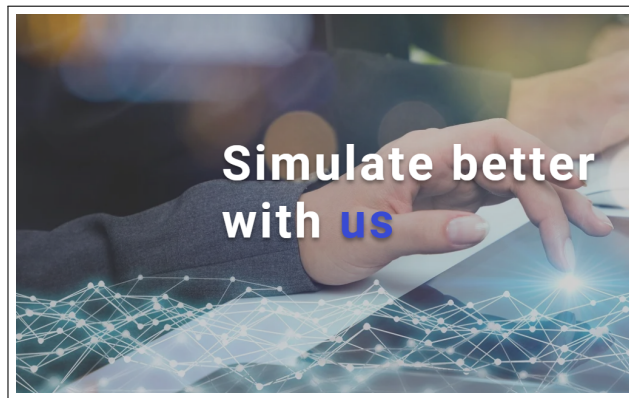




Simulation Report

Simulation Report

CAD : dozer_fea.asm



PREPARED BY:

NOVUS NEXUS, INC.

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1. Model Summary

- Modular AMFS
 1. Base AMF : mesh.amf
 2. AMF : material.amf
 3. AMF : connector.amf
 4. AMF : load_step_3.amf
 5. AMF : contact.amf
 6. AMF : merge.amf
 7. AMF : post_hv.amf
 8. AMF : set.amf
 9. AMF : global.amf
 10. AMF : connector.amf
- CAD : dozer_fea.asm
- Solver : Optistruct
- Analysis Type : Static Analysis
- Material and Component Information :

Material Name	Density[tonne/mm3]	Modulus Of Elasticity[MPa]	Poissons Ratio
steel_1430	7.83e-09	206000	0.29
steel_2340	7.51e-09	210000	0.32

Table 1.1: Material Information

Component Name	Material Name
pruned_3D_of_BACK_SIDE_FEA	steel_1430
pruned_3D_of_BLADE_PIVOT_BTM_FEA_2	steel_1430
pruned_3D_of_GIMBLE_FEA_2	steel_1430
pruned_3D_of_RH_FEA_PLATE	steel_1430
pruned_3D_of_PUSH_BAR_FEA_1	steel_1430
pruned_3D_of_BLADE_PIVOT_FEA_2	steel_1430
pruned_3D_of_GIMBLE_FEA_1	steel_1430
pruned_3D_of_FIXTURE_FEA_2	steel_1430
pruned_3D_of_LH_FEA_PLATE	steel_1430
pruned_3D_of_GUARD_FEA	steel_1430
pruned_3D_of_TOP_FEA	steel_1430
pruned_3D_of_FIXTURE_FEA_1	steel_1430
pruned_3D_of_PUSH_BAR_FEA_2	steel_1430
pruned_3D_of_BLADE_PIVOT_BTM_FEA_1	steel_1430
pruned_3D_of_BOTTOM_FEA1	steel_1430
pruned_3D_of_BLADE_PIVOT_FEA_1	steel_1430
WELD_1	steel_2340
WELD_2	steel_2340
RIBS_FEA	steel_2340
BACK_COVER_FEA	steel_2340
BACK_AND_SIDE_FEA	steel_2340
BOTTOM_FEA	steel_2340
BLADE_FEA	steel_2340
WELD_3	steel_2340

Table 1.2: Component-Material Information

2.Simulation Inputs

Input	Set Name	Value
Constraint	R_PIN_PUSH_BAR_4_PUSH_BAR_FEA_2.1	Dof1=0,Dof2=0,Dof3=0,Dof4=0,Dof5=0,Dof6=0
Constraint	R_PIN_PUSH_BAR_3_PUSH_BAR_FEA_1.1	Dof1=0,Dof2=0,Dof3=0,Dof4=0,Dof5=0,Dof6=0
Constraint	R_PIN_FIXTURE_2_FIXTURE_FEA_1.1	Dof1=0,Dof2=0,Dof3=0,Dof4=0,Dof5=0,Dof6=0
Constraint	R_PIN_FIXTURE_1_2_FIXTURE_FEA_2.1	Dof1=0,Dof2=0,Dof3=0,Dof4=0,Dof5=0,Dof6=0
Point Force(N)	R_LOAD_5_BOTTOM_FEA1_BOTTOM_FEA1.1	Force=1,component1=30000,component2=40000
Point Force(N)	R_LOAD_3_BOTTOM_FEA1_BOTTOM_FEA1.1	Force=1,component1=30000,component2=40000
Point Force(N)	R_LOAD_4_BOTTOM_FEA1_BOTTOM_FEA1.1	Force=1,component1=30000,component2=40000
Point Force(N)	R_LOAD_2_BOTTOM_FEA1_BOTTOM_FEA1.1	Force=1,component1=30000,component2=40000
Point Force(N)	R_LOAD_1_BOTTOM_FEA1_BOTTOM_FEA1.1	Force=1,component1=30000,component2=40000

