

## Simulation of EX01\_Fanning\_01

**Date:** Friday, June 08, 2018  
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**Study name:** SimulationXpress Study  
**Analysis type:** Static

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### Description

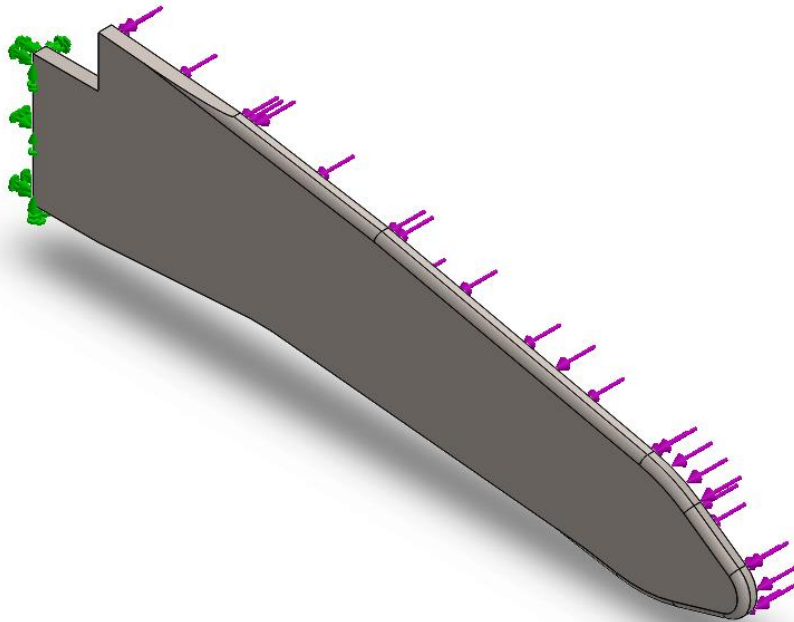
Exercise 06 Advanced Solid Modelling II



## Assumptions

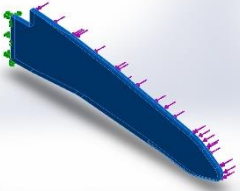


### Model Information



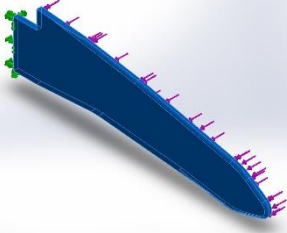
Model name: EX01\_Fanning\_01  
Current Configuration: Default

#### Solid Bodies

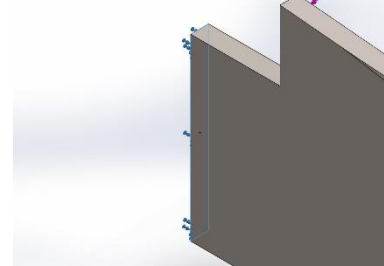
Document Name and Reference	Treated As	Volumetric Properties	Document Path/Date Modified
Fillet3 	Solid Body	Mass:0.0705513 kg Volume:9.16251e-006 m <sup>3</sup> Density:7700 kg/m <sup>3</sup> Weight:0.691403 N	C:\Users\Labs.METID\Desktop\EX01_Fanning_01.SLDPRT Jun 04 19:04:02 2018

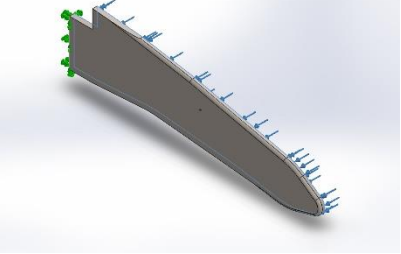


### Material Properties

Model Reference	Properties	Components
	<b>Name:</b> Alloy Steel <b>Model type:</b> Linear Elastic Isotropic <b>Default failure criterion:</b> Max von Mises Stress <b>Yield strength:</b> 6.20422e+008 N/m <sup>2</sup> <b>Tensile strength:</b> 7.23826e+008 N/m <sup>2</sup>	SolidBody 1(Fillet3)(EX01_Fanning_01)

### Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		<b>Entities:</b> 1 face(s) <b>Type:</b> Fixed Geometry

Load name	Load Image	Load Details
Force-1		<b>Entities:</b> 1 face(s) <b>Type:</b> Apply normal force <b>Value:</b> 10 N



## Mesh information

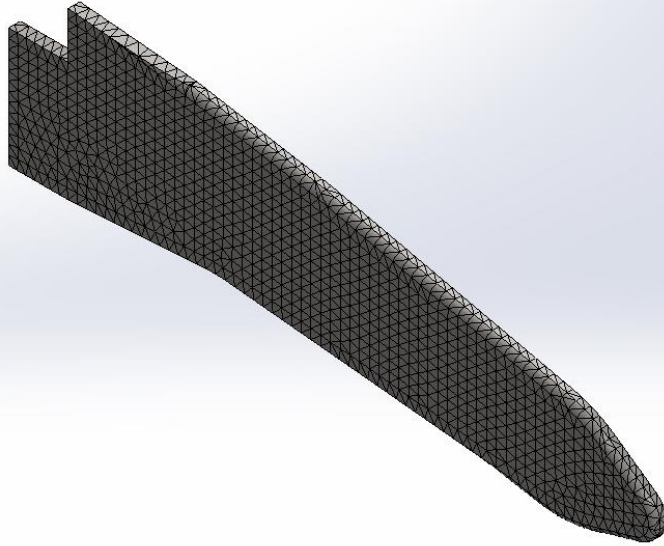
Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.0824152 in
Tolerance	0.00412076 in
Mesh Quality Plot	High

## Mesh information - Details

Total Nodes	16168
Total Elements	9168
Maximum Aspect Ratio	20.13
% of elements with Aspect Ratio < 3	99.4
% of elements with Aspect Ratio > 10	0.0436
% of distorted elements(Jacobian)	0
Time to complete mesh(hh:mm:ss):	00:00:01
Computer name:	V511A-03



Model name: EX01\_Fanning\_01  
Study name: SimulationXpress Study (Default)  
Mesh type: Solid Mesh



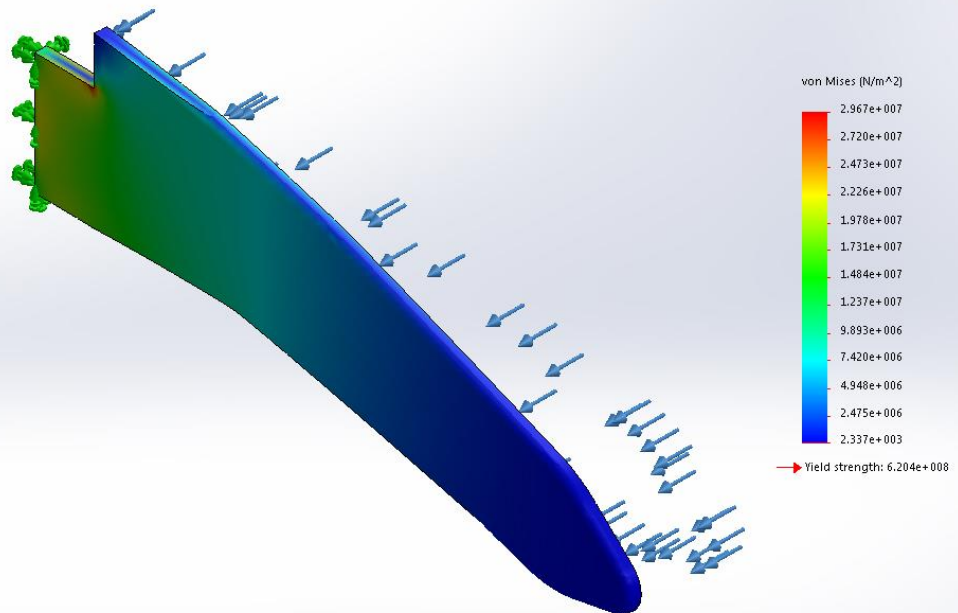
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## Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	2.337e+003N/m <sup>2</sup> Node: 16131	2.967e+007N/m <sup>2</sup> Node: 15822

