

Autodesk Generative Design

Pedal Assembly

Define Explore

Pedal Assembly > Explore > Study 1 - Outcome 1

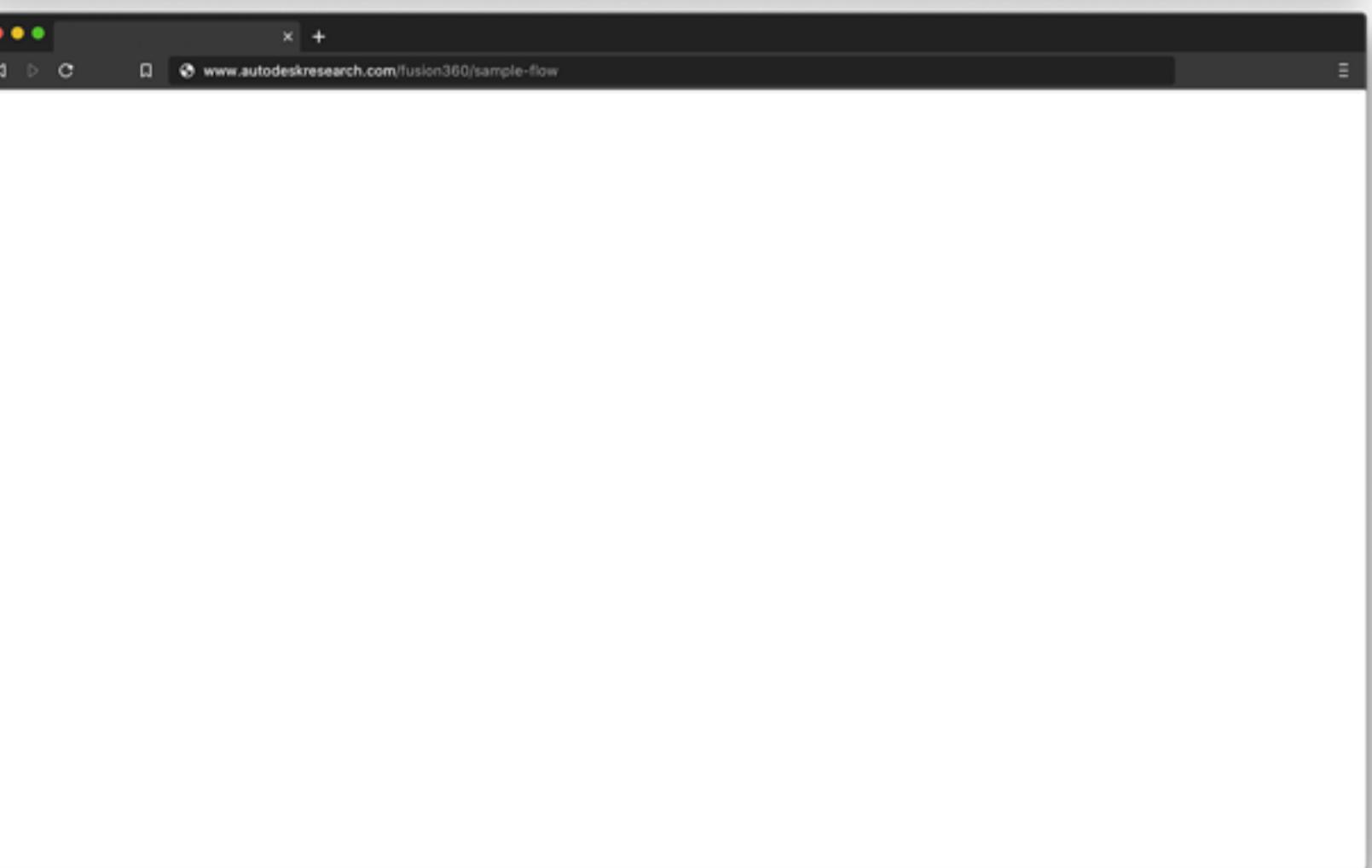
