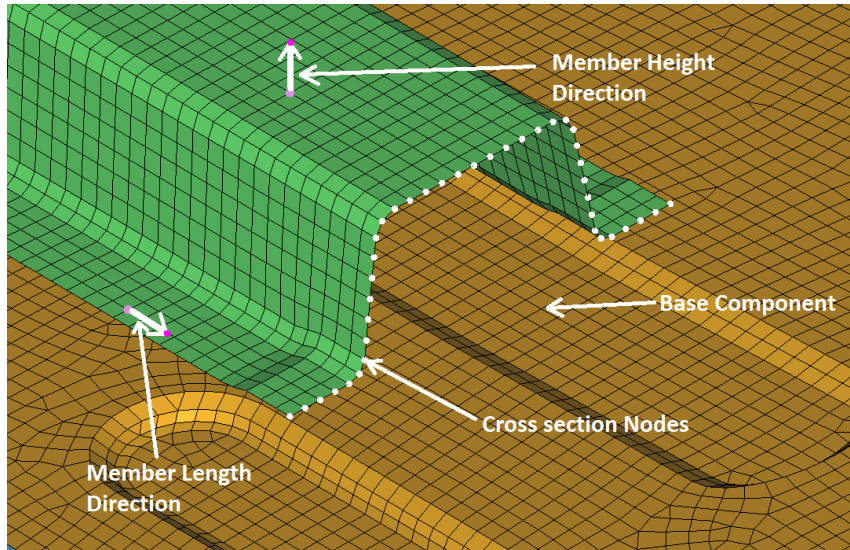
Execute

Reset

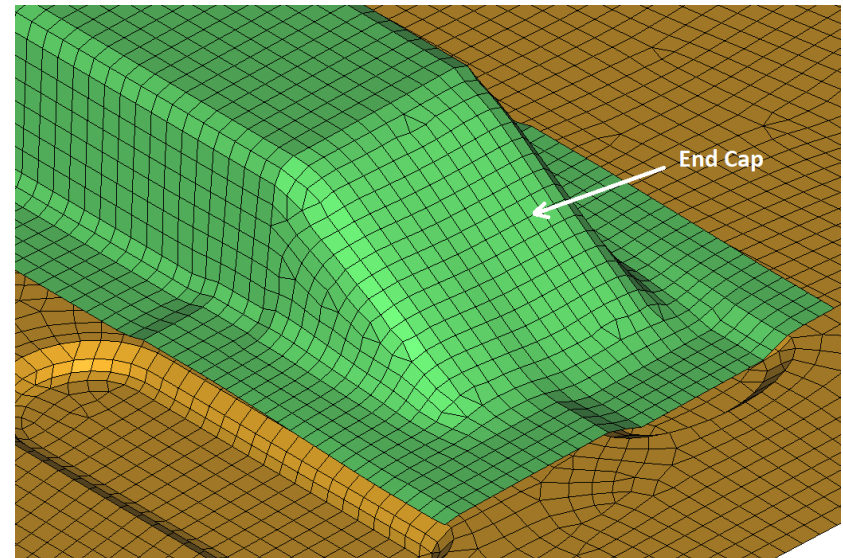
Return

# Joint Creation (Special Joints)

## End Caps



INPUT



OUTPUT

**Special Joints**

Member and Cap

☒ End Caps

☐ Side Wall Joint[Advanced]

☐ H-Pillar Lower Joint

Input

Select CS Nodes

Nodes

Select Base Component

Components

Member Length Direction

X-Axis

Member Height Direction

X-Axis

Cap Length

80

Flange Width

20

Element Size

5

Execute

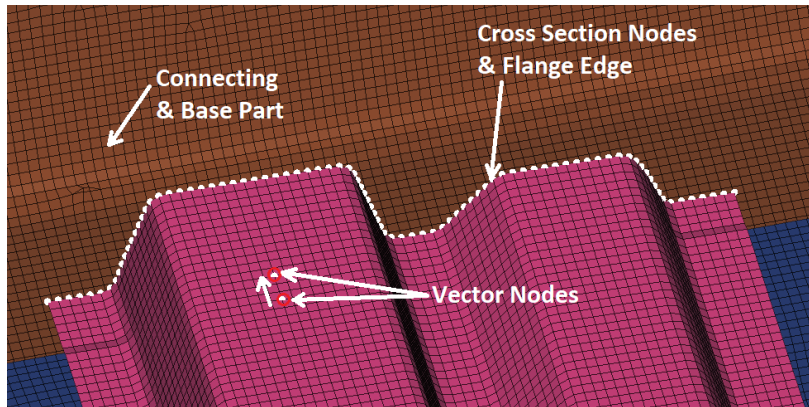
Reverse

Reset

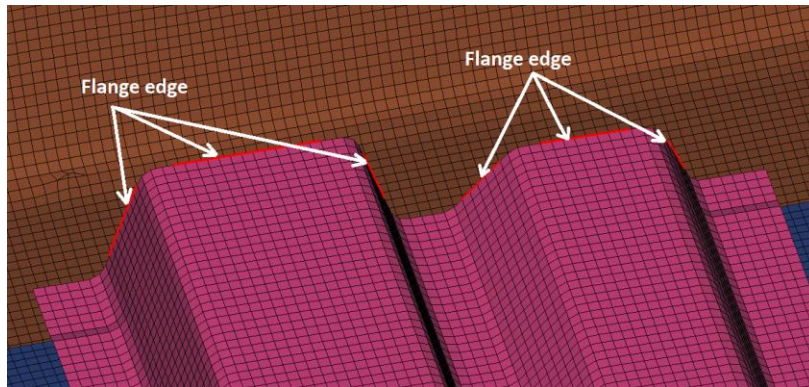
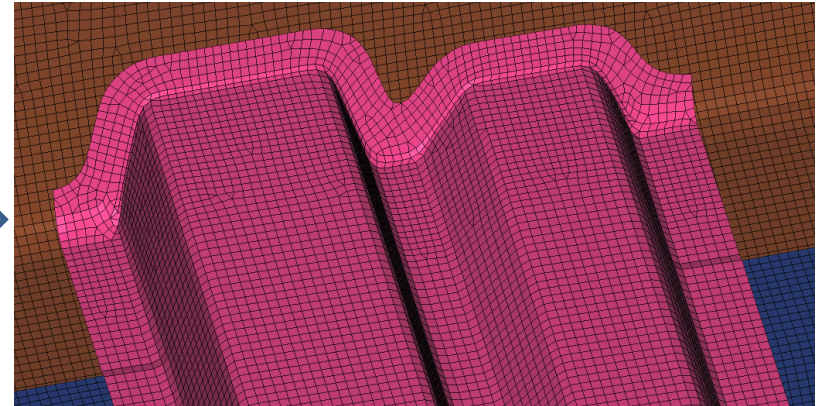
Return

# Joint Creation (Special Joints)

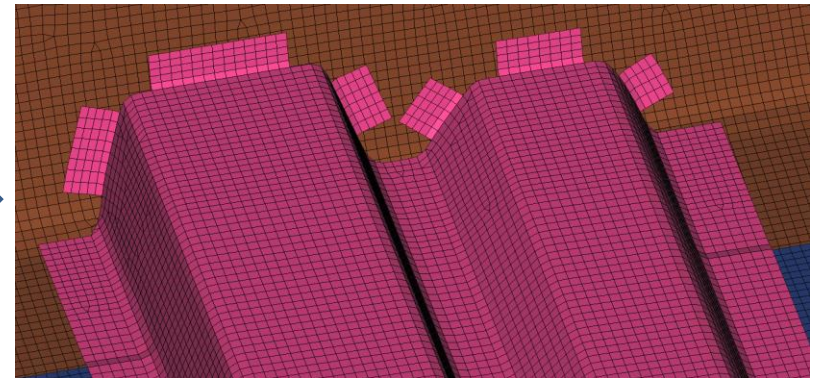
## Side Wall Joint (Advanced)



### Continuous Flange



### Split Flange



**Special Joints**

Member and Cap

☐ End Caps

☒ Side Wall Joint[Advanced]