Table 2.1: Simulation Inputs : Load Step = 3, Load Step Name = Report_LS-3

3.Model : Geometry View

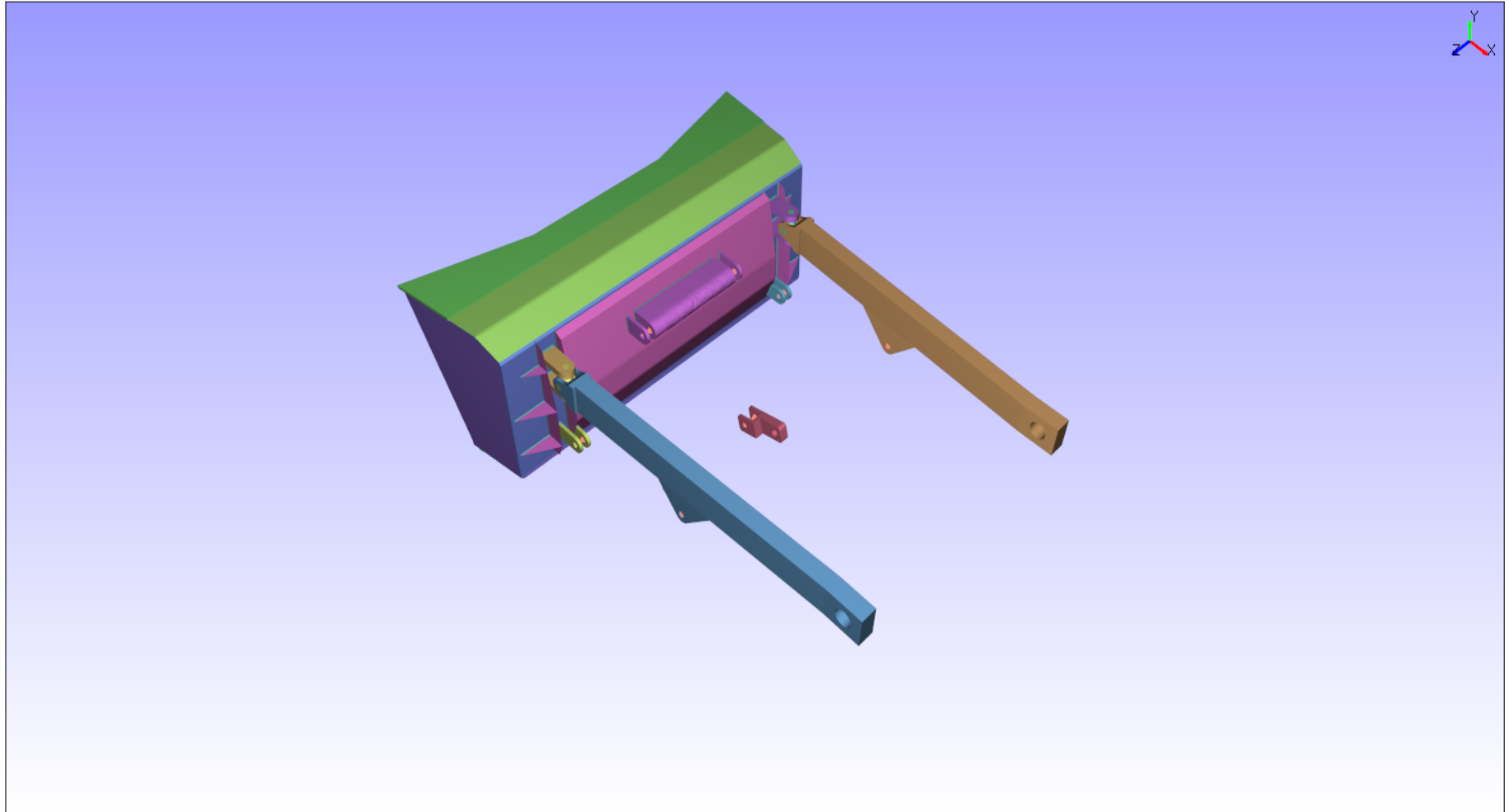


Figure 3.1: Model : Geometry View

