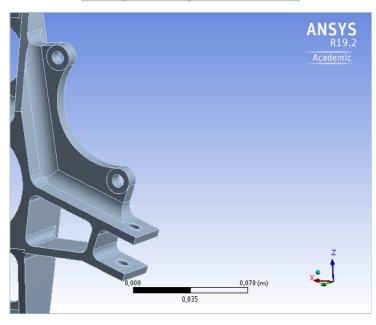
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# **Project**

First Saved	Tuesday, December 03, 2019
Last Saved	Tuesday, December 03, 2019
Product Version	19.2 Release
Save Project Before Solution	No
Save Project After Solution	No



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## **Contents**

- Units
- Model (A4)
  - o <u>Geometry</u>
    - SYS\Corps principal

  - Materials
     Aluminum Alloy
     Structural Steel
     Coordinate Systems

  - o Mesh

    Body Sizing
  - Static Structural (A5)
     Analysis Settings
     fixations
     Loads

    - compression only
    - - Loads

    - charge
      Loads
      Solution (A6)
      - Solution Information
        Results
- Material Data o Aluminum Alloy

## **Units**

### TABLE 1

Unit System	Metric (m, kg, N, s, V, A) Degrees rad/s Celsius
Angle	Degrees
Rotational Velocity	rad/s
Temperature	Celsius

## Model (A4)

### Geometry

## TABLE 2 Model (A4) > Geometry

Object Name	Geometry			
State	Fully Defined			
Definition				
Source	X:\Projets\EPSA\PAi_EPSA\porte moyeu_files\dp0\SYS\DM\SYS.scdoc			
Туре	SpaceClaim			
Length Unit	Meters			
Element Control	Program Controlled			
Display Style	Body Color			
	Bounding Box			
Length X	0,15693 m			
Length Y	4,01e-002 m			
Length Z	0,2483 m			
	Properties			
Volume	2,381e-004 m³			
Mass	0,65954 kg			
Scale Factor Value	1,			
	Statistics			
Bodies	1			
Active Bodies	1			
Nodes	418584			
Elements	278426			
Mesh Metric	None			
	Update Options			
Assign Default Material	No			
	Basic Geometry Options			
Solid Bodies	Yes			
Surface Bodies	Yes			
Line Bodies	Yes			
Parameters	Independent			
Parameter Key				
Attributes	Yes			
Attribute Key				
Named Selections	Yes			
Named Selection Key				
Material Properties	Yes			
	Advanced Geometry Options			
Use Associativity	Yes			
Coordinate Systems	Yes			
Coordinate System Key				
Reader Mode Saves Updated File	No			
Use Instances	Yes			
Smart CAD Update	Yes			
Compare Parts On Update	No			
Analysis Type	3-D			
Mixed Import Resolution	None			
Clean Bodies On Import	No			
Stitch Surfaces On Import	No			
Decompose Disjoint Geometry	Yes			
Enclosure and Symmetry Processing	Yes			

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TABLE 3
Model (A4) > Geometry > Parts

Model (A4) > Geometry > Parts				
Object Name	SYS\Corps principal			
State	Meshed			
Graphics Properties				
Visible Yes				
Transparency	1			
Def	inition			
Suppressed	No			
Stiffness Behavior	Flexible			
Coordinate System	Default Coordinate System			
Reference Temperature	By Environment			
Behavior	None			
Ma	iterial			
Assignment	Aluminum Alloy			
Nonlinear Effects	Yes			
Thermal Strain Effects	Yes			
Boun	ding Box			
Length X	0,15693 m			
Length Y	4,01e-002 m			
Length Z	0,2483 m			
Properties				
Volume	2,381e-004 m³			
Mass	0,65954 kg			
Centroid X	-1,2941e-002 m			
Centroid Y	2,9841e-002 m			
Centroid Z	-5,0947e-003 m			
Moment of Inertia Ip1	2,1506e-003 kg·m²			
Moment of Inertia Ip2	2,996e-003 kg·m²			
Moment of Inertia Ip3	1,0003e-003 kg·m²			
Sta	tistics			
Nodes	418584			
Elements	278426			
Mesh Metric	None			
CAD A	Attributes			
PartTolerance:	0,0000001			
Color:175.143.175				