☐ H-Pillar Lower Joint

Inputs

Select Cross Section Nodes

Nodes

Select Vector

Nodes

Connecting Part

Components

Define Base Part

Components

Flange Edge

Nodes

Accept

Undo

Flange Width

16

Element Size

5

Reset Values

Execute

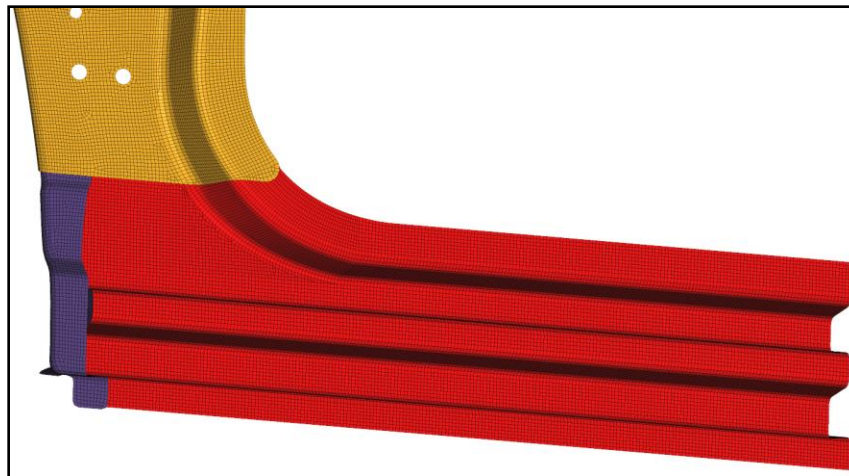
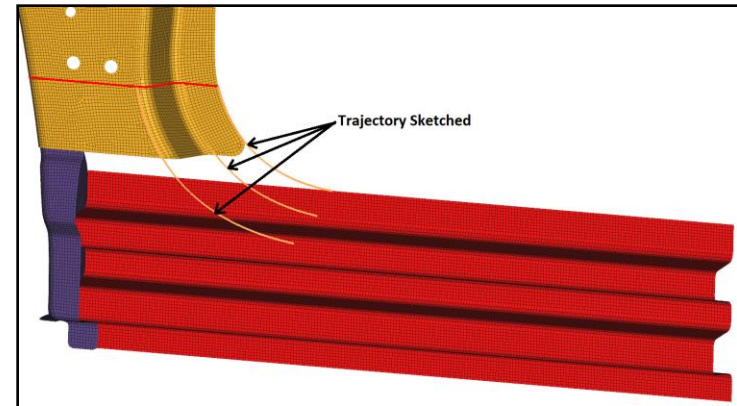
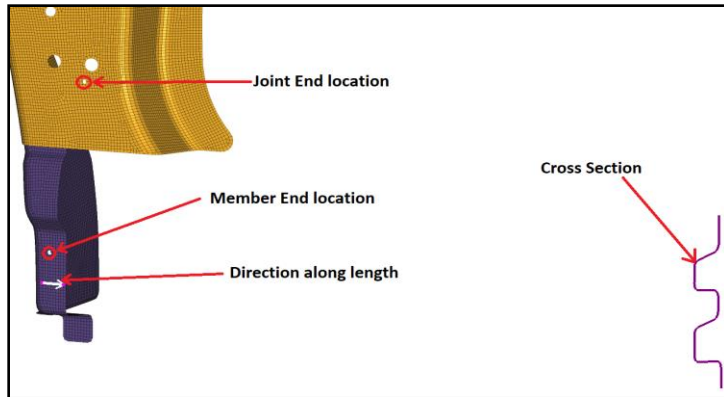
Reset

Return



# Joint Creation (Special Joints)

## H-Pillar Lower Joint



OUTPUT

**Special Joints**

Member and Cap

☐ End Caps

☐ Side Wall Joint[Advanced]