4.Model : Mesh View

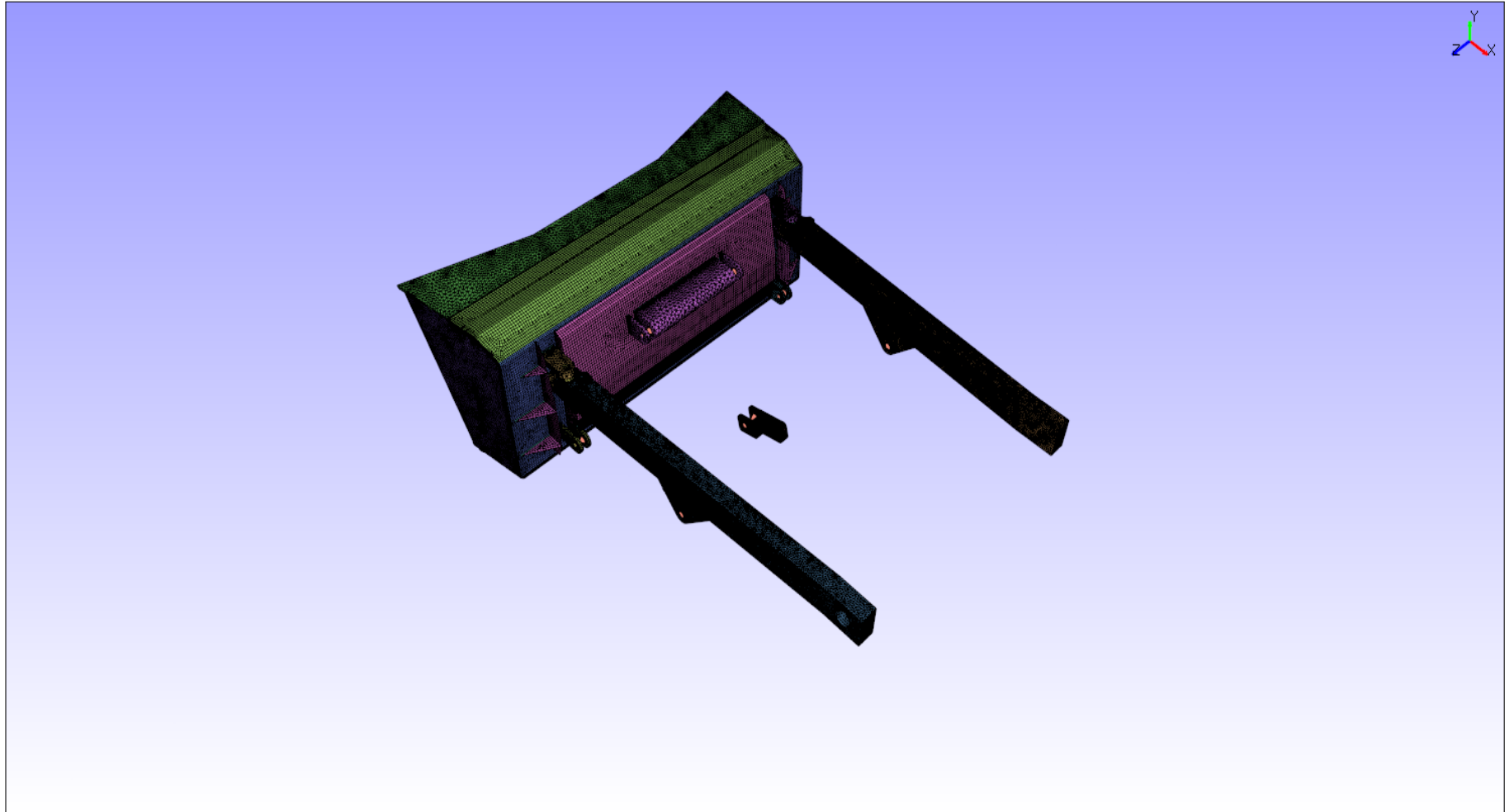


Figure 4.1: Model : Mesh View

5. Displacement Contour : Load Step 3 : Model

