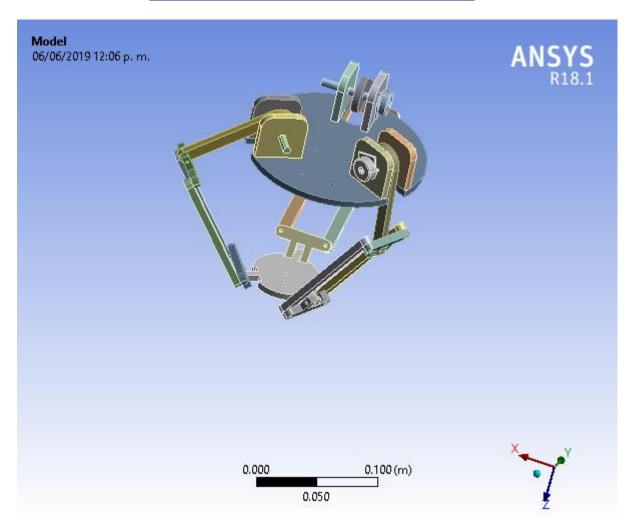


Project

First Saved	Thursday, June 6, 2019		
Last Saved	Thursday, June 6, 2019		
Product Version	18.1 Release		
Save Project Before Solution	No		
Save Project After Solution	No		



Contents

- Units
- Model (B4)
 - Geometry
 - Parts
 - o Coordinate Systems
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 - Contacts
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 - Analysis Settings
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 - Structural Steel

Report Not Finalized

Not all objects described below are in a finalized state. As a result, data may be incomplete, obsolete or in error. View first state problem. To finalize this report, edit objects as needed and solve the analyses.

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 (B4)

Geometry

TABLE 2 Model (B4) > Geometry

· · · · · · · · · · · · · · · · · · ·						
Object Name	Geometry					
State	Fully Defined					
Definition						
Source	C:\Users\cesar\OneDrive\Desktop\braso garabito\delta_man_asm.IGS					

Turna	Impo
Type	Iges
Length Unit	Meters Program Controlled
Element Control	Program Controlled
Display Style	Body Color
l a a atha V	Bounding Box
Length X	0.22905 m
Length Y	0.23273 m
Length Z	0.22097 m
Values	Properties 0.70472, 004 m²
Volume	2.7017e-004 m³
Mass	0.35028 kg
Scale Factor Value	1.
5 "	Statistics
Bodies	29
Active Bodies	26
Nodes	326253
Elements	71893
Mesh Metric	None
	Basic Geometry Options
Solid Bodies	Yes
Surface Bodies	Yes
Line Bodies	No
Parameters	Independent
Parameter Key	ANS;DS
Attributes	No
Named Selections	No
Material Properties	No
	Advanced Geometry Options
Use Associativity	Yes
Coordinate Systems	No
Reader Mode Saves Updated File	No
Use Instances	Yes
Smart CAD Update	Yes
Compare Parts On Update	No
Attach File Via Temp File	Yes
Temporary Directory	C:\Users\cesar\AppData\Local\Temp
Analysis Type	3-D
Mixed Import Resolution	None
Decompose Disjoint Geometry	Yes
Enclosure and Symmetry Processing	Yes

TABLE 3
Model (B4) > Geometry > Parts

					-, -	,					
Object Name	Part 1	Part 2	Part 3	Part 4	Part 5	Part 6	Part 7	Part 8	Part 9	Part 10	Part 11
State	State Meshed										
	Graphics Properties										
Visible	Visible										

Transparency						1					
. ,		Definition									
Suppressed		No									
Stiffness						Flexible					
Behavior						1 10/11010					
Coordinate System					Default	Coordinate	System				
Reference Temperature					Ву	Environm	ent				
Behavior						None					
					Mater	ial					
Assignment					F	Polyethyler	ne				
Nonlinear Effects						Yes					
Thermal Strain Effects						Yes					
					Bounding	д Вох					
Length X	7.2087e- 002 m	6.289e-002 m 2.9154e-002 m				7.1367€	e-002 m	4.8e-002 m	3.9435e- 002 m	3.95036	e-002 m
Length Y	6.699e- 002 m	8.21526	e-002 m	4.9068	e-002 m	6.67936	e-002 m		5.3737e- 002 m	5.37516	e-002 m
Length Z	2.6909e- 002 m	0.100	0.10057 m 0.12459 m 0.10479 m						3.5104e- 002 m	3.50576	e-002 m
	002				Proper	ties		002	002		
Volume	1.523e- 005 m ³			7.5864	e-006 m³				3.6861e-	-006 m³	
Mass	1.4468e- 002 kg			7.2071	e-003 kg			3.5018e-003 kg			
Centroid X	9.2043e- 002 m	0.1683 m	0.1488 m	0.10315 m	6.4152e- 002 m	3.2837e- 002 m	5.2337e- 002 m	9.2543e- 002 m	6.5382e- 002 m	0.12807 m	0.18009 m
Centroid Y	0.23475	0.19192	0.1598	0.200		0.21661	0.18449	0.2724	0.22347	0.21264	0.14209
Centrola Y	m	m	m	0.298	398 m	m	m	m	m	m	m
Centroid Z	0.24108	0.19139		0.162	286 m	0.20226	0.21272	0.21994	0.25442	0.23864	
	m o coco	m	m			m	m	m	m	m	m
Moment of Inertia lp1	3.2336e- 006 kg·m²			8.1323e	-008 kg∙m	2			1.5646e-0	07 kg⋅m²	
Moment of Inertia Ip2	3.2394e- 006 kg·m²	9.6938e-006 kg·m² 6.2956e-007 kg·m²									
Moment of Inertia Ip3	6.3857e- 006 kg·m²	9.6557e-006 kg·m² 4.9449e-007 kg·m²									
					Statist	ics					
Nodes	11613				989				555		
Elements Mesh Metric	6199			2	241				287	78	
		None									