## **Coordinate Systems**

TABLE 4
Model (A4) > Coordinate Systems > Coordinate System

			Widde	1 (A4) - CUC	ordinate System	15 / C001 u11	nate System	l!			
Object Name	Global Coordinate System	braking	inner	lower	outer	toe	upper	b	i	1	o
State						Ily Defined					
					Definition	1					
Туре					(	Cartesian					
Coordinate System ID	0,										
Coordinate System						Program (	Controlled				
APDL Name		!									
Suppressed						N	lo				
					Origin						
Origin X	0, m	-8,1352e-002 m	2,0228e-032 m	0, m	-2,0228e-032 m	-0,1 m	0, m	-7,9082e-002 m	2,0228e-032 m	0, m	-2,0228e-032 m
Origin Y	0, m	-1,e-003 m	6,13e-002 m	3,e-002 m	4,7e-003 m	3,9e-002 m	5,5e-002 m	-1,e-003 m	6,13e-002 m	3,e-002 m	4,7e-003 m
Origin Z	0, m	3,5839e-002 m	-1,2157e-016 m	-0,1078 m	-1,058e-016 m	-4,08e- 002 m	0,1024 m	4,0294e-002 m	-1,2157e-016 m	-0,1078 m	-1,058e-016 m
Define By						Global Co	oordinates				
Location						Defi	ined				
					Directional Ve	ctors					
X Axis Data	[1,0,0,]	[ -0,45399 0, - 0,89101 ]			[1,0,0,]			[ -0,45399 0, - 0,89101 ]		[1,0,0,]	
Y Axis Data	[0, 1, 0, ]	[ -0,89101 0, 0,45399 ]			[0, 1, 0, ]			[-0,89101 0, 0,45399 ]		[0, 1, 0, ]	
Z Axis Data	[0,0,1,]	[0, 1, 0, ]	$[0,1,0,] \hspace{1cm} [0,0,1,] \hspace{1cm} [0,1,0,] \hspace{1cm} [0,0,1,]$								
					Principal A						
Axis							<				
Define By							Vector				
				Orien	tation About Pr						
Axis						\	Y				
Define By	Fixed Vector										
	•				Transformati	ions					
Base Configuration						Abso	olute				
Transformed Configuration		[ -8,1352e-002 -1,e-003 3,5839e-002 ]	[ 2,0228e-032 6,13e-002 - 1,2157e-016 ]	[ 0, 3,e- 002 - 0,1078 ]	[ -2,0228e-032 4,7e-003 - 1,058e-016 ]	[-0,1 3,9e-002 - 4,08e- 002 ]	[ 0, 5,5e- 002 0,1024 ]	[ -7,9082e-002 -1,e-003 4,0294e-002 ]	[ 2,0228e-032 6,13e-002 - 1,2157e-016 ]	[ 0, 3,e- 002 - 0,1078 ]	[ -2,0228e-032 4,7e-003 - 1,058e-016 ]

Model (A4) > Cod	ordinate Systems > Coordin	ata Svetam		
Object Name				
	, , , , , ,	u		
State	Fully Defi	ned		
	Definition			
Туре	Cartesia	an		
Coordinate System	Program Cor	ntrolled		
APDL Name				
Suppressed	No			
	Origin			
Define By	Global Coord	dinates		
Origin X	-0,1 m	0, m		
Origin Y	3,9e-002 m	5,5e-002 m		

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I and the second		1	
Origin Z	-4,08e-002 m	0,1024 m	
Location	Defined		
	Principal Axis		
Axis	X		
Define By	Fixed Vec	tor	
Orien	tation About Principal Axis		
Axis	Y		
Define By	Fixed Vec	tor	
	Directional Vectors		
X Axis Data	[ 1, 0, 0,	]	
Y Axis Data	[ 0, 1, 0,	]	
Z Axis Data	[ 0, 0, 1,	]	
	Transformations		
Base Configuration	Absolute	е	
Transformed Configuration	[-0,1 3,9e-002 -4,08e-002]	[ 0, 5,5e-002 0,1024 ]	

