NYCCT

Simulation of EX01_Ghansiam_02

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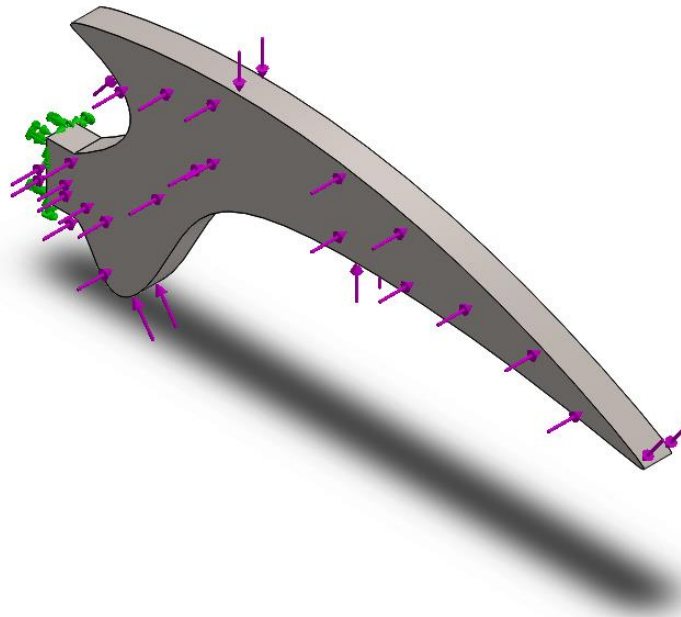**Analysis type:** Static

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Description

EX06_Ghansiam_ADV_SodelingModeling_2

Assumptions
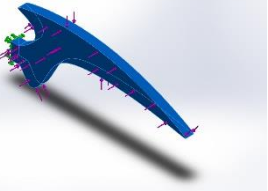
Model Information
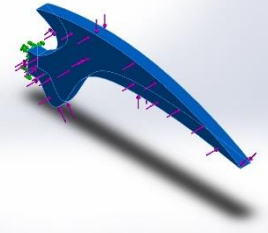
Model name: EX01_Ghansiam_02
Current Configuration: Default
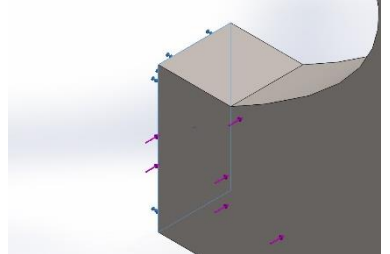
Solid Bodies			
Document Name and Reference	**Treated As**	**Volumetric Properties**	**Document Path/Date Modified**

Boss-Extrude1	Solid Body	**Mass:0.632163 kg** **Volume:0.000131154 m^3** **Density:4820 kg/m^3** **Weight:6.19519 N**	**F:\solidworks\23\EX01_G hansiam_02.SLDPRT** Jun 04 19:33:22 2018

Material Properties

Model Reference	Properties		Components
	Name:	Titanium Ti-13V-11Cr-3Al Solution Treated	SolidBody 1(Boss-Extrude1)(EX01_Ghansiam_02)
	Model type:	Linear Elastic Isotropic	
	Default failure criterion:	Max von Mises Stress	
	Yield strength:	8.3e+008 N/m^2	
	Tensile strength:	9.9e+008 N/m^2	

Loads and Fixtures

Fixture name	Fixture Image	Fixture Details
Fixed-1		**Entities:** 1 face(s) **Type:** Fixed Geometry

Load name	Load Image	Load Details
Force-1		**Entities:** 2 face(s) **Type:** Apply normal force **Value:** 10 lbf

Mesh information

Mesh type	Solid Mesh
Mesher Used:	Standard mesh
Automatic Transition:	Off
Include Mesh Auto Loops:	Off
Jacobian points	4 Points
Element Size	0.200089 in
Tolerance	0.0100044 in
Mesh Quality Plot	High

Mesh information - Details

Total Nodes	12068
Total Elements	7277
Maximum Aspect Ratio	109.3
% of elements with Aspect Ratio < 3	98.5
% of elements with Aspect Ratio > 10	0.0962
% of distorted elements(Jacobian)	0
Time to complete mesh(hh;mm;ss):	00:00:01
Computer name:	V511A-18