TABLE 4 Model (B4) > Geometry > Parts

Object Name	Part 12	Part 13	Part 14	Part 15	Part 16	Part 17	Part 18	Part 19	Part 20	Part 21	Part 22	
-------------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	---------	--

State						Meshed					
		Graphics Properties									
Visible		Yes									
Transparency		1									
					Definiti	on					
Suppressed						No					
Stiffness						Flexible					
Behavior Coordinate											
System					Default (Coordinate	System				
Reference						F	1				
Temperature					Ву	Environm	ent				
Behavior						None					
					Materi						
Assignment		P	olyethylen	e		Str	ructural St	eel	Р	olyethyler	ie
Nonlinear Effects		Yes									
Thermal Strain Effects		Yes									
	Bounding Box										
Length X	4.8e-002 m	3.9435e- 002 m	9.1047e- 002 m	6.e-003 m	3.3924e- 002 m	5.3265e- 002 m	6.e-002 m	4.9653e- 002 m	3.7641e- 002 m	6.e-003 m	3.7641e- 002 m
Length Y	1.4001e- 002 m	5.3737e- 002 m		0.10418 m	4.7882e- 002 m	6.379e- 002 m	3.0103e- 002 m		3.6341e- 002 m	5.0417e- 002 m	3.6341e- 002 m
	2.5569e-	3.5104e-		6.3059e-	0.10042	4.0468e-	2.9885e-	3.8591e-	4.5835e-	5.0417e-	4.5835e-
Length Z	002 m	002 m	002 m	002 m	m	002 m	002 m	002 m	002 m	002 m	002 m
					Propert	ies					
Volume	3.6861e	-006 m³	8.4	687e-006	m³	4.5	227e-006	m³	9.1671e-006 m³		
Mass	3.5018€	e-003 kg	8.0)452e-003		3.5503e-002 kg			8.7088e-003 kg		
Centroid X	7.476e-	1.0827e-	0.14112		2.2125e-	3.3543e-	6.311e-	0.12601	2.1381e-	8.7261e-	0.11414
	002 m	002 m	m	002 m	002 m	002 m	002 m	m	002 m	002 m	m
Centroid Y	0.31424 m	0.17459 m	0.15388 m	0.26391 m	0.16704 m	0.15356 m	0.2391 m	0.17223 m	0.17366 m	0.23951 m	0.15225 m
	0.10177	0.16794	0.10885	7.668e-	0.12181	0.10075	7.3314e-		9.5052e-	7.3615e-	0.10202
Centroid Z	m	m	m	002 m	m	m	002 m	002 m	002 m	002 m	m
Moment of Inertia lp1		Se-007 ·m²	3.48	25e-007 k	g·m²	9.56	82e-006 k	g·m²		05e-006 k	g·m²
Moment of Inertia Ip2	6.2956	Se-007 ·m²	6.9181e-006 kg·m² 9.5315e-006 kg·m² 1.1					1.16	325e-006 kg·m²		
Moment of Inertia Ip3	4.9449	4.9449e-007 kg·m² 6.6181e-006 kg·m² 1.1984e-006 kg·m² 1.1603e-006 kg·m²									
					Statisti	ics					
Nodes	55	58		3356			7278			1428	
Elements	28	78		432			4017			184	
Mesh Metric		None									

TABLE 5 Model (B4) > Geometry > Parts

Object Name	Part 23	Part 24	Part 25	Part 26	Part 27	Part 28	Part 29	
State		Meshed			Suppressed			
		G	raphics Pr	operties		<u> </u>		

Visible		Y	'es			No	
Transparency			1				
			Definit	ion			
Suppressed		<u> </u>	No			Yes	
Stiffness				Flexible			
Behavior							
Coordinate System			Defaul	t Coordinate	System		
Reference			_				
Temperature			Е	By Environme	ent		
Behavior				None			
			Mater	ial			
Assignment		Polye	thylene		S	tructural Ste	eel
Nonlinear Effects				Yes			
Thermal Strain Effects				Yes			
			Bounding	g Box			
Length X	6.e-003 m	3.76416	e-002 m	0.15119 m	6.e-0	03 m	0.20351 m
Length Y	5.0417e- 002 m	3.63416	e-002 m	0.14499 m	9.5e-002 m		6.e-003 m
Length Z	5.0417e- 002 m	4.5835	e-002 m	5.2302e- 002 m	6.e-0	0.18144 m	
			Proper	ties			
Volume	8.8	8713e-006	m³	9.4212e- 005 m ³	1.3701e-005 m³		1.2397e- 004 m³
Mass	8.	4277e-003	kg	8.9502e- 002 kg	0.10756 kg		0.97313 kg
Centroid X	6.126e-	3.4381e-	0.12714	7.425e-	8.7266e-	6.1398e-	7.429e-
Certifold A	002 m	002 m	m	002 m	002 m	002 m	002 m
Centroid Y	0.23951 m	0.15226 m	0.17367 m	0.19543 m	0.130)77 m	9.4509e- 002 m
Centroid Z	7.3631e- 002 m	0.10204 m	9.5067e- 002 m	0.11162 m	0.11	35 m	0.13675 m
Moment of	2.26	5570-006 kg	n. m2	1.2397e-	Q 11010 I	105 kg m²	1.8007e-
Inertia Ip1	2.2657e-006 kg·m² 004 kg·m² 8.4484e-005 kg·m² 003				003 kg·m²		
Moment of Inertia lp2	1.15	593e-006 kç	g∙m²	1.2424e- 004 kg·m²	1.3139e-005 kg·m²		5.2476e- 003 kg·m²
Moment of Inertia Ip3	1.1	57e-006 kg	·m²	2.4768e- 004 kg·m²	7.1991e-0	7.1991e-005 kg·m²	
			Statist				003 kg⋅m²
Nodes		1073		229953		0	
Elements		134		32679		0	
Mesh Metric				None			