☒ H-Pillar Lower Joint

Inputs

Select Cross Section

Nodes

Direction along length

X-Axis

Member End Location

Nodes

500

Joint End Location

Nodes

Define Curvature

CAD Curves

Reselect Curves

Element Size

3

Thickness

1.5

Total Length

500

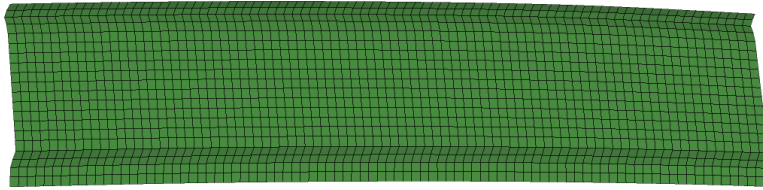
Execute

Reverse

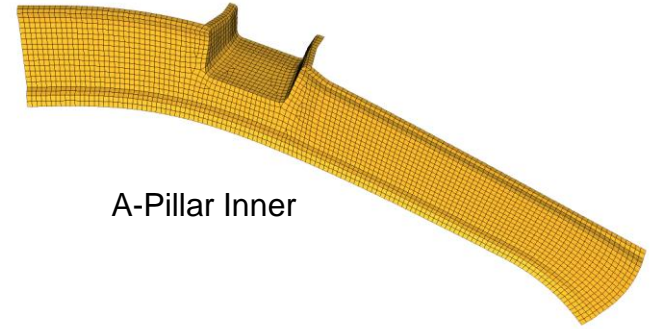
Reset

Return

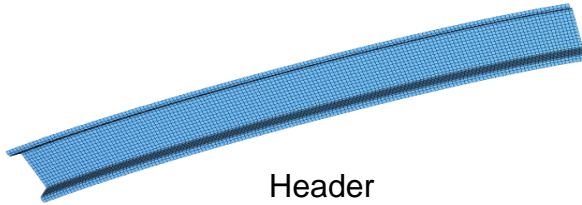
# BSO Inner Parts



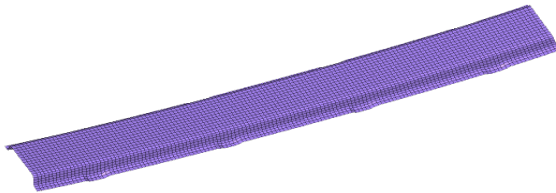
Roof Rail Inner



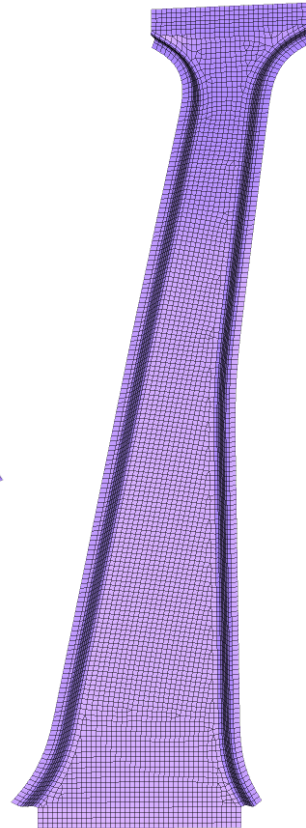
A-Pillar Inner



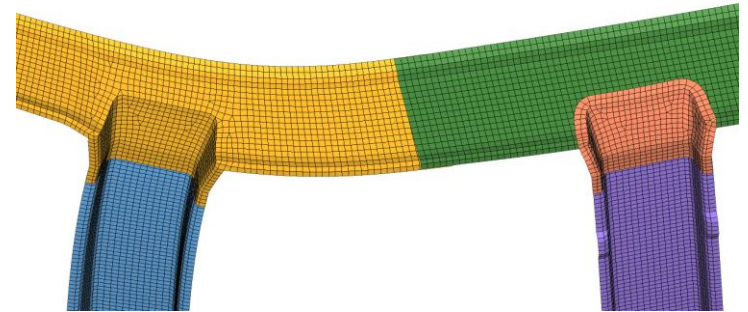
Header



Roof Bow



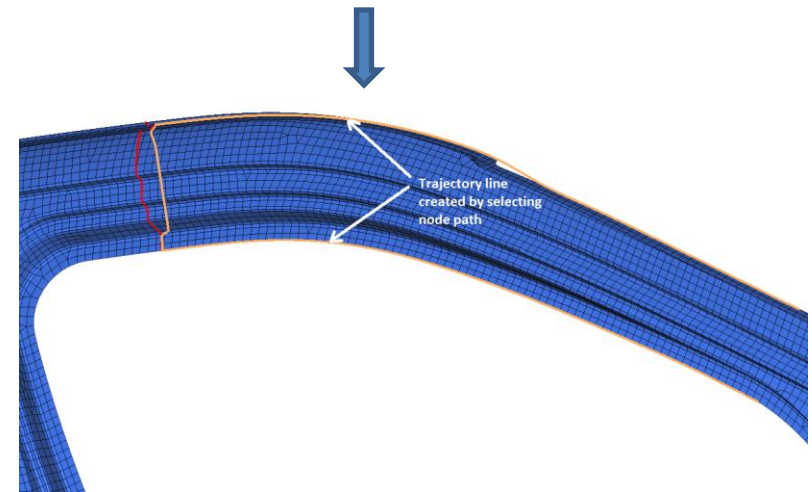
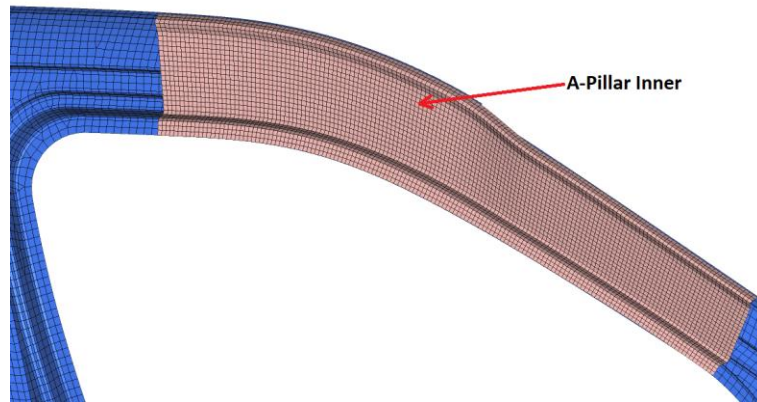
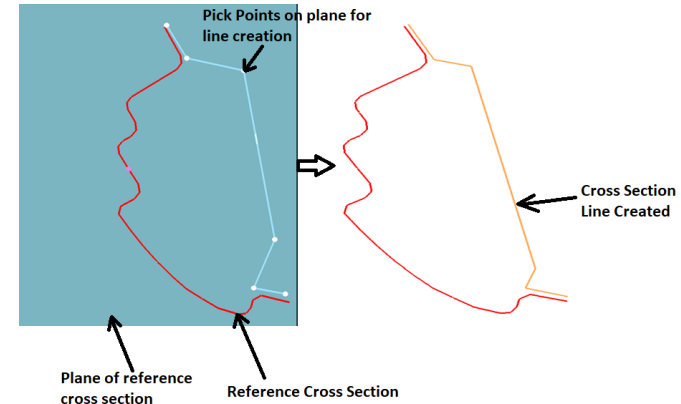
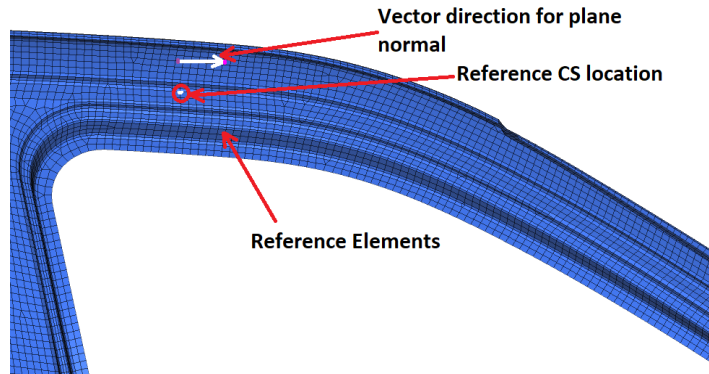
B-Pillar Inner



Header and Bow Joint

# BSO Inner Parts

## A-Pillar Inner



BSO Inner Parts

Concept Works Creation

☒ A-Pillar Inner

☐ Roof Rail Inner

☐ Header / Roof Bow

☐ Header / Bow Joint

☐ B-Pillar Inner

Profile Creation

Define Location

Nodes

Define Vector

X-Axis

Select Reference Elements

Elements

Input Selection

Sketch Cross Section

Select Cross Section

Components

Element Size

6

Thickness

1.5

Trajectory Creation

Select Nodes

Nodes

OR

Select Existing Trajectories

Components

Create

Undo

Sketch Trajectory

Execute

Reset

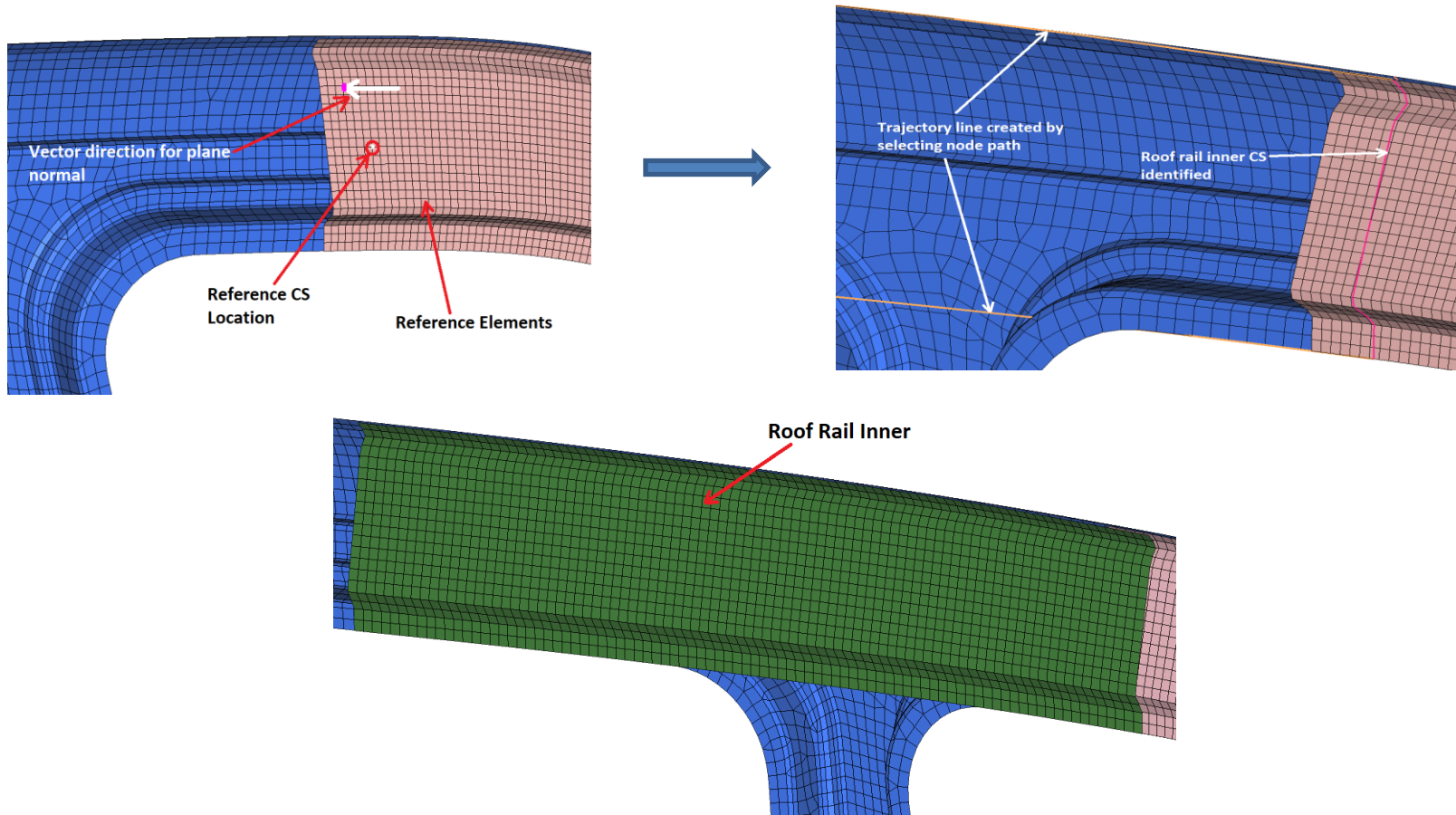
Return

☐ Method 2

Power to transform product development



## Roof Rail Inner



BSO Inner Parts

Concept Works Creation

☐ A-Pillar Inner
 ☒ Roof Rail Inner
 ☐ Header / Roof Bow
 ☐ Header / Bow Joint
 ☐ B-Pillar Inner

Profile Creation

Define Location

Nodes

Define Vector

X-Axis

Select Reference Elements

Elements

Input Selection

Create Cross Section

Select Cross Section

Components

Element Size

6

Thickness

1.5

Trajectory Creation

Select Nodes

Nodes

OR

Sketch Trajectory

Select Existing Trajectories

Components

Create

Undo

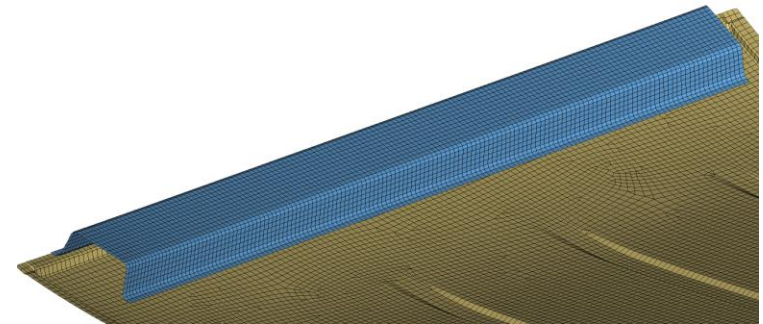
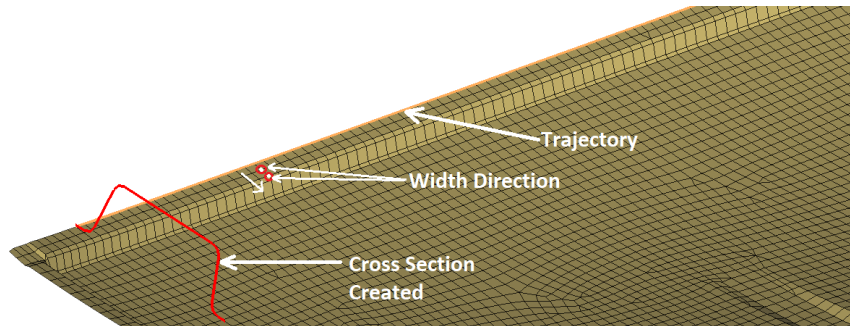
Execute