Mesh

T.	ABL	Ε 6	3
Indel	$(\Delta 4)$	>	Mesh

State   Display   Display Style   Use Geometry Setting   Defaults	Woder (A4) > West	1			
Display Display Style Display Style Defaults  Physics Preference Element Order Element Size Default  Sizing Use Adaptive Sizing Use Adaptive Sizing Use Adaptive Sizing Default (2) Mesh Defeaturing Press Default (2) Mesh Defeaturing Fast Span Angle Center Initial Size Seed Bounding Box Diagonal Average Surface Area Minimum Edge Length Quality Check Mesh Quality Check Mesh Quality Error Limits Target Quality Default (0.050000) Smoothing Mesh Metric Inflation Use Automatic Inflation Use Automatic Inflation Inflation Option Transition Ratio Avanced Number of CPUs for Parallel Part Meshing Rigid Body Behavior Troger Center Inopology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes Nodes  Nodes  Nodes  Mesh Attastics Nodes  At 18584	Object Name				
Display Style Defaults Physics Preference Element Order Element Size Belanter Sizing Use Adaptive Sizing Use Adaptive Sizing Amesh Defeaturing Default Size Befault Element Size Befault Sizing Use Adaptive Sizing Amesh Defeaturing Default (2) Mesh Defeaturing Yes Defeature Size Default Transition Span Angle Center Coarse Initial Size Seed Assembly Bounding Box Diagonal Average Surface Area Minimum Edge Length Average Surface Area Minimum Edge Length Check Mesh Quality Check Mesh Quality Ferror Limits Target Quality Default (0.050000) Smoothing Medium Mesh Metric Inflation Use Automatic Inflation Use Automatic Inflation Transition Ratio Avander Minimum Edger Minimum Edger Medium Mesh Metric None Inflation Option Transition Ratio		Solved			
Defaults					
Physics Preference Element Order Element Size Default Element Sizing Use Adaptive Sizing Nesolution Default (2) Mesh Defeaturing Defeature Size Default Transition Default (2) Mesh Defeaturing Defeature Size Default Transition Fast Default Transition Span Angle Center Initial Size Seed Assembly Bounding Box Diagonal Average Surface Area Minimum Edge Length Check Mesh Quality Check Mesh Quality Target Quality Check Mesh Quality Target Quality Default (0.050000) Smoothing Medium Mesh Metric None Inflation Use Automatic Inflation Use Automatic Inflation Transition Ratio Transition Ratio Transition Algorithm Pre View Advanced Options Advanced Number of CPUs for Parallel Part Meshing Straight Sided Elements Nome Triangle Surface Mesher Topology Checking Program Controlled Tropology Checking Press Default (4) Tyes Program Controlled Program Controlled Tyes Program Controlled Tyes Program Controlled Program Controlled Triangle Surface Mesher Program Controlled Triangle Surface Mesher Program Controlled Program Controlled Tyes Program Controlled Tyes Program Controlled Program Controlled Program Controlled Triangle Surface Mesher Program Controlled Program Controlled Triangle Surface Mesher Program Controlled		Use Geometry Setting			
Element Order   Element Size   Default	Defaults				
Element Size   Sizing   Ves	Physics Preference	Mechanical			
Sizing Use Adaptive Sizing Resolution Resolu	Element Order	Program Controlled			
Use Adaptive Sizing	Element Size	Default			
Resolution	Sizing	•			
Mesh Defeaturing	Use Adaptive Sizing	Yes			
Defeature Size	Resolution	Default (2)			
Transition   Fast	Mesh Defeaturing	Yes			
Span Angle Center	Defeature Size	Default			
Initial Size Seed   Assembly	Transition	Fast			
Bounding Box Diagonal	Span Angle Center	Coarse			
Average Surface Area   5,6282e-004 m²					
Minimum Edge Length   1,e-004 m   Quality   Check Mesh Quality   Yes, Errors   Error Limits   Standard Mechanical   Default (0.050000)   Smoothing   Medium   Mesh Metric   None   Inflation   Mesh Metric   Inflation   Use Automatic Inflation   Smooth Transition   Transition Ratio   O,272   Maximum Layers   5   Growth Rate   1,2   Inflation Algorithm   Pre   View Advanced Options   No   Advanced   Number of CPUs for Parallel Part Meshing   Straight Sided Elements   Number of Retries   Rigid Body Behavior   Triangle Surface Mesher   Topology Checking   Program Controlled	Bounding Box Diagonal	0,29646 m			