Coordinate Systems

TABLE 6 Model (B4) > Coordinate Systems > Coordinate System Object Name | Global Coordinate System

State	Fully Defined		
De	finition		
Туре	Cartesian		
Coordinate System ID	0.		
C	Prigin		
Origin X	0. m		
Origin Y	0. m		
Origin Z	0. m		
Directio	nal Vectors		
X Axis Data	[1. 0. 0.]		
Y Axis Data	[0. 1. 0.]		
Z Axis Data	[0. 0. 1.]		

Connections

TABLE 7
Model (B4) > Connections

Object Name	Connections						
State	Fully Defined						
Auto Detection							
Generate Automatic Connection On Refresh	Yes						
Transparency							
Enabled	Yes						

TABLE 8
Model (B4) > Connections > Contacts

Wiodei (64) > Connec	tions > oontacts							
Object Name	Contacts							
State	Fully Defined							
Definition								
Connection Type	Contact							
Scope								
Scoping Method	Geometry Selection							
Geometry	All Bodies							
Auto Detection								
Tolerance Type	Slider							
Tolerance Slider	0.							
Tolerance Value	9.8569e-004 m							
Use Range	No							
Face/Face	Yes							
Face Overlap Tolerance	Off							
Cylindrical Faces	Include							
Face/Edge	No							
Edge/Edge	No							
Priority	Include All							
Group By	Bodies							
Search Across	Bodies							
Statisti	ics							
Connections	37							
Active Connections	33							

TABLE 9
Model (B4) > Connections > Contacts > Contact Regions

	Model (B4) > Connections > Contacts > Contact Regions										
Object Name	Contact Region	Contact Region 2	Contact Region 3	Contact Region 4		Contact Region 6		Contact Region 8		Contact Region 10	Contact Region 11
State					Fı	ully Define	ed		_	_	
Otato	Scope										
Scoping Method		Geometry Selection									
Contact						1 Face					
Target						1 Face					
Contact Bodies		Part 1		Pai	rt 2	Part 3		Part 4		Part 5	
Target Bodies	Part 8	Part 9	Par	t 10	Part 11	Part 10	Part 11	Part 8	Part 12	Part 8	Part 12
					Definit	ion					
Type						Bonded					
Scope Mode					,	Automatio					
Behavior		Program Controlled									
Trim		9									
Contact		Program Controlled									
Trim		9.8569e-004 m									
Tolerance											
Suppressed No No											
	Advanced										
Formulation		Program Controlled									
Detection Method		Program Controlled									
Penetration Tolerance		Program Controlled									
Elastic Slip Tolerance					Progr	am Cont	rolled				
Normal Stiffness					Progr	am Cont	rolled				
Update Stiffness					Progr	am Cont	rolled				
Pinball Region					Progr	am Cont	rolled				
region				Geom	netric Mo	dificatio	n				
Contact Geometry Correction				<u> </u>		None					
Target Geometry Correction						None					

TABLE 10 Model (B4) > Connections > Contacts > Contact Regions

	Object	Contact										
	Nama	Region	Contact Region									
•	Ivallie	12	13	14	15	16	17	18	19	20	21	22

State		Fully Defined									
		Scope									
Scoping Method		Geometry Selection									
Contact		1 Face 2 Faces 4 Face								4 Faces	
Target				1 Face				4 Faces			2 Faces
Contact Bodies	Pa	rt 6	Pa	rt 7	Part 11	Part 12	Part 13	Part 14	Part 15	Part 16	Part 17
Target Bodies	Part 9	Part 13	Part 9	Part 13	Part 14	Part 15	Part 16	Part 19	Part 18	Part 17	Part 20
					Definit	ion					
Туре						Bonded					
Scope Mode					,	Automatio					
Behavior					Progr	am Cont	rolled				
Trim Contact		Program Controlled									
Trim Tolerance	9.8569e-004 m										
Suppressed	essed No										
Advanced											
Formulation		Program Controlled									
Detection Method		Program Controlled									
Penetration Tolerance					Progr	am Cont	rolled				
Elastic Slip Tolerance					Progr	am Cont	rolled				
Normal Stiffness					Progr	am Cont	rolled				
Update Stiffness					Progr	am Cont	rolled				
Pinball Region					Progr	am Cont	rolled				
				Geon	netric Mo	dificatio	n				
Contact Geometry Correction						None					
Target Geometry Correction						None					

TABLE 11 Model (B4) > Connections > Contacts > Contact Regions

Object	Contact	Contact	Contact	Contact	Contact	Contact	Contact	Contact	Contact	Contact	Contact
Object Name	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region	Region
Name	23	24	25	26	27	28	29	30	31	32	33
State		Fully Defined									
					Scop	е					