Reset

Return

☐ Method 2

## Header Creation



BSO Inner Parts

Concept Works Creation

☐ A-Pillar Inner
 ☐ Roof Rail Inner
 ☒ Header / Roof Bow
 ☐ Header / Bow Joint
 ☐ B-Pillar Inner

Method

☒ Header
 ☐ Roof Bow

Select Nodes to define trajectory

Nodes

Create

Undo

Define Width Direction

Nodes

Create CS

Reverse

Define Cross Section

Section Height

50

Section Width

120

Flange Width

15

Section Draft

10

Element Size

6

Fillet Radius

6

Thickness

1.5

Profile Adjustment

Adjust Bottom Flange Height

-

5

+

Undo

Execute

Reset

Return

## Roof Bow Creation

Trajectory

Axis along Height

Base Component

BSO Inner Parts

Concept Works Creation

☐ A-Pillar Inner
 ☐ Roof Rail Inner
 ☒ Header / Roof Bow
 ☐ Header / Bow Joint
 ☐ B-Pillar Inner

Method

☐ Header
 ☒ Roof Bow

Input

Create Trajectory

CAD Curves

X-Axis

Components

Select axis along height

X-Axis

Select Base Components

Components

Bow Height

-35

Bow Width

120

Flange Width

15

Draft Angle

10

Element Size

6

Fillet Radius

6

Thickness

1.5

☐ Follow Base Component

Execute

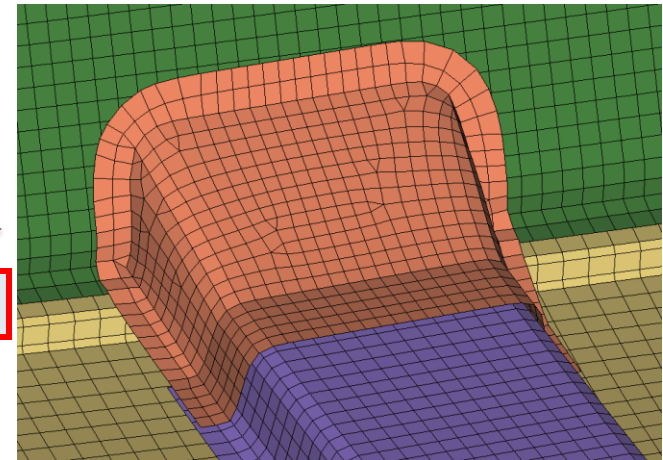
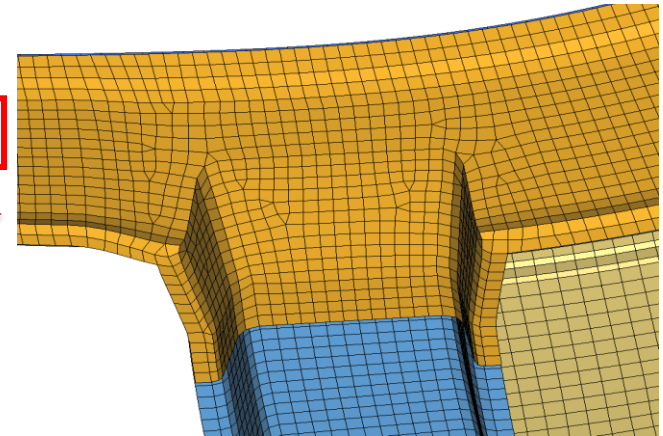
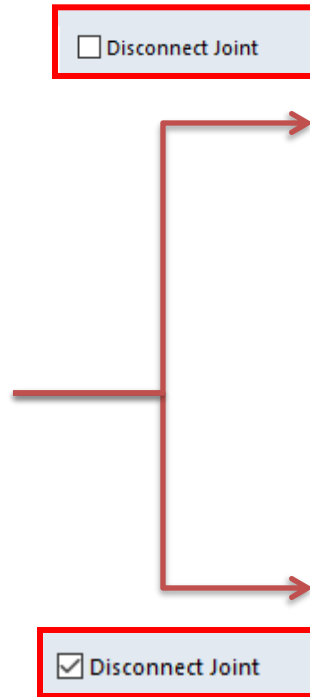
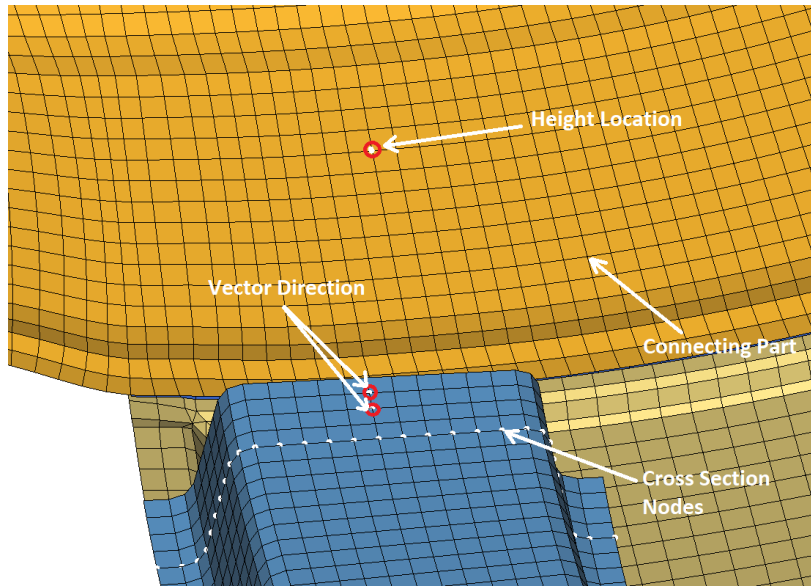
Reverse

Reset

Return

Power to transform product development

## Header / Bow Joint



**BSO Inner Parts**

Concept Works Creation

- ☐ A-Pillar Inner
- ☐ Roof Rail Inner
- ☐ Header / Roof Bow
- ☒ Header / Bow Joint
- ☐ B-Pillar Inner

Joint Input

Select Cross Section Nodes

Nodes

Connecting Part

Components

Define Vector

Nodes

Height Position

Nodes

Flare [%]