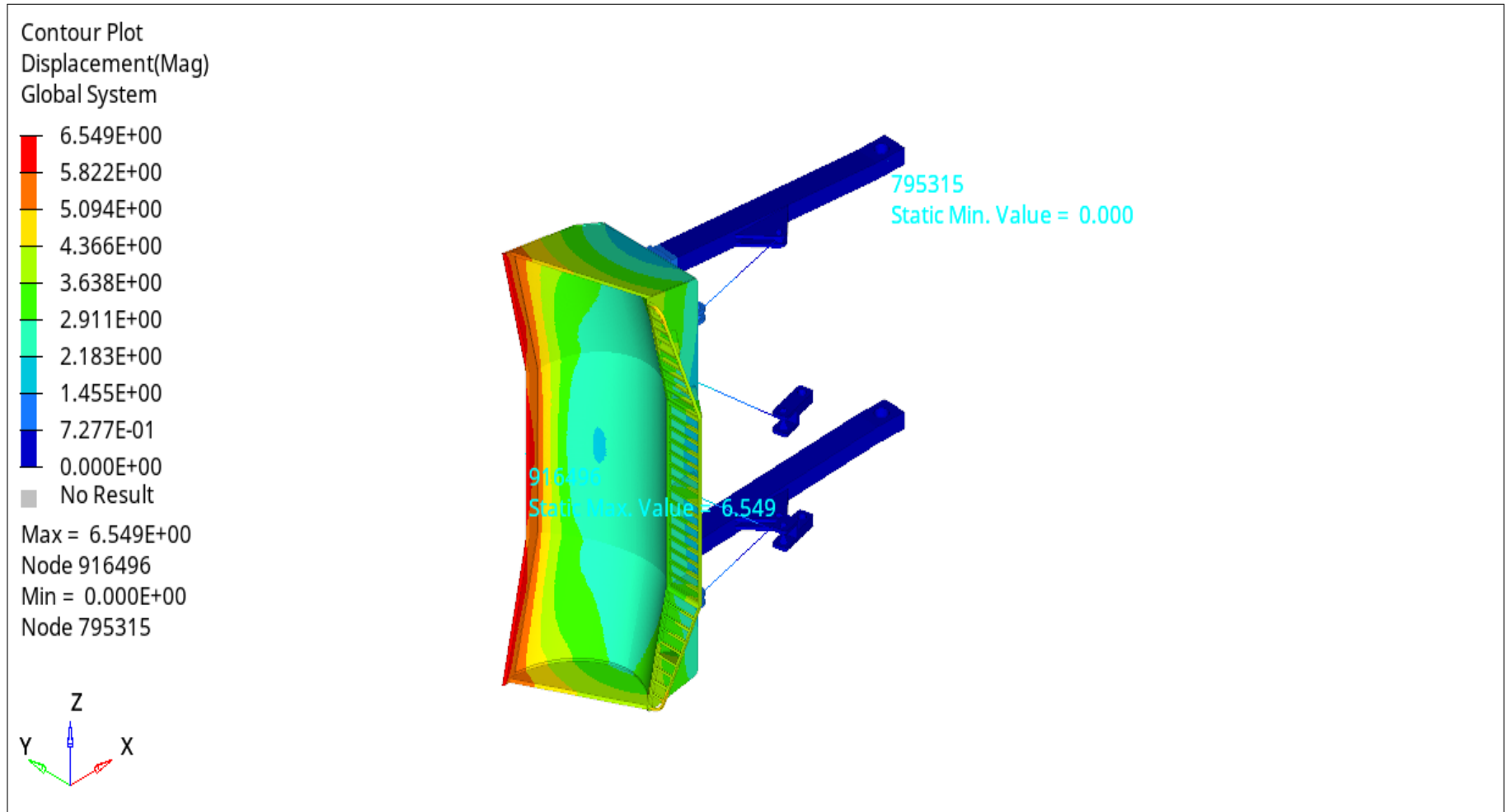


Figure 5.1: Displacement Contour : Load Step 3 : Model

6. Stress Contour : Load Step3 : Model(3D)

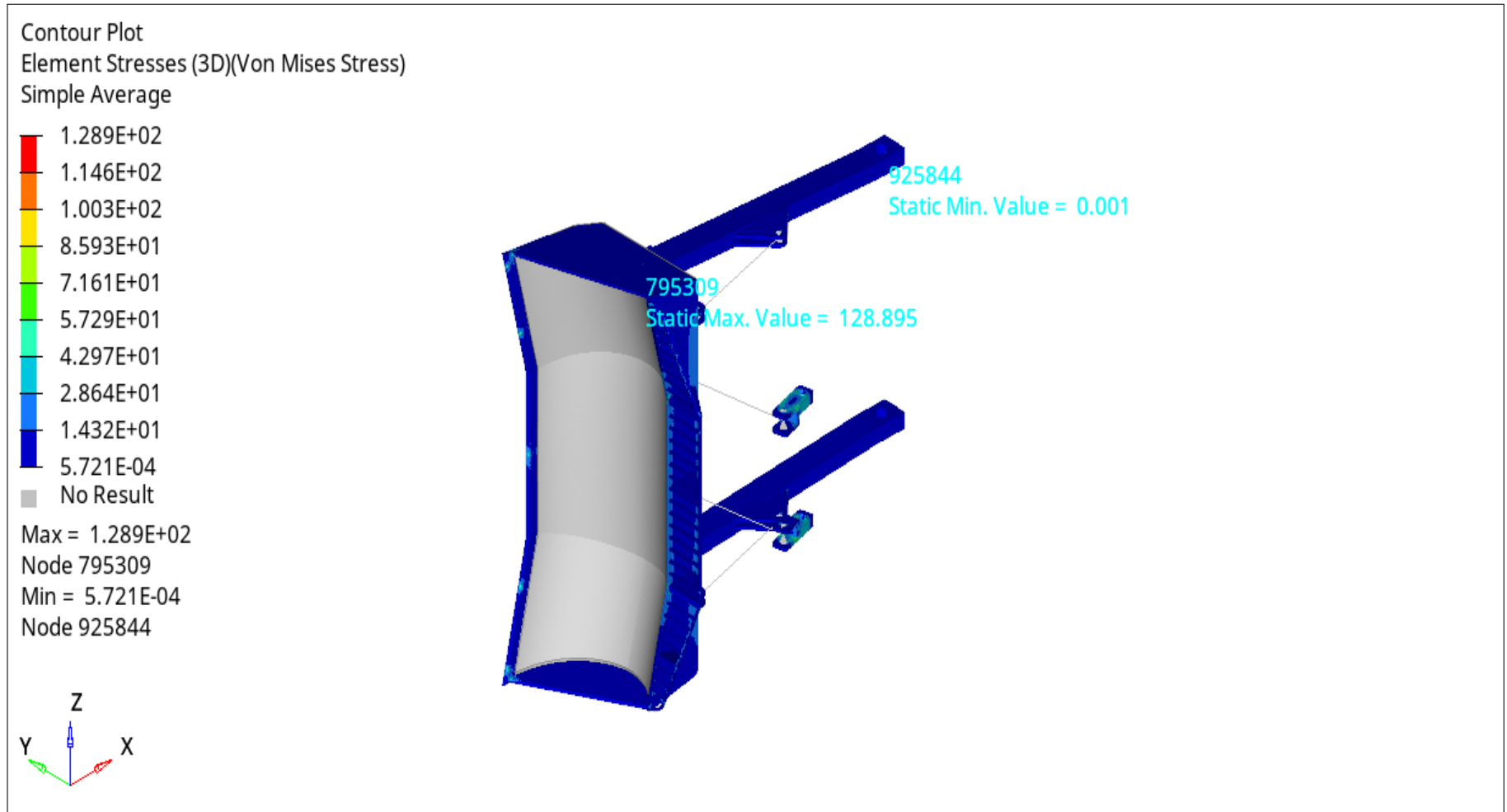


Figure 6.1: Stress Contour : Load Step3 : Model(3D)

7. Stress Contour : Load Step3 : Model(2D)



Figure 7.1: Stress Contour : Load Step3 : Model(2D)