Quality	Average Surface Area	5,6282e-004 m <sup>2</sup>			
Check Mesh Quality	Minimum Edge Length	1,e-004 m			
Error Limits					
Target Quality Smoothing Medium  Mesh Metric None  Inflation  Use Automatic Inflation  Use Automatic Inflation  Inflation Option  Transition Ratio  Maximum Layers  Growth Rate Inflation Algorithm  View Advanced Options  Advanced  Number of CPUs for Parallel Part Meshing Straight Sided Elements  Number of Retries Rigid Body Behavior  Triangle Surface Mesher  Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics  Nodes  Medium  None  Smooth Transition  None  Smooth Transition  O,272  Maximum Layers 5 6 7,272  Maximum Layers 5 7,272  Maximum Layers 5 7,272  Maximum Layers 5 7,272  Maximum Layers 5 7,272  Maximum Layers 7 7 8 7 8 7 8 7 8 8 8 8 8 8 8 8 8 8 8	Check Mesh Quality	Yes, Errors			
Smoothing Medium  Mesh Metric None  Inflation  Use Automatic Inflation  Inflation Option  Inflation Option  Transition Ratio  Maximum Layers  Growth Rate  Inflation Algorithm  View Advanced Options  No  Advanced  Number of CPUs for Parallel Part Meshing  Straight Sided Elements  Number of Retries  Rigid Body Behavior  Triangle Surface Mesher  Topology Checking  Pinch Tolerance  Generate Pinch on Refresh  Statistics  Nodes  Medium  None  Smooth Transition  None  Smooth Transition  None  Frogram Contralled  Program Controlled  Program Controlled  Program Controlled  Program Controlled  No  Statistics  Nodes	Error Limits	Standard Mechanical			
Mesh Metric   None   Inflation   Use Automatic Inflation   Smooth Transition   Transition   Advanced   Transition   None   Metric   Metr	Target Quality	Default (0.050000)			
Inflation	Smoothing	Medium			
Use Automatic Inflation	Mesh Metric	None			
Inflation Option	Inflation				
Transition Ratio	Use Automatic Inflation	None			
Maximum Layers Growth Rate Inflation Algorithm View Advanced Options Advanced Number of CPUs for Parallel Part Meshing Straight Sided Elements No Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes  Statistics  1,2 1 2 1 2 1 2 1 2 2 2 3 3 4 4 18584	Inflation Option	Smooth Transition			
Growth Rate	Transition Ratio	0,272			
Inflation Algorithm View Advanced Options  Advanced  Number of CPUs for Parallel Part Meshing Straight Sided Elements Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes  No Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled No 418584	Maximum Layers	5			
View Advanced Options Advanced  Number of CPUs for Parallel Part Meshing Straight Sided Elements Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes  No  No  Program Controlled Default (4) Dimensionally Reduced Program Controlled Yes Program Controlled Yes Program Controlled Please Define No  418584		1,2			
Advanced Number of CPUs for Parallel Part Meshing Straight Sided Elements Number of Retries Pefault (4) Rigid Body Behavior Dimensionally Reduced Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes Program Controlled Program Controlled Press Define Please Define No	Inflation Algorithm	Pre			
Number of CPUs for Parallel Part Meshing Straight Sided Elements Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes Program Controlled	View Advanced Options	No			
Straight Sided Elements Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes No					
Number of Retries Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes Default (4) Dimensionally Reduced Program Controlled Program Controlled Press Define Please Define No Statistics Nodes 418584		Program Controlled			
Rigid Body Behavior Triangle Surface Mesher Topology Checking Pinch Tolerance Generate Pinch on Refresh Statistics Nodes Dimensionally Reduced Program Controlled Pro	Straight Sided Elements	No			
Triangle Surface Mesher	Number of Retries	Default (4)			
Topology Checking   Yes	Rigid Body Behavior				
Pinch Tolerance	Triangle Surface Mesher	Program Controlled			
Generate Pinch on Refresh					
Statistics Nodes 418584	Pinch Tolerance	Please Define			
Nodes 418584	Generate Pinch on Refresh	No			
	Statistics				
	Nodes	418584			
Elements 278426	Elements	278426			