20

Element Size

6

☒ Disconnect Joint

Flange Width

15

Thickness

1.5

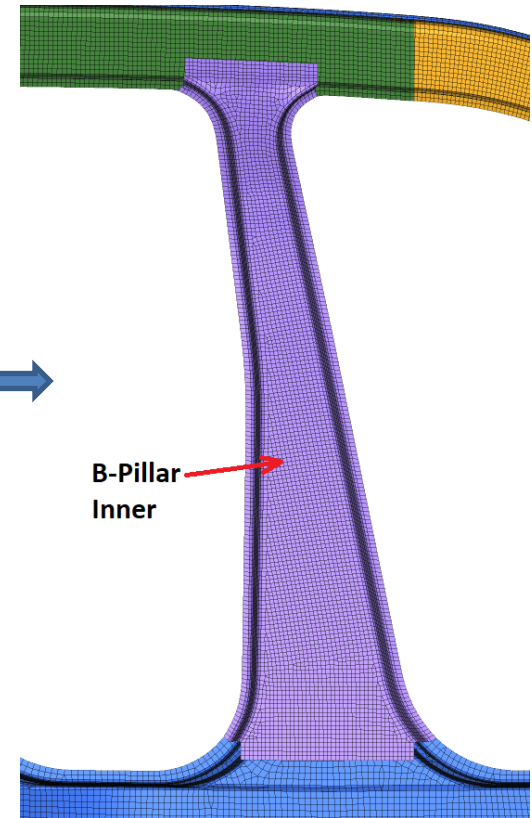
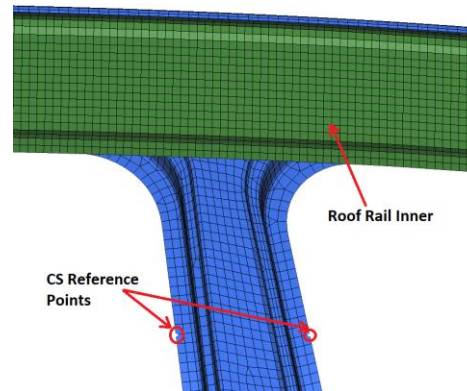
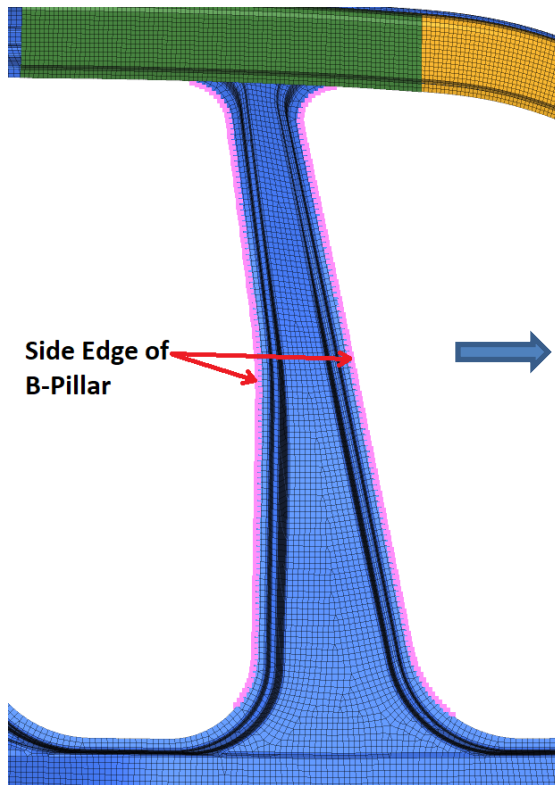
Execute

Reset

Return



## B-Pillar Inner



**BSO Inner Parts**

Concept Works Creation

☐ A-Pillar Inner  
☐ Roof Rail Inner  
☐ Header / Roof Bow  
☐ Header / Bow Joint  
☒ B-Pillar Inner

Input Selection

Select Side Edges: Nodes Accept

Select CS Reference Point: Nodes ... ↩

Select Roof Rail Inner: Components ... ↩

Define Cross Section

Side Flange Width	15	Top Flange Width	30
CS Height	35	Bottom Flange	35
Section Draft	20	Element Size	6
Fillet Radius	6	Thickness	1.5

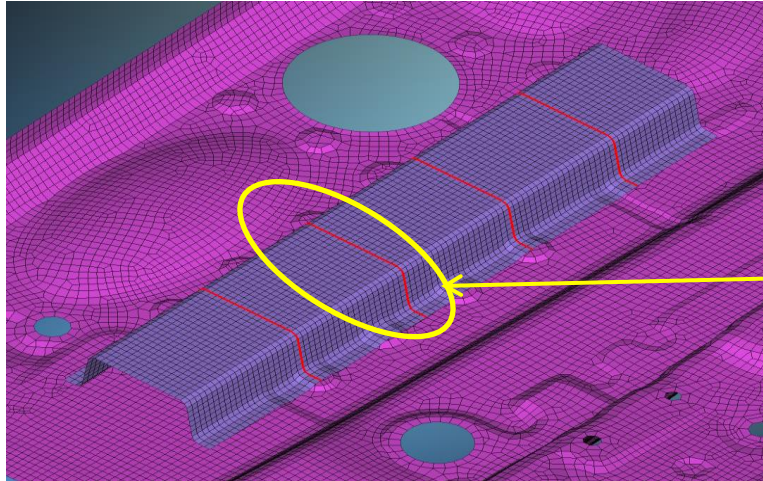
Execute

Reset

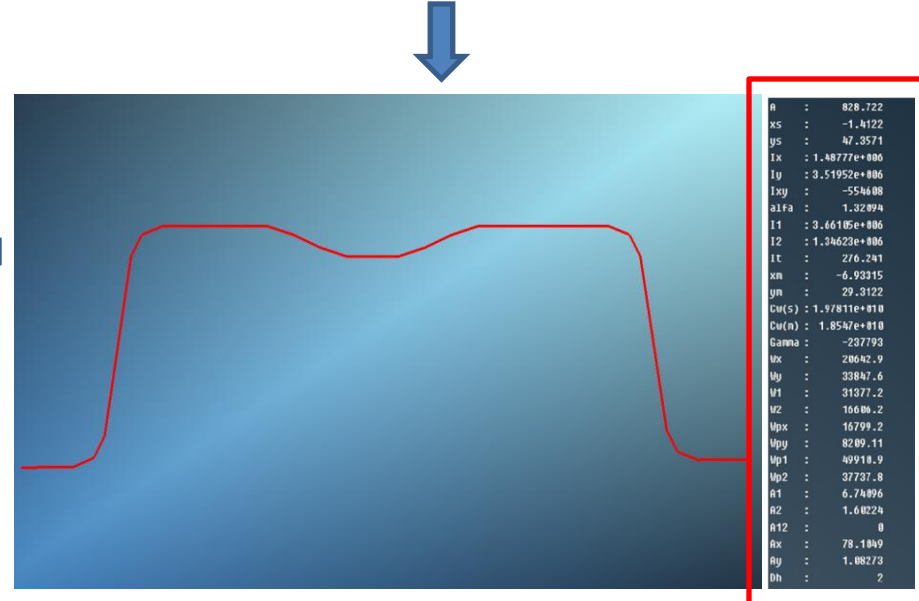
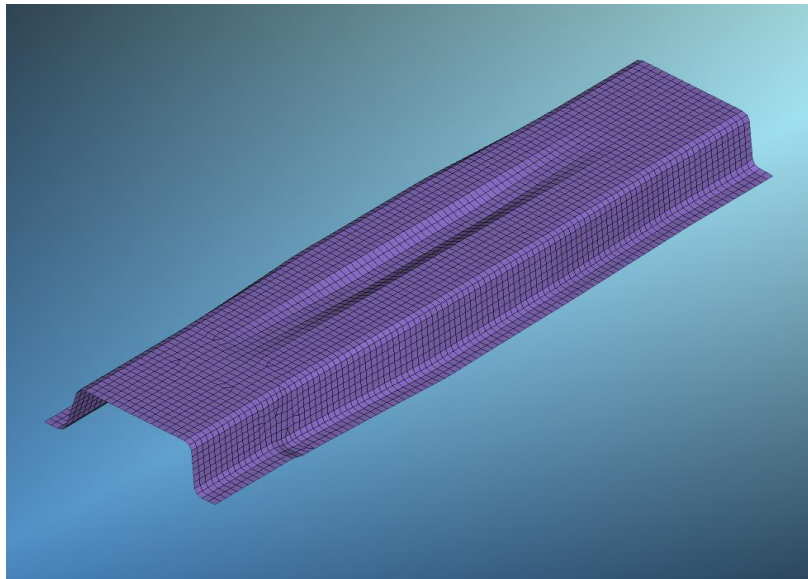
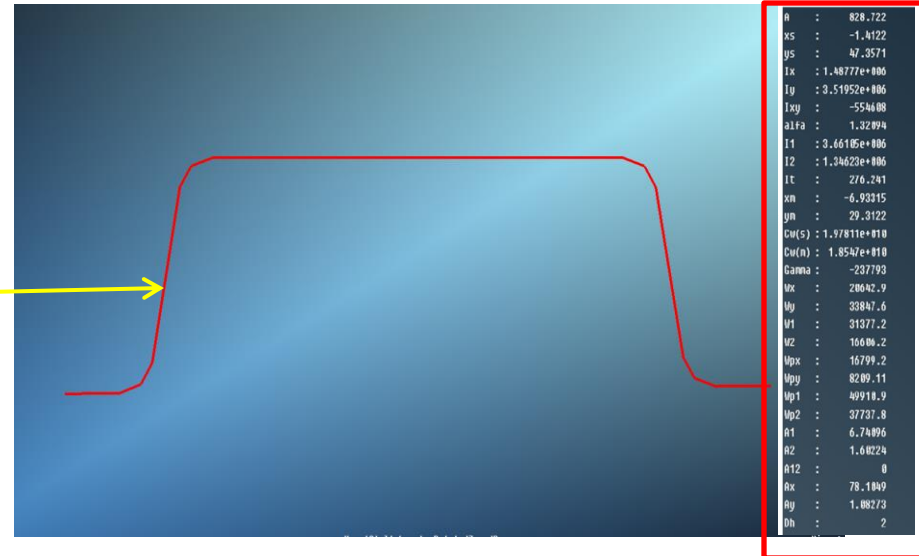
Return