Model name:EX01_Ghansiam_02
Study name:SimulationXpress Study(-Default-)
Mesh type: Solid Mesh
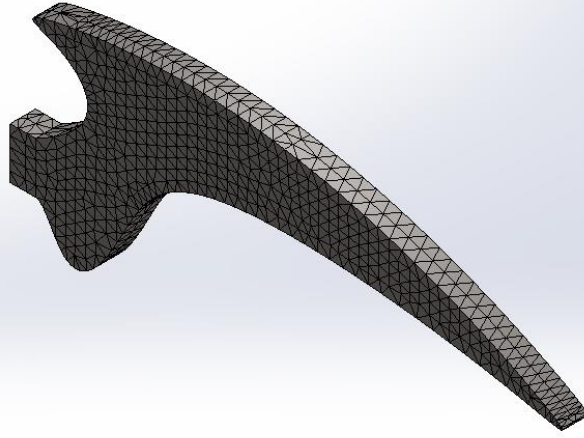
SOLIDWORKS Educational Product. For Instructional Use Only.
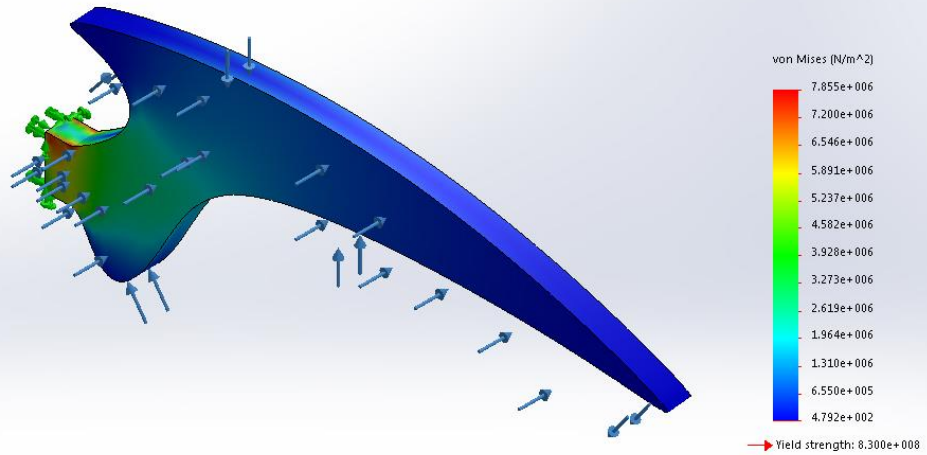
Study Results

Name	Type	Min	Max
Stress	VON: von Mises Stress	4.792e+002N/m^2 Node: 43	7.855e+006N/m^2 Node: 12066

Model name:EX01_Ghansiam_02
Study name:SimulationXpress Study(-Default-)
Plot type: Static nodal stress Stress
Deformation scale: 214.118

von Mises (N/m^2)

7.855e+006
7.200e+006
6.546e+006
5.891e+006
5.237e+006
4.582e+006
3.928e+006
3.273e+006
2.619e+006
1.964e+006
1.310e+006
6.550e+005
4.792e+002

Yield strength: 8.300e+008

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EX01_Ghansiam_02-SimulationXpress Study-Stress-Stress

Name	Type	Min	Max
Displacement	URES: Resultant Displacement	0.000e+000mm Node: 363	1.287e-001mm Node: 264

Model name:EX01_Ghansiam_02
Study name:SimulationXpress Study(-Default-)
Plot type: Static displacement Displacement
Deformation scale: 214.118

Min: 1.000e-030

URES (mm)

1.287e-001
1.180e-001
1.073e-001
9.655e-002
8.582e-002
7.510e-002
6.437e-002
5.364e-002
4.291e-002
3.218e-002
2.146e-002
1.073e-002
1.000e-030

Max: 1.287e-001

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EX01_Ghansiam_02-SimulationXpress Study-Displacement-Displacement