Scoping Method		Geometry Selection									
Contact	4 Faces 3 Faces			s 4 Faces 1 Fac				асе			
Target	3 Faces	2 Faces	3 Faces	2 Faces	3 Faces	1 Face					
Contact Bodies	Part 17	Par	t 18	Part 19				Part 25			
Target Bodies	Part 24	Part 21	Part 23	Part 22	Part 25			Par	t 26		
	Definition										
Туре	Type Bonded										
Scope Mode		Automatic									
Behavior					Progi	am Cont	rolled				
Trim Contact						am Cont					
Trim											
Tolerance	9.8569e-004 m										
Suppressed	No										
Advanced											
Formulation											
Detection Method	Program Controlled										
Penetration Tolerance					Progi	am Cont	rolled				
Elastic Slip Tolerance					Progi	am Cont	rolled				
Normal Stiffness					Progi	am Cont	rolled				
Update Stiffness					Progi	am Cont	rolled				
Pinball Region					Progi	am Cont	rolled				
1.09.011				Geon	netric Mo	dificatio	n				
Contact Geometry Correction						None					
Target Geometry Correction		None									

TABLE 12
Model (B4) > Connections > Contacts > Contact Regions

Model (B4) > Connections > Contacts > Contact Regions							
Object Name	Contact Region 34	Contact Region 35	Contact Region 36	Contact Region 37			
State	Suppressed						
Scope							
Scoping Method		Geometry	Selection				
Contact	1 Face No Selection						
Target	No Selection						

Contact Bodies	Part	: 26	Part 27	Part 28			
Target Bodies	Part 27	Part 28	Par	t 29			
	D	efinition					
Type		Bonded					
Scope Mode		Autor	matic				
Behavior		Program (Controlled				
Trim Contact		Program (Controlled				
Trim Tolerance		9.8569€	e-004 m				
Suppressed		No					
Advanced							
Formulation	Program Controlled						
Detection Method		Program (Controlled				
Penetration Tolerance		Program (Controlled				
Elastic Slip Tolerance		Program (Controlled				
Normal Stiffness		Program (Controlled				
Update Stiffness		Program (Controlled				
Pinball Region		Program (Controlled				
	Geomet	ric Modification					
Contact Geometry Correction		No	ne				
Target Geometry Correction		No	ne				

Mesh

TABLE 13 Model (B4) > Mesh

Object Name Mesh State Solved Display Display Style Body Color Defaults
Display Display Style Body Color
Display Style Body Color
• • • • • • • • • • • • • • • • • • • •
Defaults
Physics Preference Mechanical
Relevance 0
Element Order Program Controlled
Sizing
Size Function Adaptive
Relevance Center Coarse
Element Size Default
Initial Size Seed Assembly
Transition Fast
Span Angle Center Fine
Automatic Mesh Based Defeaturing On
Defeature Size Default
Minimum Edge Length 2.6391e-005 m
Quality
Check Mesh Quality Yes, Errors
Error Limits Standard Mechanical
Target Quality Default (0.050000)

h							
Smoothing	Medium						
Mesh Metric	None						
Inflation							
Use Automatic Inflation	None						
Inflation Option	Smooth Transition						
Transition Ratio	0.272						
Maximum Layers	5						
Growth Rate	1.2						
Inflation Algorithm	Pre						
View Advanced Options	No						
Advanced							
Number of CPUs for Parallel Part Meshing	Program Controlled						
Straight Sided Elements	No						
Number of Retries	Default (4)						
Rigid Body Behavior	Dimensionally Reduced						
Mesh Morphing	Disabled						
Triangle Surface Mesher	Program Controlled						
Topology Checking	No						
Pinch Tolerance	Please Define						
Generate Pinch on Refresh	No						
Statistics							
Nodes	326253						
Elements	71893						

Named Selections

TABLE 14 Model (B4) > Named Selections > Named Selections

, , , , , , , , , , , , , , , , , , , ,						
Object Name	Selection					
State	Fully Defined					
Scope						
Scoping Method	Geometry Selection					
Geometry	7 Bodies					
Definition						
Send to Solver	Yes					
Visible	Yes					
Program Controlled Inflation	Exclude					
Statistics	S					
Туре	Manual					
Total Selection	7 Bodies					
Suppressed	0					
Used by Mesh Worksheet	No					

Static Structural (B5)

TABLE 15 Model (B4) > Analysis
Object Name Static Structural (B5)

State	Solved				
Definition	on				
Physics Type	Structural				
Analysis Type	Static Structural				
Solver Target	Mechanical APDL				
Option	S				
Environment Temperature	22. °C				
Generate Input Only	No				