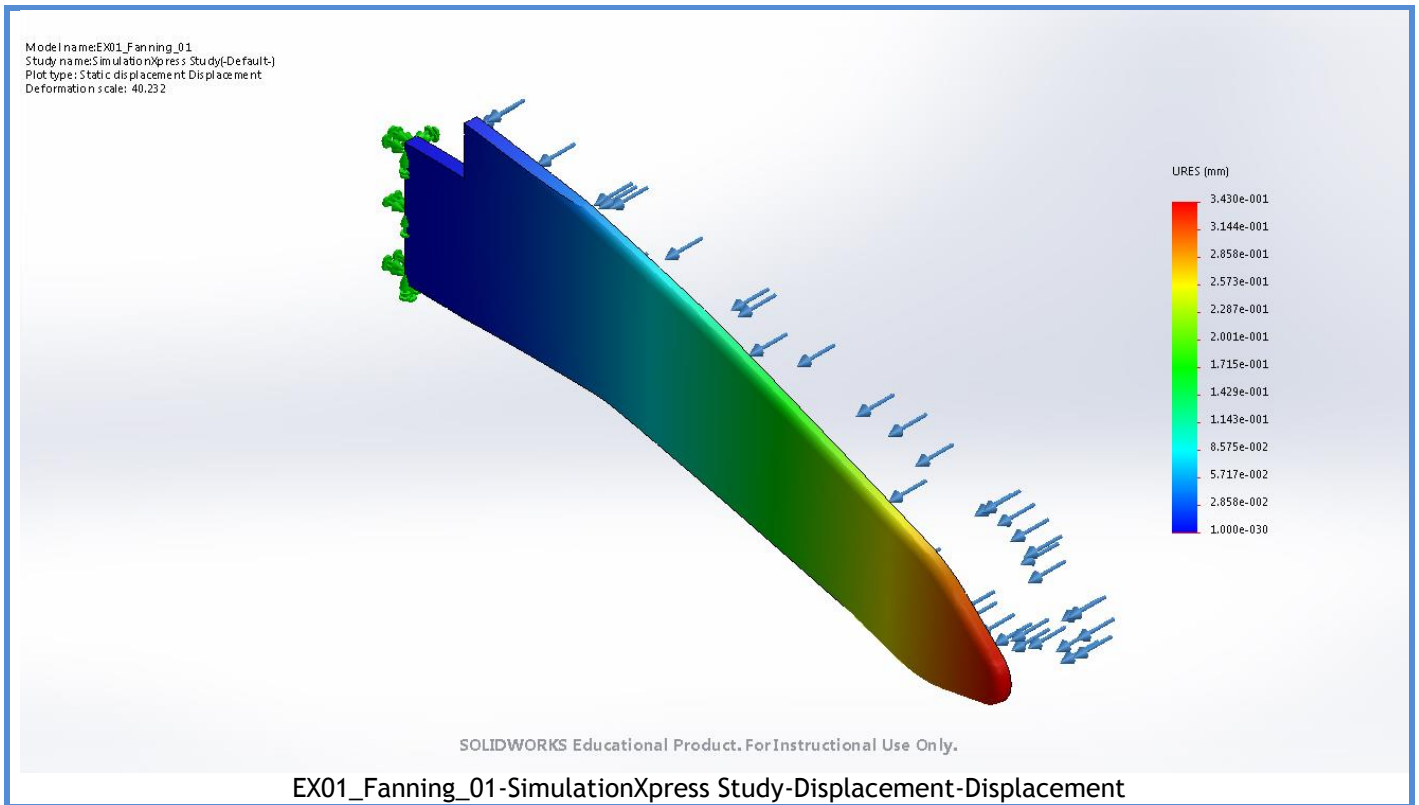
Model name: EX01\_Fanning\_01  
Study name: SimulationXpress Study-(Default-)  
Plot type: Static nodal stress Stress  
Deformation scale: 40.232