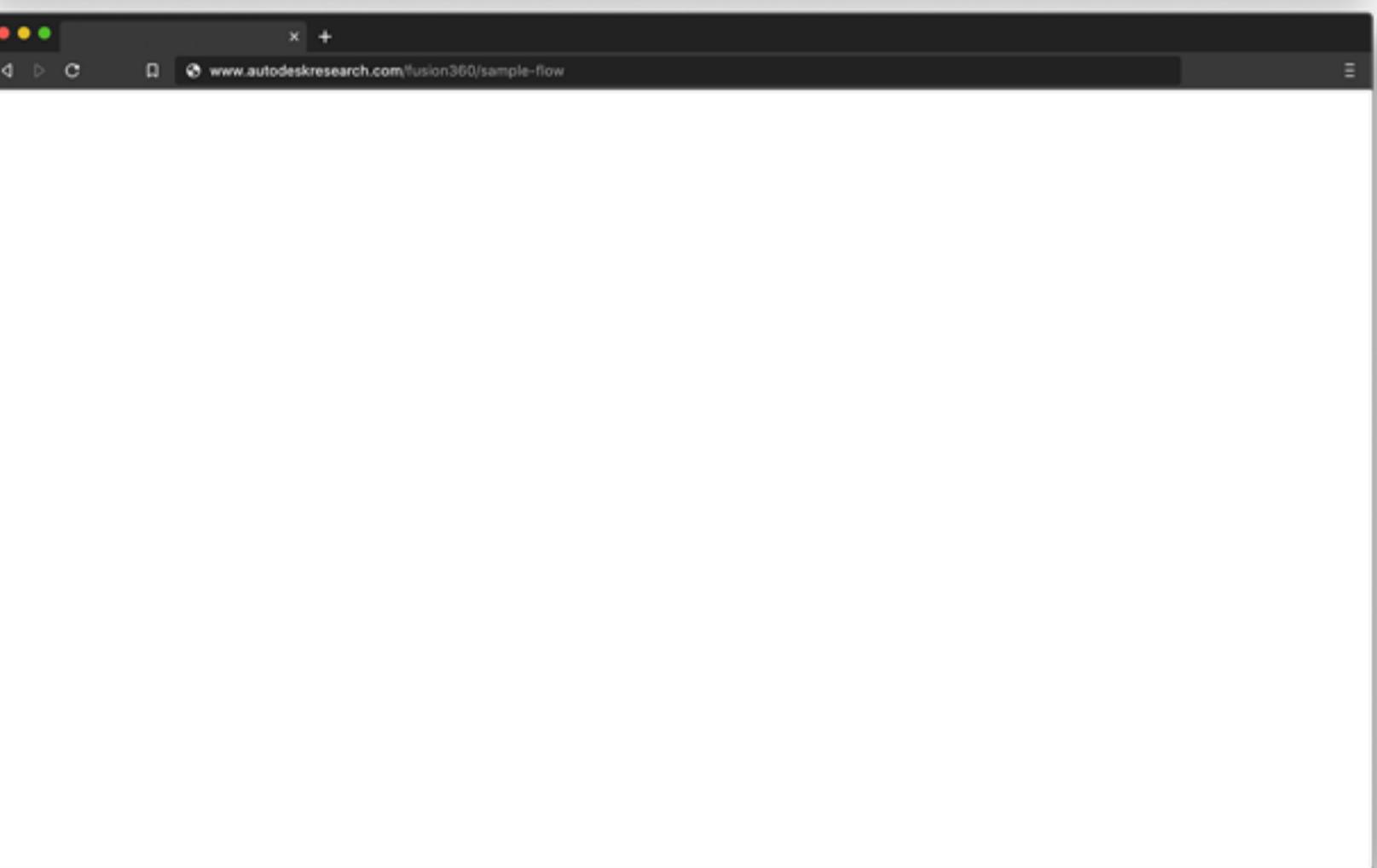