TABLE 16
Model (B4) > Static Structural (B5) > Analysis Settings

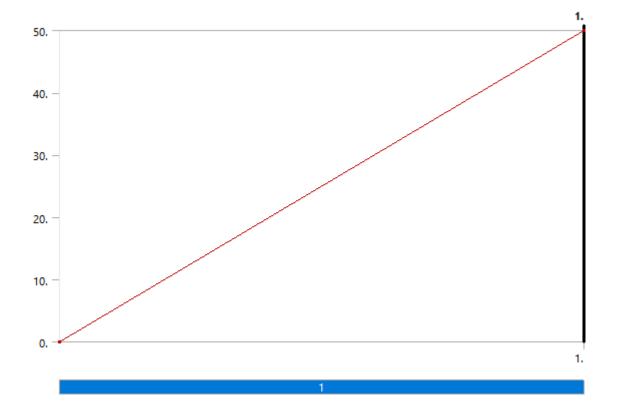
State Step Controls Number Of Steps Current Step Number Step End Time Auto Time Stepping Solver Controls Solver Type Program Controlled Weak Springs Solver Pivot Checking Large Deflection Inertia Relief Coriolis Effect Generate Restart Points Retain Files After Full Solve Combined Restart Files Non Non Non Non Non Newton-Raphson Option Force Convergence Moment Convergence Displacement Ptogram Controlled Program Controlled	Model (B4) > Static Structural (B5) > Analysis Settings				
Number Of Steps Current Step Number Current Step Number Step End Time Auto Time Stepping Solver Controls Solver Type Weak Springs Solver Pivot Checking Large Deflection Inertia Relief Rotordynamics Controls Coriolis Effect Generate Restart Points Retain Files After Full Solve Combined Restart Files Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	Object Name	Analysis Settings			
Number Of Steps Current Step Number Step End Time Auto Time Stepping Solver Controls Solver Type Weak Springs Solver Pivot Checking Large Deflection Inertia Relief Coriolis Effect Generate Restart Points Retain Files After Full Solve Combined Restart Files Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	State	Fully Defined			
Current Step Number Step End Time Auto Time Stepping Solver Controls Solver Type Program Controlled Weak Springs Off Solver Pivot Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controlled Newton-Raphson Option Force Convergence Convergence Displacement Program Controlled 1. s 1. s	Step Controls				
Number Step End Time Auto Time Stepping Program Controlled Stepping Solver Controls Solver Type Program Controlled Weak Springs Off Solver Pivot Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controls Newton-Raphson Option Program Controlled	Number Of Steps	1.			
Auto Time Stepping Solver Controls Solver Type Program Controlled Weak Springs Off Solver Pivot Checking Large Deflection Inertia Relief Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled	•	1.			
Stepping Solver Controls Solver Type Program Controlled Weak Springs Solver Pivot Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Program Controlled Restart Files Program Controlled	Step End Time	1. s			
Solver Type Weak Springs Off Solver Pivot Checking Large Deflection Inertia Relief Rotordynamics Controls Coriolis Effect Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled		Program Controlled			
Weak Springs Solver Pivot Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Non Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled		Solver Controls			
Solver Pivot Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled	Solver Type	Program Controlled			
Checking Large Deflection Inertia Relief Off Rotordynamics Controls Coriolis Effect Off Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Off Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled	Weak Springs	Off			
Inertia Relief Rotordynamics Controls Coriolis Effect Generate Restart Points Retain Files After Full Solve Combined Restart Files No Program Controlled		Program Controlled			
Rotordynamics Controls Coriolis Effect Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controlled Nonlinear Controlled Newton-Raphson Option Force Program Controlled Convergence Program Controlled	Large Deflection	Off			
Coriolis Effect Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controlled Nonlinear Controls Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled Program Controlled	Inertia Relief	Off			
Restart Controls Generate Restart Points Retain Files After Full Solve Combined Restart Files Nonlinear Controlled Nonlinear Controlled Newton-Raphson Option Force Program Controlled Convergence Program Controlled		Rotordynamics Controls			
Generate Restart Points Retain Files After Full Solve Combined Restart Files Non Program Controlled Program Controlled Nonlinear Controls Newton-Raphson Option Program Controlled	· · · · · · · · · · · · · · · · · · ·				
Points Retain Files After Full Solve Combined Restart Files Nonlinear Controlled Newton-Raphson Option Force Convergence Convergence Displacement Program Controlled Nonlinear Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled		Restart Controls			
Full Solve Combined Restart Files Nonlinear Controlled Newton-Raphson Option Force Convergence Convergence Displacement Nonlinear Controlled Program Controlled Program Controlled Program Controlled Program Controlled Program Controlled		Program Controlled			
Restart Files Nonlinear Controlled Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled Program Controlled		No			
Newton-Raphson Option Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled		Program Controlled			
Force Convergence Moment Convergence Displacement Program Controlled Program Controlled Program Controlled		Nonlinear Controls			
Convergence Moment Convergence Displacement Program Controlled Program Controlled		Program Controlled			
Convergence Displacement Program Controlled Program Controlled		Program Controlled			
		Program Controlled			
	Displacement Convergence	Program Controlled			
Rotation Convergence Program Controlled		Program Controlled			
Line Search Program Controlled		Program Controlled			
Stabilization Off	Stabilization	Off			
Output Controls					

Stress	Yes
Strain	Yes
Nodal Forces	No
Contact Miscellaneous	No
General Miscellaneous	No
Store Results At	All Time Points
	Analysis Data Management
Solver Files Directory	C:\Users\cesar\AppData\Local\Temp\WB_DESKTOP- GVS6OPA_cesar_14104_2\unsaved_project_files\dp0\SYS\MECH\
Future Analysis	None
Scratch Solver Files Directory	
Save MAPDL db	No
Delete Unneeded Files	Yes
Nonlinear Solution	No
Solver Units	Active System
Solver Unit System	mks

TABLE 17
Model (B4) > Static Structural (B5) > Loads

woder (B4) > Static Structural (B5) > Loads				
Pressure	Fixed Support			
Fully Defined				
Scope				
Scoping Method Geometry Selection				
1 Face				
Definition				
Type Pressure Fixed Supp				
Normal To				
Surface Effect				
50. Pa (ramped)				
No)			
	Pressure Fully De Scope Geometry S 1 Fa Definition Pressure Normal To Surface Effect			

FIGURE 1 Model (B4) > Static Structural (B5) > Pressure



Solution (B6)

TABLE 18 Model (B4) > Static Structural (B5) > Solution

Object Name	Solution (B6)			
State	Solved			
Adaptive Mesh Ref	inement			
Max Refinement Loops	1.			
Refinement Depth	2.			
Information				
Status	Done			
MAPDL Elapsed Time	27. s			
MAPDL Memory Used	3.3965 GB			
MAPDL Result File Size	93.625 MB			
Post Processing				
Beam Section Results	No			