8.Strain Contour : Load Step 3 : Model

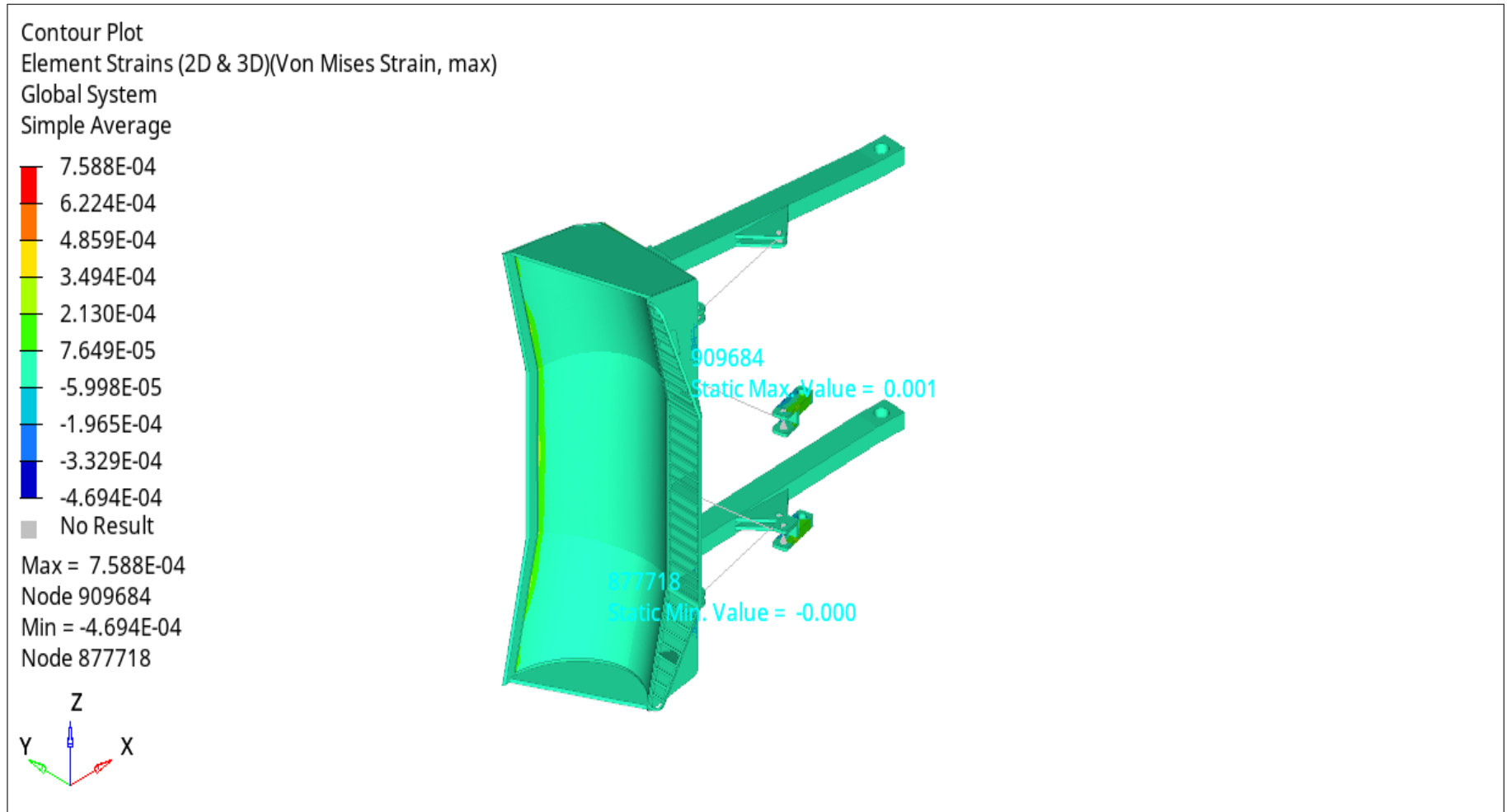


Figure 8.1: Strain Contour : Load Step 3 : Model

9. Animations

- Animation : Load Step 3 : Model :- [Click Here to play!](#)

10.Simulation Outputs

Output	Set Name	Value (Max)
Displacement(mm)	Model	6.549E+00
Stress(MPa)	Model(3D)	1.289E+02
Stress(MPa)	Model(2D)	2.255E+02
Strain	Model	7.588E-04

Table 10.1: Simulation Outputs : Load Step = 3, Load Step Name = Report_LS-3