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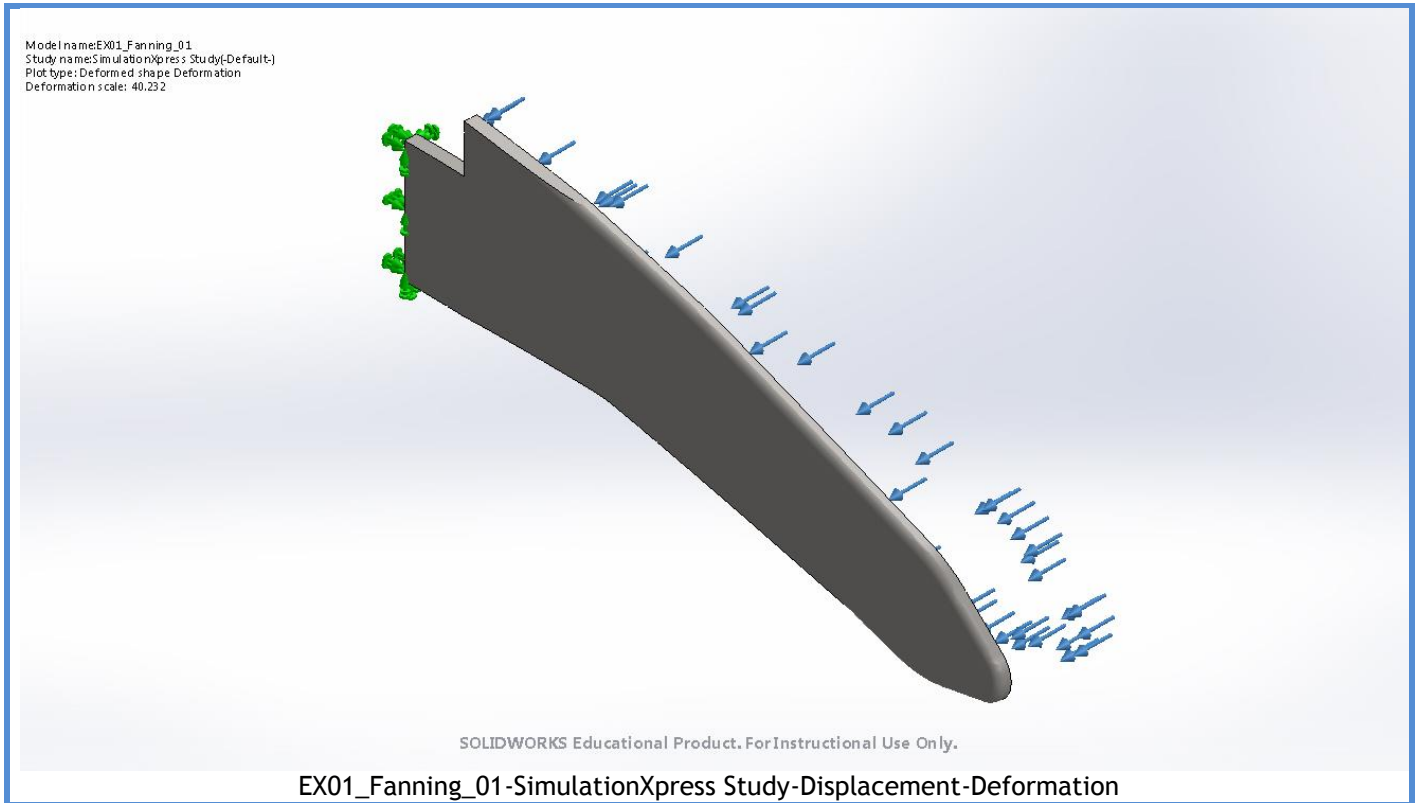
EX01\_Fanning\_01-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 21	3.430e-001mm Node: 16104