Name	Type
Deformation	Deformed shape

Model name:EX01_Ghansiam_02
Study name:SimulationXpress Study(-Default-)
Plot type: Deformed shape Deformation
Deformation scale: 214.118
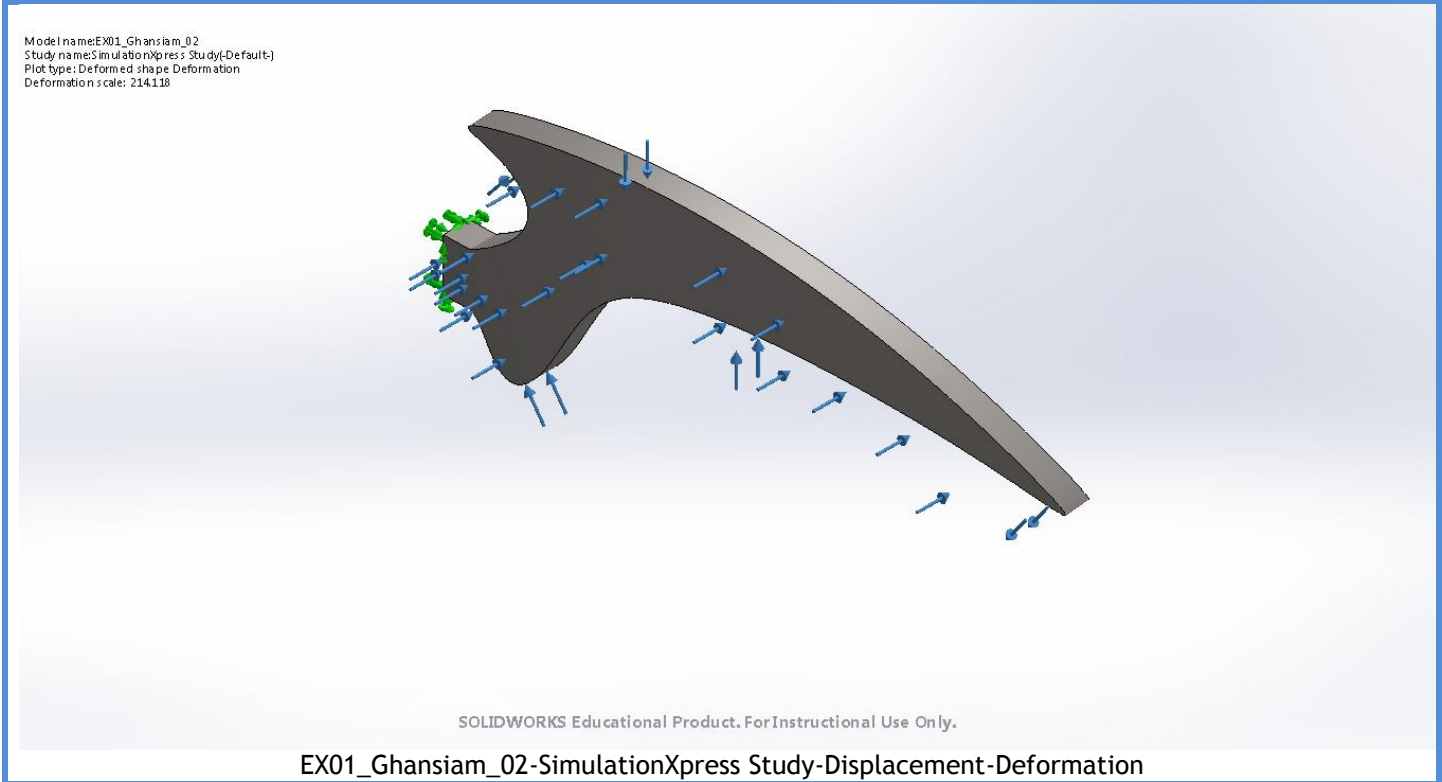
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EX01_Ghansiam_02-SimulationXpress Study-Displacement-Deformation
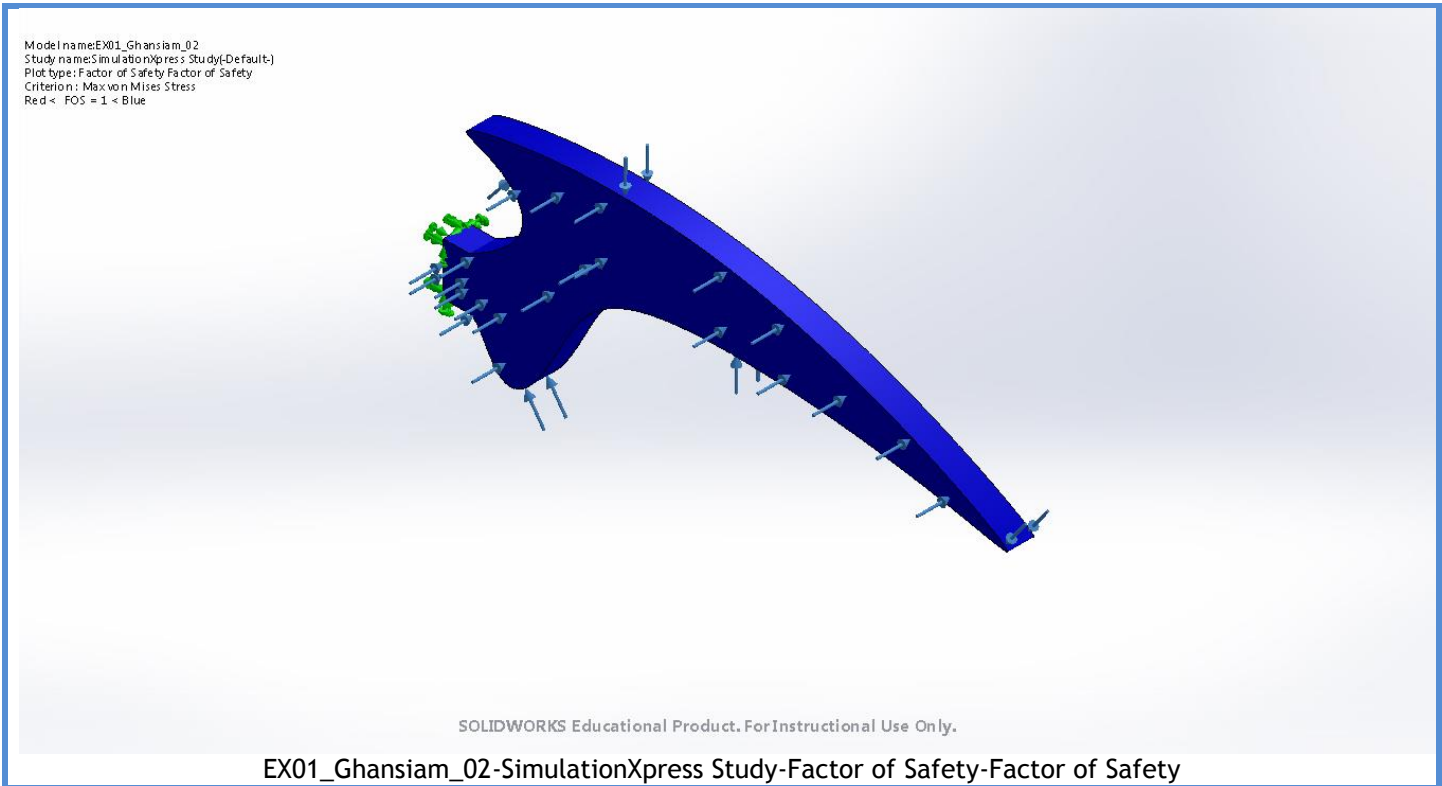
Name	Type	Min	Max
Factor of Safety	Max von Mises Stress	1.057e+002 Node: 12066	1.732e+006 Node: 43

Model name:EX01_Ghansiam_02
Study name:SimulationXpress Study(-Default-)
Plot type: Factor of Safety Factor of Safety
Criterion : Max von Mises Stress
Red < FOS = 1 < Blue

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EX01_Ghansiam_02-SimulationXpress Study-Factor of Safety-Factor of Safety

Conclusion