TABLE 7

IADLE /				
Model (A4) > Mesh > Mesh Controls				
Object Name	Body Sizing			
State	Fully Defined			
S	cope			
Scoping Method	Geometry Selection			
Geometry	1 Body			
Definition				
Suppressed	No			
Туре	Element Size			
Element Size	2,e-003 m			
Advanced				
Defeature Size	Default			
Behavior	Soft			

## **Static Structural (A5)**

## TABLE 8

Woder (A4) >			
Object Name	Static Structural (A5)		
State	Solved		
Definiti	on		
Physics Type	Structural		
Analysis Type	Static Structural		
Solver Target	Mechanical APDL		
Options			
Environment Temperature	22, °C		
Generate Input Only	No		

TABLE 9			
Model (A4)	Model (A4) > Static Structural (A5) > Analysis Settings		
Object Name	Analysis Settings		
State	Fully Defined		
	Step Controls		
Number Of Steps	1,		
Current Step Number	1,		
Step End Time	1, s		
Auto Time Stepping	Program Controlled		
	Solver Controls		
Solver Type	Program Controlled		
Weak Springs	Off		
Solver Pivot Checking	Program Controlled		
Large Deflection	Off		
Inertia Relief	Off		
	Rotordynamics Controls		
Coriolis Effect	Off		
	Restart Controls		
Generate Restart Points	Program Controlled		
Retain Files After Full Solve	No		
Combine Restart Files	Program Controlled		
	Nonlinear Controls		
Newton-Raphson Option	Program Controlled		
Force Convergence	Program Controlled		
Moment Convergence	Program Controlled		
Displacement Convergence	Program Controlled		
Rotation Convergence	Program Controlled		
Line Search	Program Controlled		
Stabilization Off			
Otrono	Output Controls		
Stress Strain	Yes Yes		
Nodal Forces Contact Miscellaneous	No		
General Miscellaneous	No No		
Store Results At	All Time Points		
Store Results At	1 1 1		
Solver Files Directory	Analysis Data Management  X:\Projets\EPSA\PAi EPSA\porte moyeu files\dp0\SYS\MECH\		
Future Analysis	None		
Scratch Solver Files Directory	INOTIC		
Save MAPDL db	No		
Contact Summary	Program Controlled		
Delete Unneeded Files	Yes		
Nonlinear Solution	Yes		
Solver Units	Active System		
Solver Unit System	mks		
COIVE OTH CYSTEIN	IIINO		

## fixations

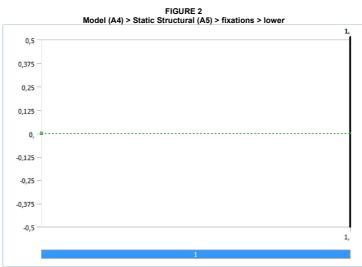
TABLE 10
Model (A4) > Static Structural (A5) > fixations > Loads

Model (A4) > Static Structural (A5) > fixations > Loads					
Object Name	upper	lower	toe	inner	
State	Fully Defined				
	Scope				
Scoping Method		Geor	metry Selection		
Geometry	3 Faces		4 Faces	3 Faces	
Coordinate System	upper	lower	toe	inner	
X Coordinate			0, m		
Y Coordinate	0, m		-5,4412e-010 m	0, m	
Z Coordinate			0, m		
Location			Defined		
	Det	finition			
Туре		Remo	te Displacement		
X Component			Free	0, m (ramped)	
Y Component	0, m (ramped)				
	0, m (ramped)	d) Free 0, m (ramped)			
Rotation X	Free				
Rotation Y	Free				
Rotation Z	Free				
Suppressed			No		
Behavior			Deformable		
Rotation X		Free			
Rotation Y		Free			
Rotation Z		Free			
Rotation X			Free		
Rotation Y			Free		
Rotation Z			Free		
Rotation X				Free	
Rotation Y			Free		
Rotation Z				Free	
		vanced			
Pinball Region			All		

FIGURE 1 Model (A4) > Static Structural (A5) > fixations > upper

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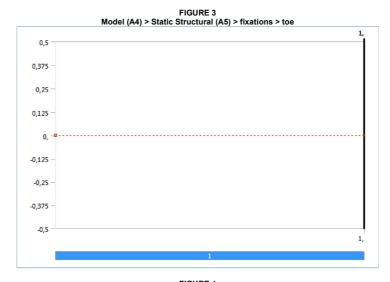
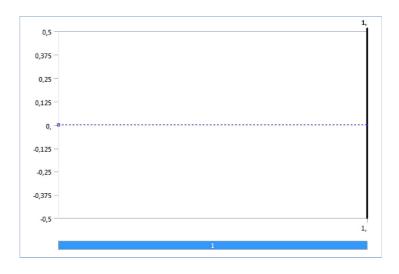