TABLE 19
Model (B4) > Static Structural (B5) > Solution (B6) > Solution Information

Object Name	Solution Information		
State	Solved		
Solution Information			
Solution Output	Solver Output		
Newton-Raphson Residuals	0		
Identify Element Violations	0		

1	
Update Interval	2.5 s
Display Points	All
FE Connection Vi	sibility
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 20
Model (B4) > Static Structural (B5) > Solution (B6) > Results

model (B4) > Static Structural (B5) > Solution (B6) > Results					
Object Name	Total Deformation	Equivalent Elastic Strain	Equivalent Stress	Strain Energy	
State	Solved				
		Scope			
Scoping Method		Geometry	Selection		
Geometry		All B	odies		
		Definition			
Туре	Total Deformation	Equivalent Elastic Strain	Equivalent (von-Mises) Stress	Strain Energy	
Ву		Tir	me		
Display Time		La	ast		
Calculate Time History	Yes				
Identifier					
Suppressed		N	lo		
		Results			
Minimum	0. m	0. m/m	0. Pa	0. J	
Maximum	2.3703 m	4.9516e-005 m/m	1.6678e+005 Pa	3.675e-008 J	
Minimum Occurs On	Part 26 Part 17		Part 17		
Maximum Occurs On	Part 6	Part 14	Part 19	Part 14	
Information					
Time	1. s				
Load Step	1				
Substep	1				
Iteration Number 1					
Integration Point Results					
Display Option	Averaged				
Average Across Bodies	No				

FIGURE 2
Model (B4) > Static Structural (B5) > Solution (B6) > Total Deformation

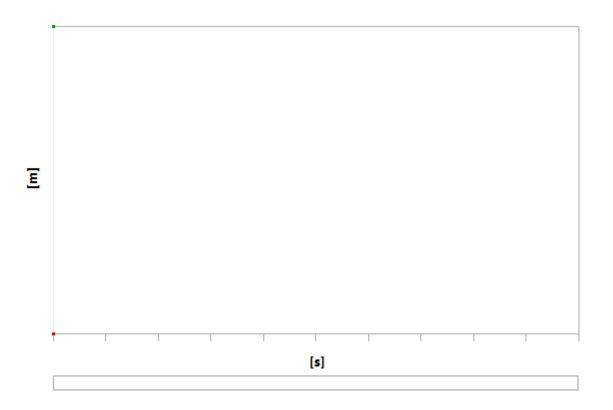


TABLE 21

Model (B4) > Static Structural (B5) > Solution (B6) > Total Deformation

Time [s]	Minimum [m]	Maximum [m]
1.	0.	2.3703

FIGURE 3
Model (B4) > Static Structural (B5) > Solution (B6) > Total Deformation > Image

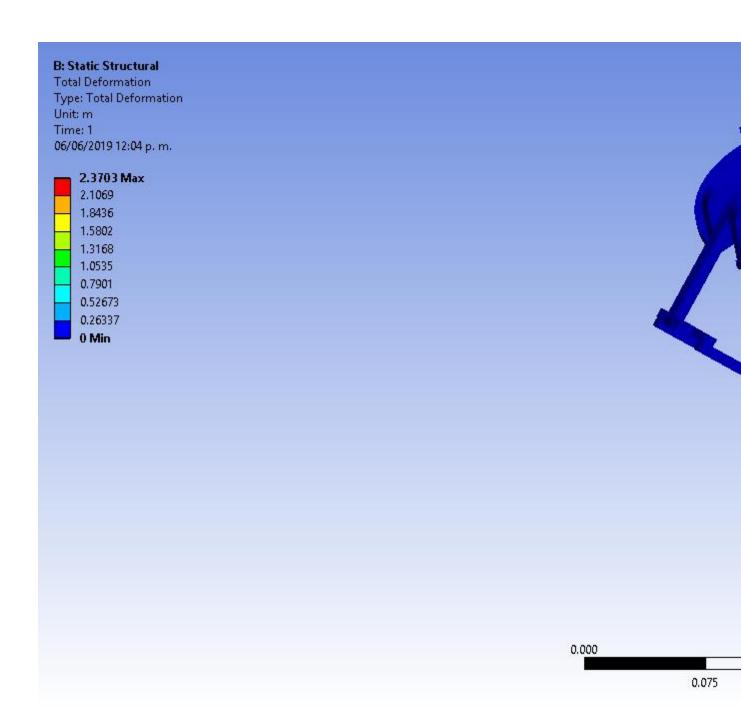


FIGURE 4
Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Elastic Strain

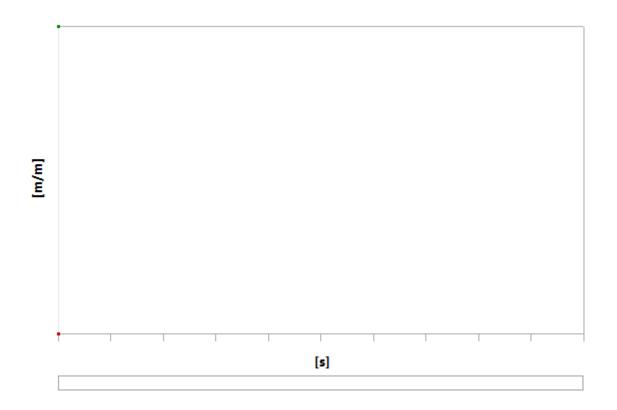


TABLE 22

Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Elastic Strain

Time [s] Minimum [m/m] Maximum [m/m]