# Section Change

1. Member Created using concept works



2. Extracting Sections at required positions





4. Member gets updated instantly



3. Section changes done based on various aspects



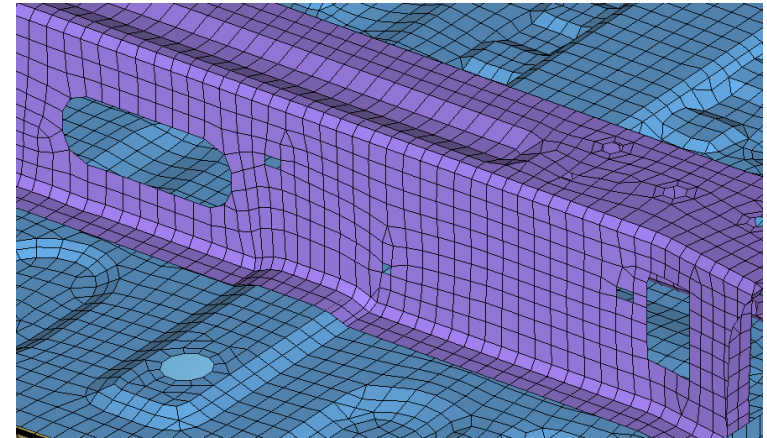
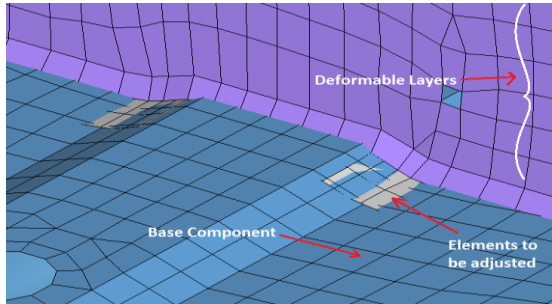
## Adjust Flange

**Adjust Flange**

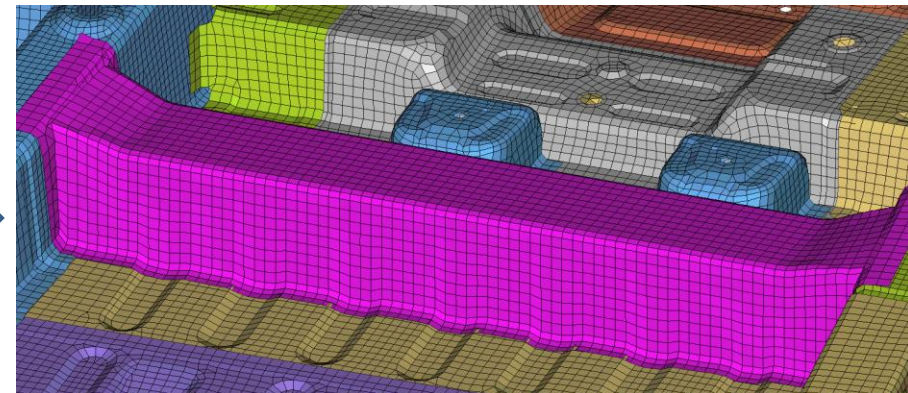
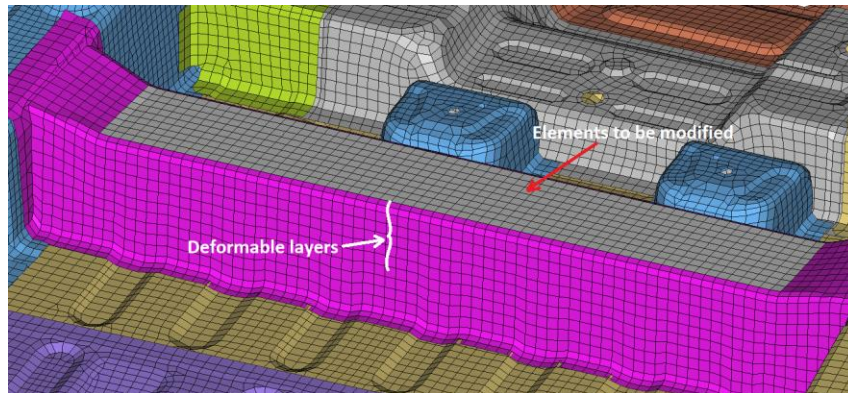
Select Elements:   

Select Base Part:   

Deformable layers:  ☒ Shell Gap





## Member Adjustments / Parameterization





**Member Adjustment / Parameter**

Input


Select Entities:   

Deformable Layers:

Add Fixed Nodes [Optional]:   

Method

Define Direction

☒ Translate  

OR

☐ Offset

Range

Min  Max

Parameter

Parameter Name:



## Quick Beads: By Node Path

**Quick Bead Creation**

Quick Beads

☒ By Node Path

☐ By Curves

Inputs

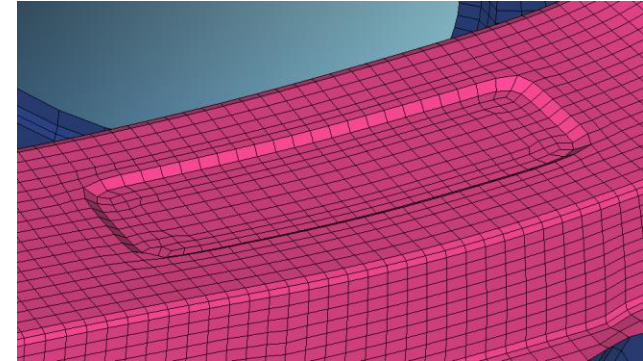
Select Nodes by path to define width

Select Nodes by path to define bead length

Specify bead depth value

Execute Reverse Return

Reset



## Quick Beads: By Curve

**Quick Bead Creation**

Quick Beads

☐ By Node Path

☒ By Curves

Inputs

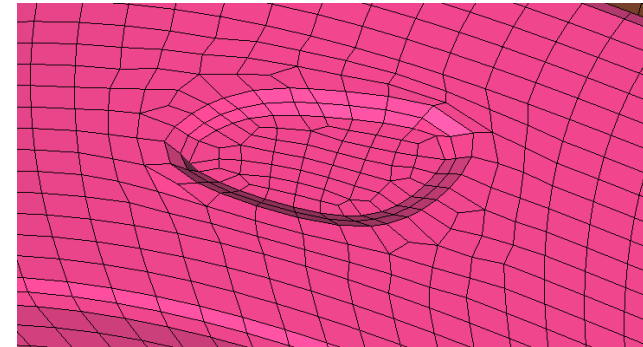
Create Profile

Select the Bead Profile

Bead Depth  Bead Offset

Execute Reverse Return

Reset



## Quick Boss

**Quick Boss Creation**

Inputs

Define Center

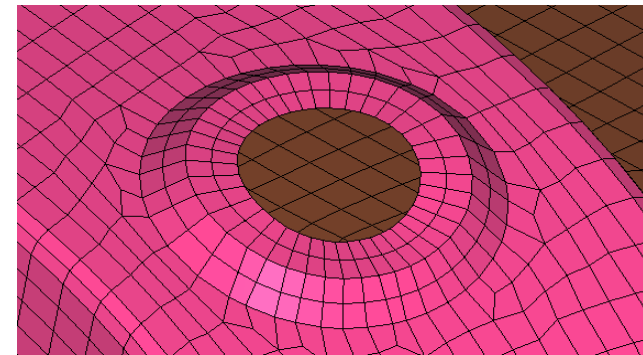
Outer Diameter

Inner Diameter

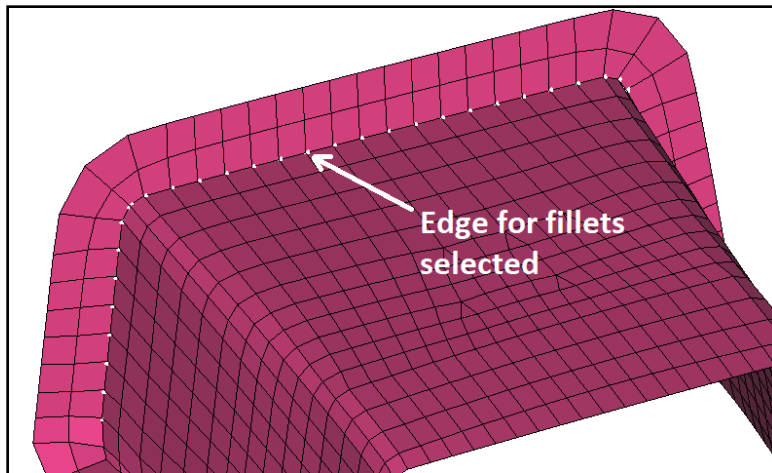
Translate

Translate + Translate - Return

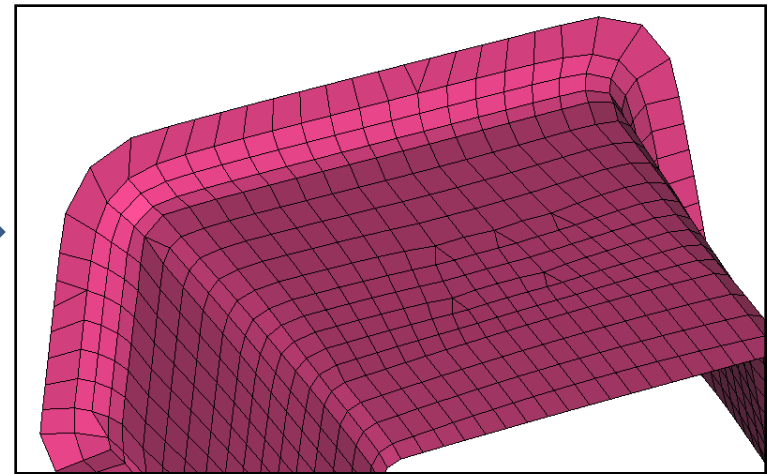
Reset



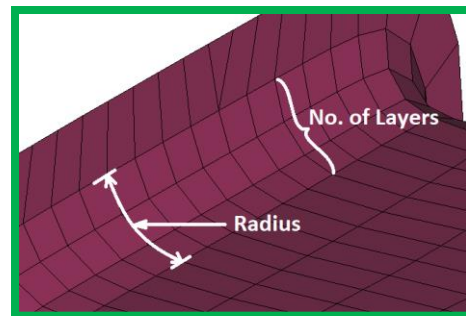
## Quick Fillets



Input



Output



**Quick Fillet Creation**

Inputs

Select Edges:

Fillet Radius:

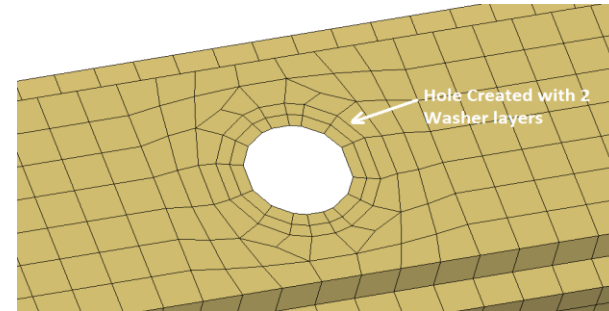
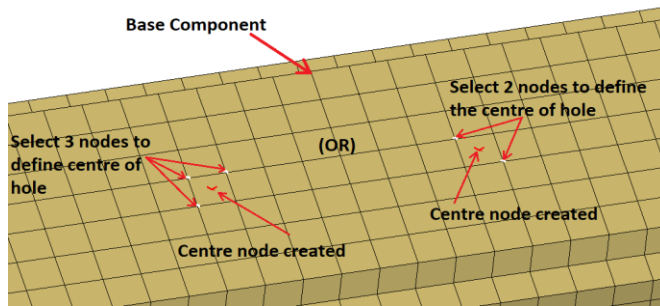
No. of Elements on Fillet Edge:

Execute

Reset

Return

## Quick Holes: Create New Holes



Quick Holes

☒ Create New Hole
   
☐ Imprint Reference Holes

Measure Distance

Select 2 Nodes

Create Centre Node

Select 1 Node to define centre  
[or]  
 Select 2 Nodes to define centre  
[or]  
 Select 3 Nodes to define centre

Inner Diameter [D]

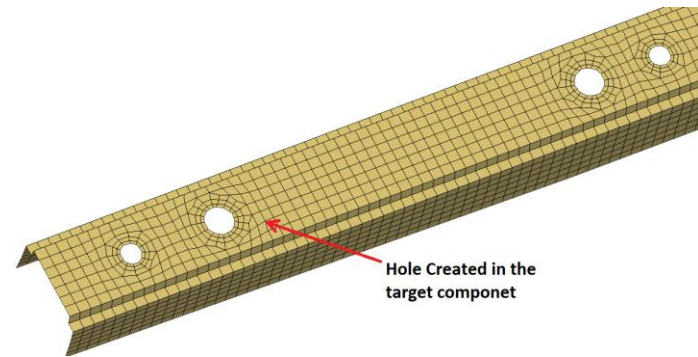
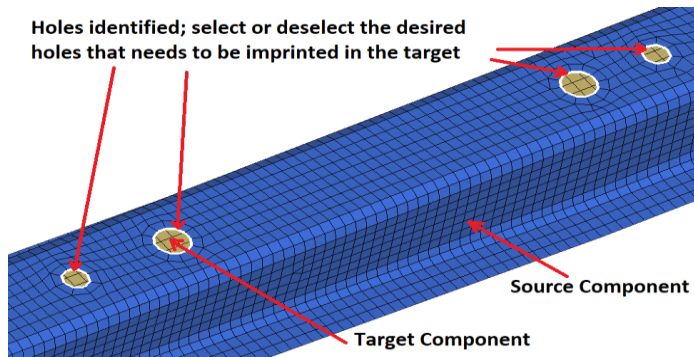
Element Size

Select Component

Washer Inputs

☒ Zone 1  \*D
   
☒ Zone 2  \*D
   
☐ Zone 3  \*D
   
☐ Zone 4  \*D

## Quick Holes: Imprint Reference Holes



Quick Holes

☐ Create New Hole
   
☒ Imprint Reference Holes

Input

Select Source
   

  
 Select / Deselect Holes
   

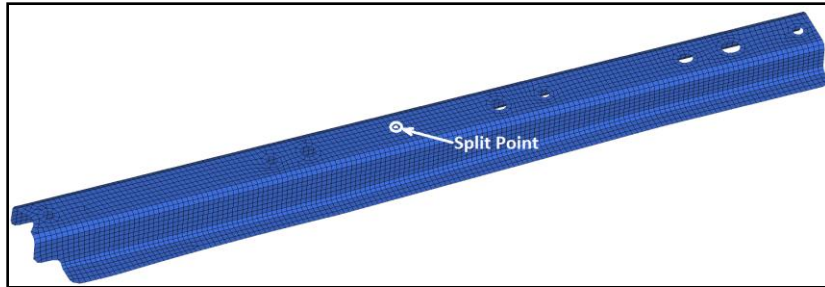
  
 Select Target

Washer Zone

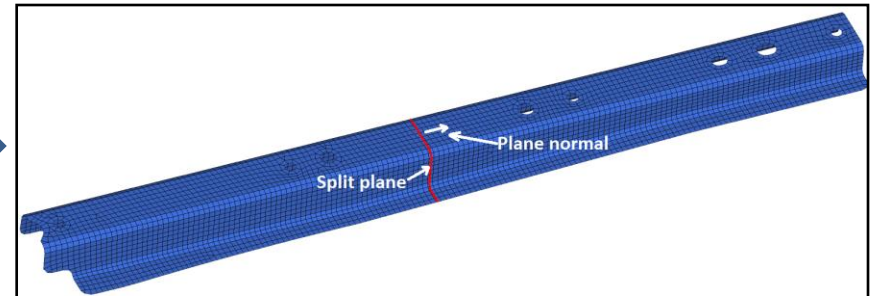
☒ Zone1  \*D
   
☒ Zone2  \*D
   
☐ Zone3  \*D
   
☐ Zone4  \*D



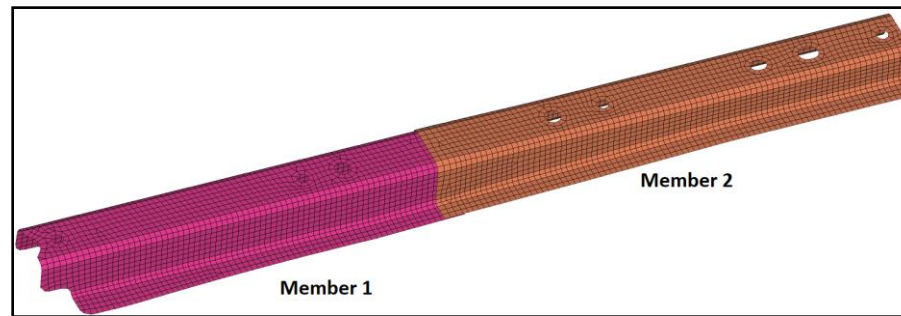
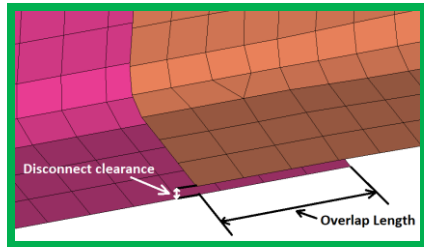
## Quick Split