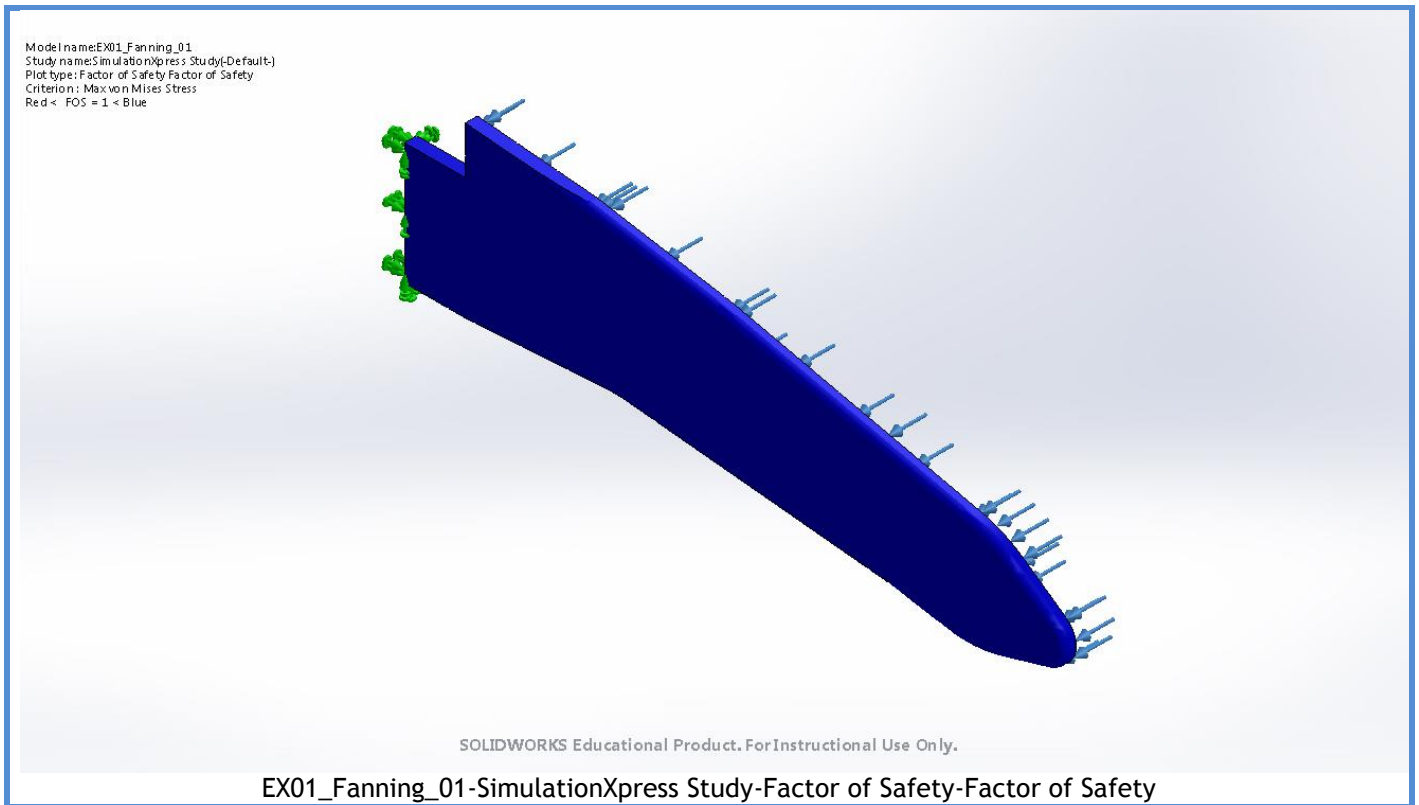


Name	Type
Deformation	Deformed shape





Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	2.091e+001 Node: 15822	2.654e+005 Node: 16131



## Conclusion