Time [s]	Minimum [m/m]	Maximum [m/m]
1.	0.	4.9516e-005

FIGURE 5
Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Elastic Strain > Image

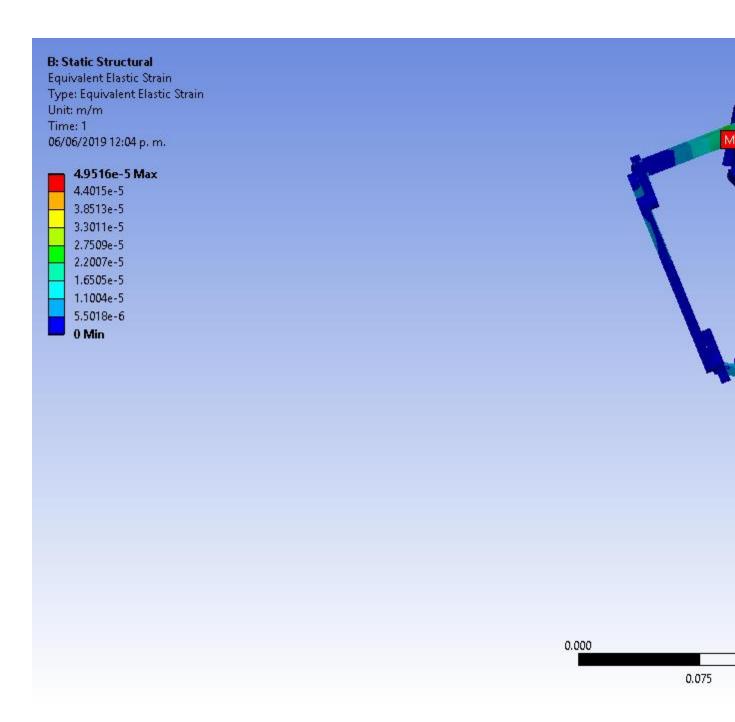


FIGURE 6
Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Stress

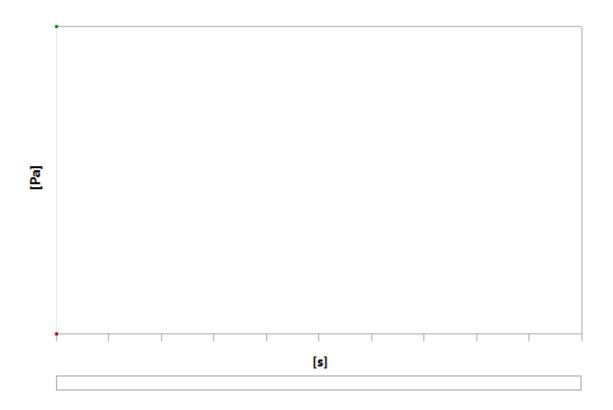


TABLE 23

Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Stress

Time [s1] Minimum [Pa1] Maximum [Pa1]

Time [s]	Minimum [Pa]	Maximum [Pa]
1.	0.	1.6678e+005

FIGURE 7
Model (B4) > Static Structural (B5) > Solution (B6) > Equivalent Stress > Image