Input



Preview Split Section



Output



**Quick Split**

Input

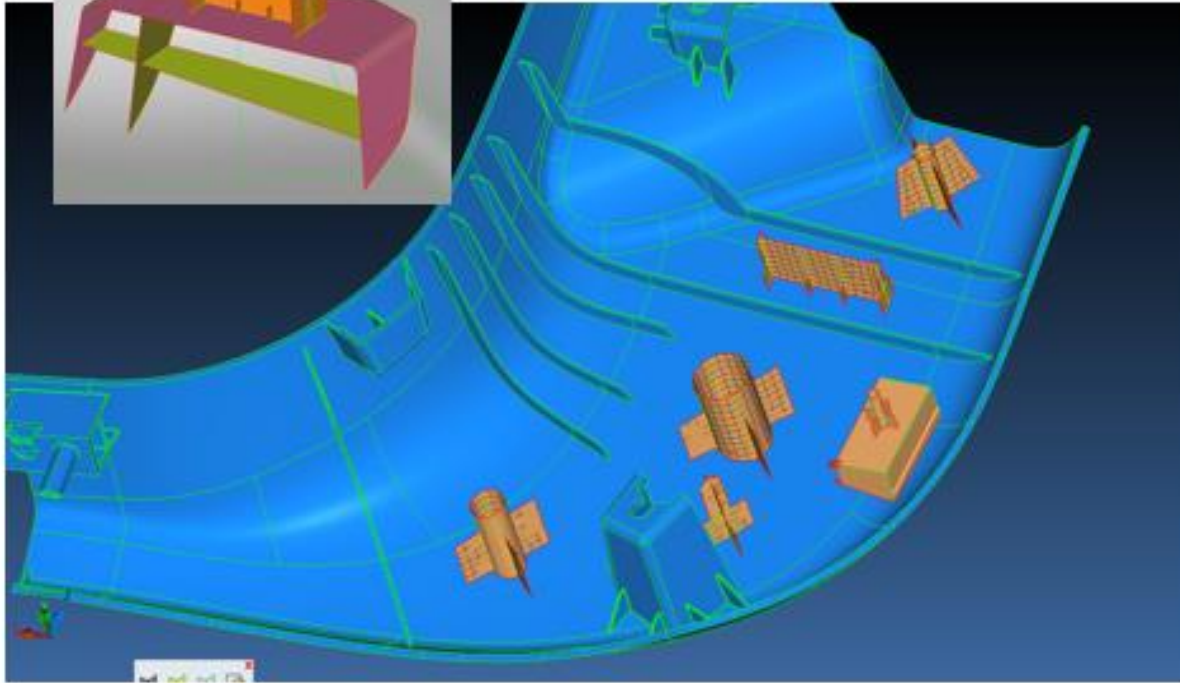
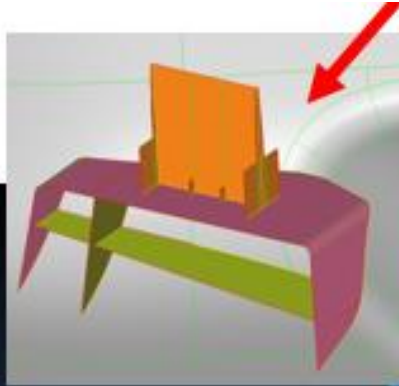
Split Point:

Split Plane Normal:

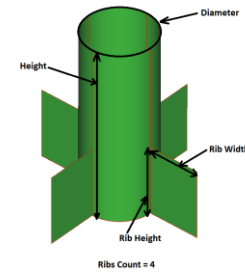
Disconnect Clearance:

Overlap Length:

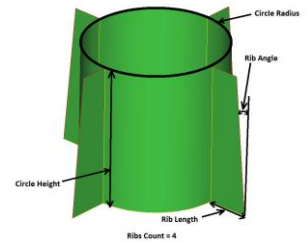
# 塑料部件卡扣库



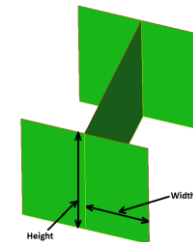
**Heat Stacks**



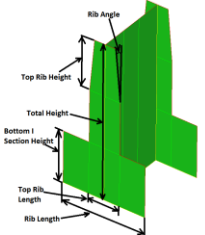
**Locator**



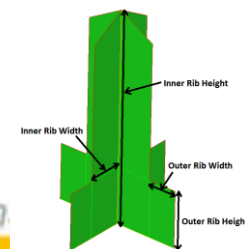
**Clip I - Section**



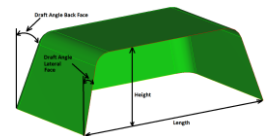
**Clip Tower**



**Locator Pin**

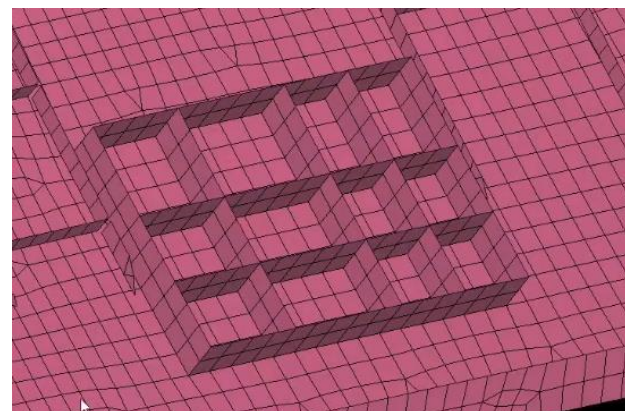
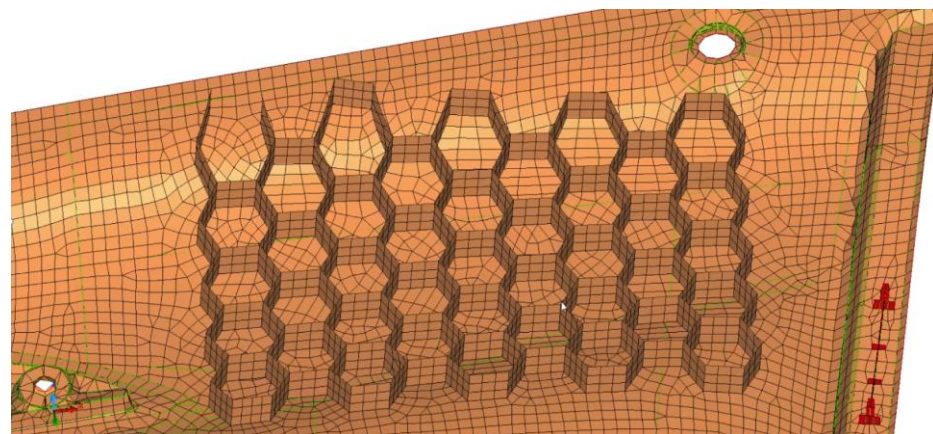
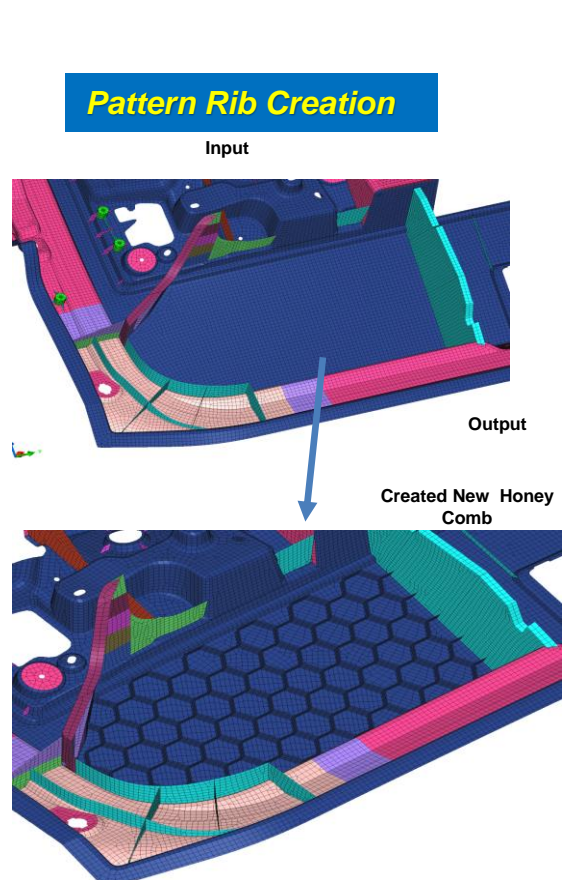


**Dog House Base Feature**



Power to tran

## 创建蜂窝状&2D肋筋





## 依据拓扑优化结果创建3D实体梁