FIGURE 4
Model (A4) > Static Structural (A5) > fixations > inner

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compression only

TABLE 11
Model (A4) > Static Structural (A5) > compression only > Loads

7	+) - Otatic Otructural (Ab) - compression omy					
	Object Name	inner	outer			
	State Fully Defined					
	Scope					
	Scoping Method Geometry Selection					
	Geometry	Geometry 3 Faces				
	Definition					
	Type Compression Only Support					
Suppressed No		lo				
Advanced						
	Normal Stiffness	Program	Controlled			
	Update Stiffness	Ne	ver			

charge

TABLE 12

Model (A4) > Static Structural (A5) > charge > Loads					
Object Name		outer			
State	State Fully Defined				
	Scope				
Scoping Method	Scoping Method Geometry Selection				
Geometry	4 Faces	3 Faces			
Coordinate System	braking	outer			
X Coordinate	X Coordinate 0, m				
Y Coordinate	0, m				
Z Coordinate	0, m				
Location	Defined				
Definition					
Type Remote Force					
Define By	Comp	onents			
X Component	8500, N (ramped)	0, N (ramped)			
Y Component	0, N (ramped)				
Z Component	0, N (ramped)	10000 N (ramped)			
Suppressed	No				
Behavior	Deformable				
	Advanced				
Pinball Region All					

FIGURE 5
Model (A4) > Static Structural (A5) > charge > braking

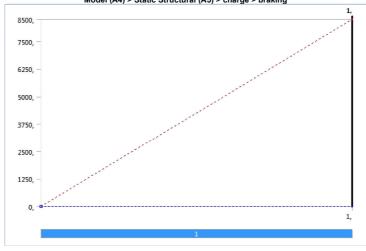
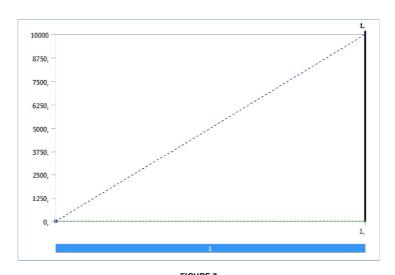
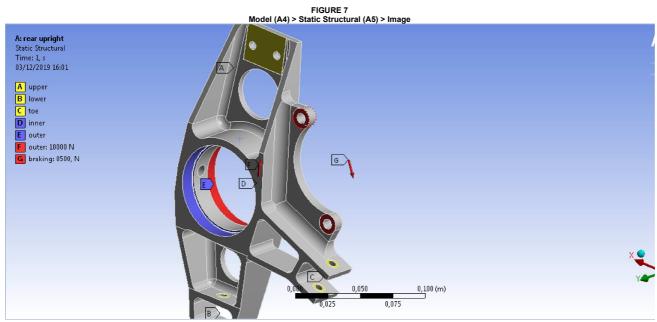


FIGURE 6 Model (A4) > Static Structural (A5) > charge > outer

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Solution (A6)

TABLE 13
Model (A4) > Static Structural (A5) > Solution

Object Name	Solution (A6)			
State	Solved			
Adaptive Mesh Ref	inement			
Max Refinement Loops	1,			
Refinement Depth	2,			
Information				
Status	Done			
MAPDL Elapsed Time	37 m 30 s			
MAPDL Memory Used	3,5322 GB			
MAPDL Result File Size	227,13 MB			
Post Processing				
Beam Section Results	No			
On Demand Stress/Strain	No			

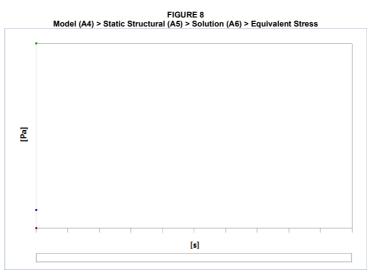
TABLE 14
Model (A4) > Static Structural (A5) > Solution (A6) > Solution Information

Object Name	Solution Information			
State	Solved			
Solution Inform	ation			
Solution Output	Solver Output			
Newton-Raphson Residuals	0			
Identify Element Violations	0			
Update Interval	2,5 s			
Display Points	All			
FE Connection Visibility				
Activate Visibility	Yes			
Display	All FE Connectors			
Draw Connections Attached To	All Nodes			
Line Color	Connection Type			
Visible on Results	No			
Line Thickness	Single			
Display Type	Lines			