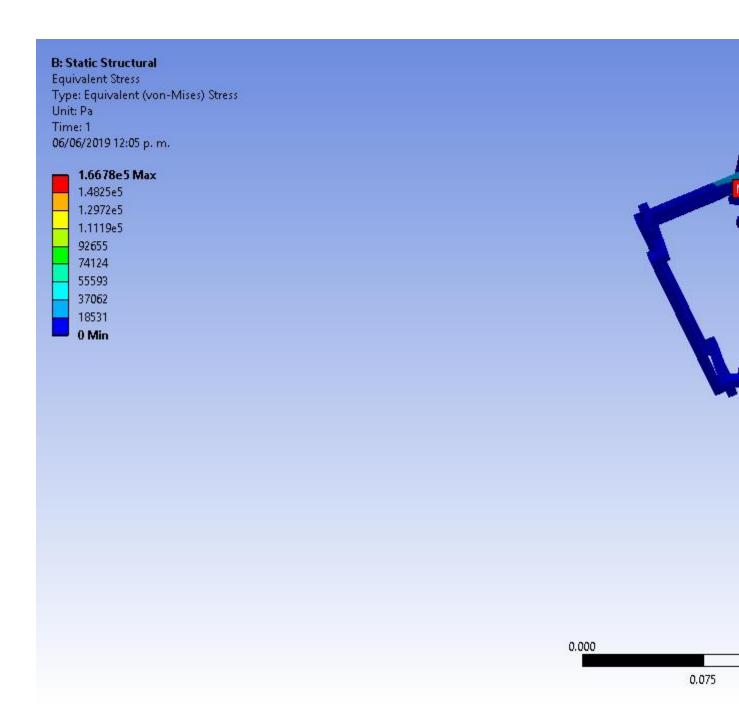


FIGURE 8
Model (B4) > Static Structural (B5) > Solution (B6) > Strain Energy

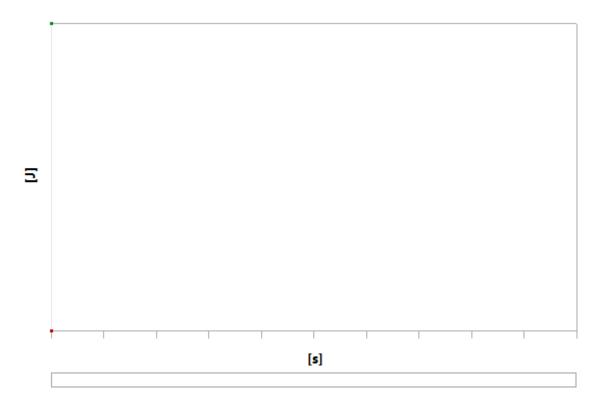


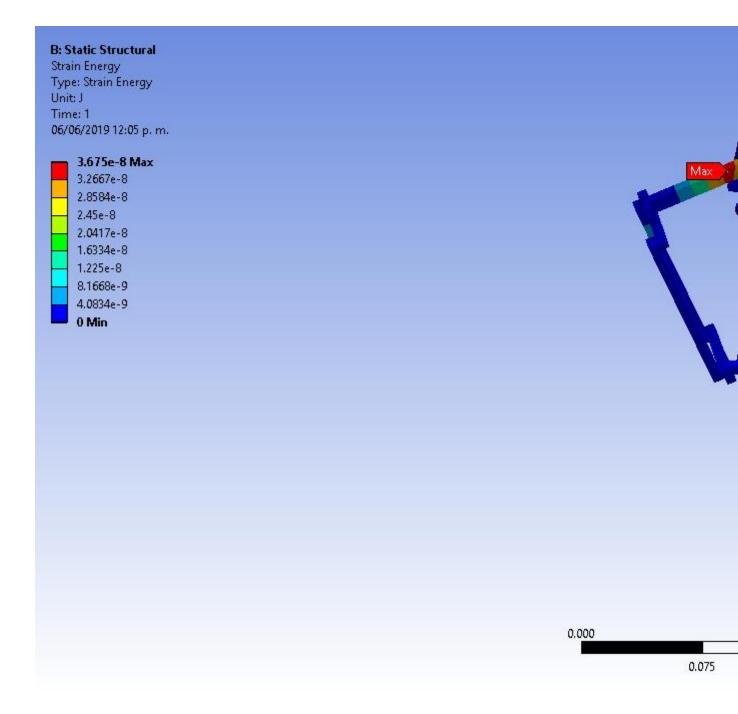
TABLE 24

Model (B4) > Static Structural (B5) > Solution (B6) > Strain Energy

Time [s] Minimum [J] Maximum [J]

1. 0. 3.675e-008

FIGURE 9
Model (B4) > Static Structural (B5) > Solution (B6) > Strain Energy > Image



Material Data

Polyethylene

TABLE 25 Polyethylene > Constants

i olyoniyiono z conotanic	
Density	950 kg m^-3
Isotropic Secant Coefficient of Thermal Expansion	2.3e-004 C^-1
Specific Heat	2300 J kg^-1 C^-1

TABLE 26 Polyethylene > Appearance

Red	Green	Blue
130	154	176

TABLE 27

Polyethylene > Compressive Ultimate Strength

Compressive	Ultimate	Strength	Pa
	0		

TABLE 28

Polyethylene > Compressive Yield Strength

Compressive	Yield	Strength	Pa
	0		

TABLE 29

Polyethylene > Tensile Yield Strength

Tensile Yield Strength Pa
2.5e+007

TABLE 30

Polyethylene > Tensile Ultimate Strength

Tensile Ultimate Strength Pa	ì
3.3e+007	

TABLE 31

Polyethylene > Isotropic Secant Coefficient of Thermal Expansion

Zero-Thermal-Strain Reference Tempe	erature C
22	

TABLE 32

Polyethylene > Isotropic Elasticity

Temperature C	Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
	1.1e+009	0.42	2.2917e+009	3.8732e+008

Structural Steel

TABLE 33 Structural Steel > Constants

Density	7850 kg m^-3
Isotropic Secant Coefficient of Thermal Expansion	1.2e-005 C^-1
Specific Heat	434 J kg^-1 C^-1
Isotropic Thermal Conductivity	60.5 W m^-1 C^-1
Isotropic Resistivity	1.7e-007 ohm m

TABLE 34 Structural Steel > Appearance

Red Green Blue

132 139 179

TABLE 35 Structural Steel > Compressive Ultimate Strength

Compressive Ultimate Strength Pa 0

TABLE 36 Structural Steel > Compressive Yield Strength

Compressive Yield Strength Pa 2.5e+008

TABLE 37 Structural Steel > Tensile Yield Strength

Tensile Yield Strength Pa 2.5e+008

TABLE 38 Structural Steel > Tensile Ultimate Strength

Tensile Ultimate Strength Pa 4.6e+008

TABLE 39 Structural Steel > Isotropic Secant Coefficient of Thermal Expansion

Zero-Thermal-Strain Reference Temperature C 22

TABLE 40 Structural Steel > Alternating Stress Mean Stress

Alternating Stress Pa	Cycles	Mean Stress Pa
3.999e+009	10	0
2.827e+009	20	0
1.896e+009	50	0
1.413e+009	100	0
1.069e+009	200	0
4.41e+008	2000	0
2.62e+008	10000	0
2.14e+008	20000	0
1.38e+008	1.e+005	0
1.14e+008	2.e+005	0
8.62e+007	1.e+006	0

TABLE 41 Structural Steel > Strain-Life Parameters

Strength Coefficient Pa		Ductility Coefficient	Ductility Exponent	Cyclic Strength Coefficient Pa	Hargening
9.2e+008	-0.106	0.213	-0.47	1.e+009	0.2

TABLE 42 Structural Steel > Isotropic Elasticity

Temperature C	Young's Modulus Pa	Poisson's Ratio	Bulk Modulus Pa	Shear Modulus Pa
	2.e+011	0.3	1.6667e+011	7.6923e+010

TABLE 43 Structural Steel > Isotropic Relative Permeability

Relative Permeability 10000