TABLE 15 Model (A4) > Static Structural (A5) > Solution (A6) > Results

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Object Name	Equivalent Stress	Total Deformation		
State	Solved			
	Scope			
Scoping Method	Geometry Selection	ction		
Geometry	All Bodies			
	Definition			
Туре	Equivalent (von-Mises) Stress	Total Deformation		
Ву	Time			
Display Time	Last			
Calculate Time History	Yes			
Identifier	Identifier			
Suppressed No				
	Integration Point Results			
Display Option Averaged				
Average Across Bodies				
Results				
Minimum	61026 Pa	9,8188e-007 m		
Maximum	3,2531e+008 Pa	6,0952e-004 m		
Average	3,1585e+007 Pa	1,6223e-004 m		
Minimum Occurs On SYS\Corps principal		cipal		
Maximum Occurs On SYS\Corps principal		cipal		
Information				
Time 1, s				
Load Step	Load Step 1			
Substep	Substep 1			
Iteration Number	12			



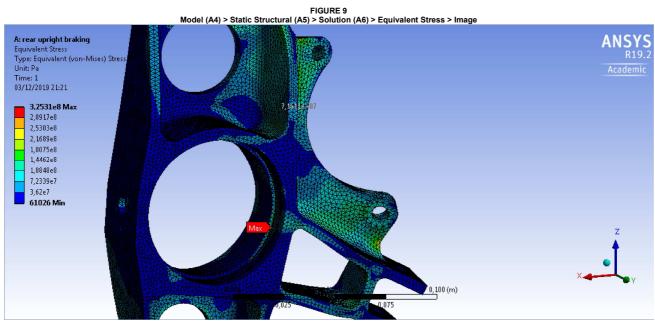
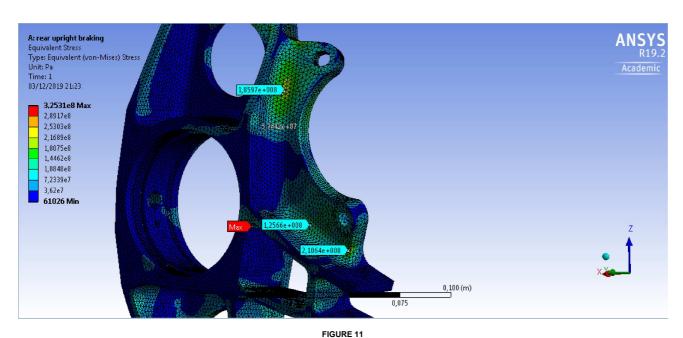
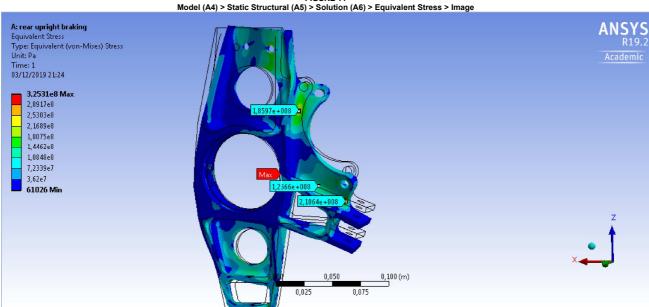


FIGURE 10
Model (A4) > Static Structural (A5) > Solution (A6) > Equivalent Stress > Image

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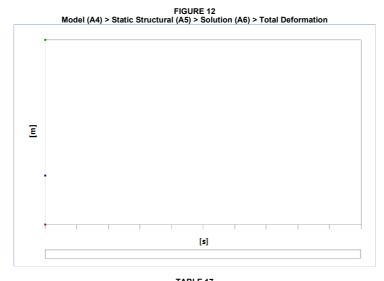
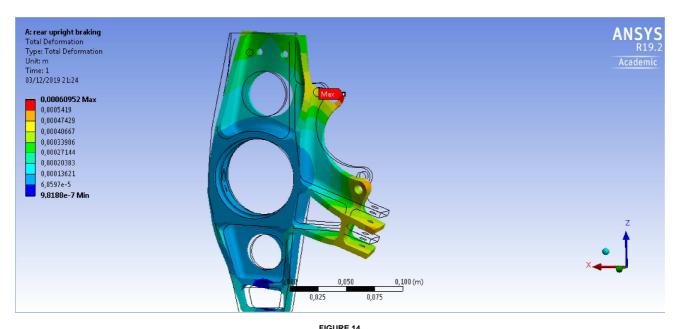
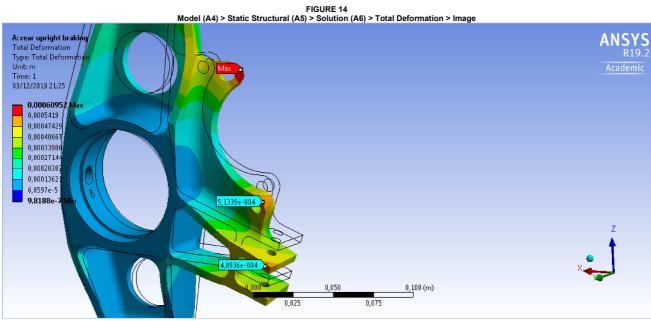


FIGURE 13
Model (A4) > Static Structural (A5) > Solution (A6) > Total Deformation > Image

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### **Material Data**

**Aluminum Alloy** 

	TABLE 18			
	Aluminum Alloy > Constants			
	Density	2770, kg m^-3		
Isotropic Secant Co	efficient of Thermal Expansion	2,3e-005 C^-1		
Sp	ecific Heat Constant Pressure	875, J kg^-1 C^-1		
	TABLE 19			
	Aluminum Alloy > Color Red Green Blue			
	1.00 0.000			
	138, 104, 46,			
	TABLE 20			
Aluminum A	Alloy > Compressive Ultimate	Strength		
	mpressive Ultimate Strength P			
	0,	7		
		_		
	TABLE 21			
Aluminun	n Alloy > Compressive Yield S	Strength		
C	Compressive Yield Strength Pa			
	2,8e+008			
TABLE 22				
Aluminum Alloy > Tensile Yield Strength				
	Tensile Yield Strength Pa			
	2,8e+008			
	TABLE 23			
Δluminu	IABLE 23 Im Alloy > Tensile Ultimate St	renath		
Adminu	Tensile Ultimate Strength Pa			

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3,1e+008

TABLE 24
Aluminum Alloy > Isotropic Secant Coefficient of Thermal Expansion
Zero-Thermal-Strain Reference Temperature C

TABLE 25
Aluminum Allov > Isotropic Thermal Conductivity

Aluminum Alloy / Isotropic Thermal Conductivity				
Thermal Conductivity W m^-1 C^-1	Temperature C			
114,	-100,			
144,	0,			
165,	100,			
175,	200,			

TABLE 26					
Aluminum Alloy > S-N Curve					
Alternating Stress Pa	Cycles	R-Ratio			
2,758e+008	1700,	-1,			
2,413e+008	5000,	-1,			
2,068e+008	34000	-1,			
1,724e+008	1,4e+005	-1,			
1,379e+008	8,e+005	-1,			
1,172e+008	2,4e+006	-1,			
8,963e+007	5,5e+007	-1,			
8,274e+007	1,e+008	-1,			
1,706e+008	50000	-0,5			
1,396e+008	3,5e+005	-0,5			
1,086e+008	3,7e+006	-0,5			
8,791e+007	1,4e+007	-0,5			
7,757e+007	5,e+007	-0,5			
7,239e+007	1,e+008	-0,5			
1,448e+008	50000	0,			
1,207e+008	1,9e+005	0,			
1,034e+008	1,3e+006	0,			
9,308e+007	4,4e+006	0,			
8,618e+007	1,2e+007	0,			
7,239e+007	1,e+008	0,			
7,412e+007	3,e+005	0,5			
7,067e+007	1,5e+006	0,5			
6,636e+007	1,2e+007	0,5			
6,205e+007	1,e+008	0,5			

TABLE 27 Aluminum Alloy > Isotropic Resistivity

Resistivity ohm m	Temperature C
2,43e-008	0,
2,67e-008	20,
3,63e-008	100,

TABLE 28 Aluminum Alloy > Isotropic Elasticity

Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa	Temperature C
7,1e+010	0,33	6,9608e+010	2,6692e+010	

TABLE 29
Aluminum Alloy > Isotropic Relative Permeability
Relative Permeability