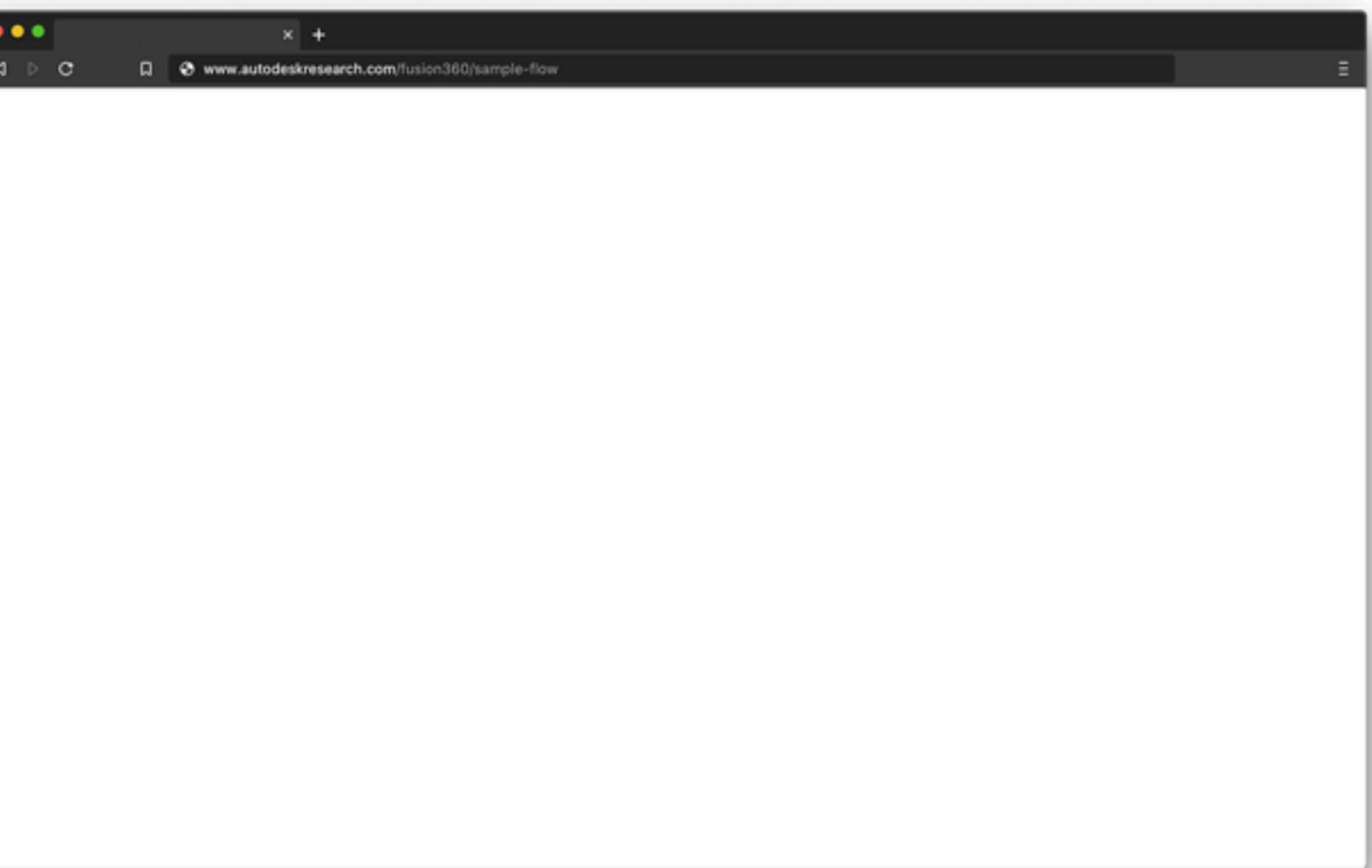
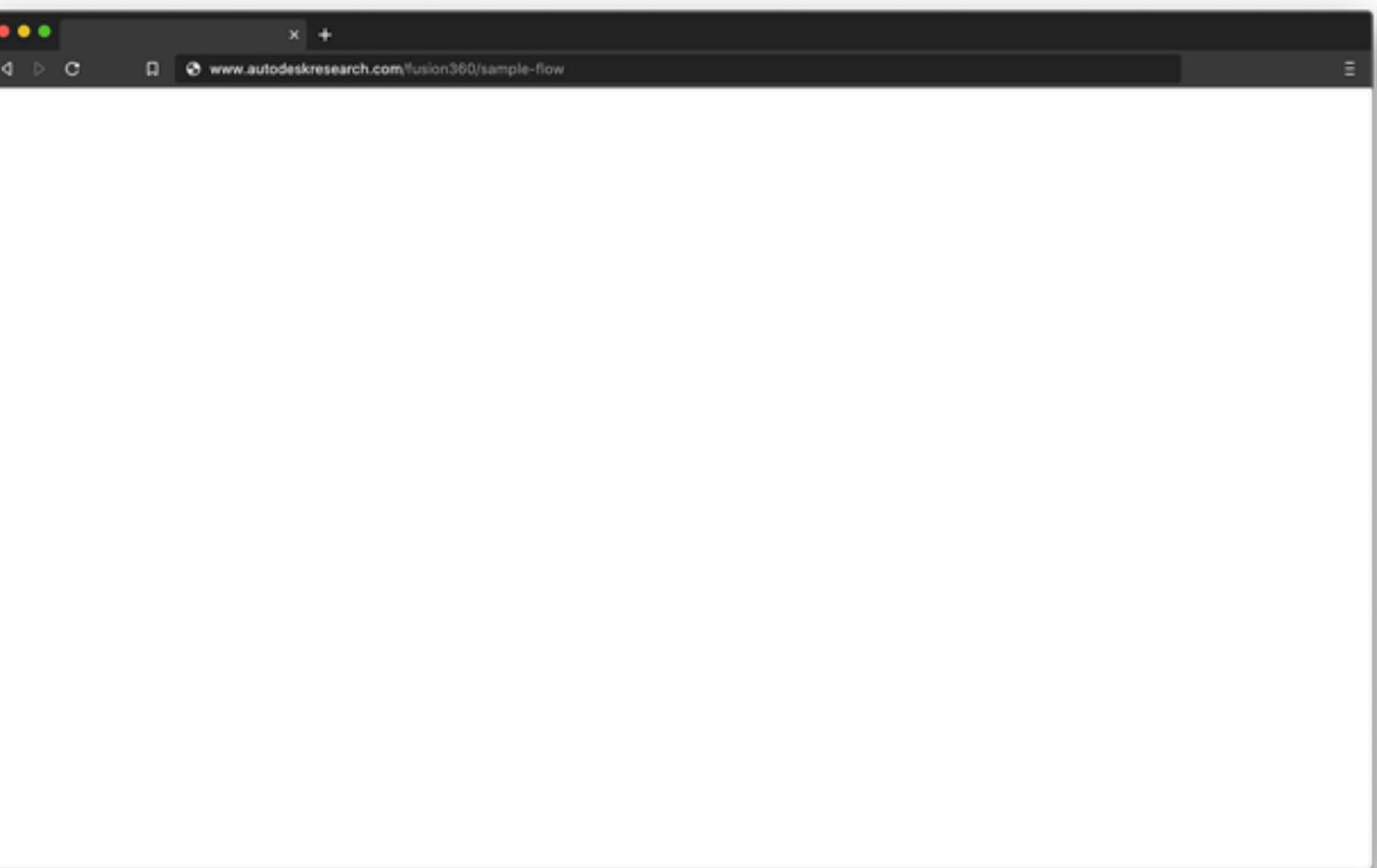
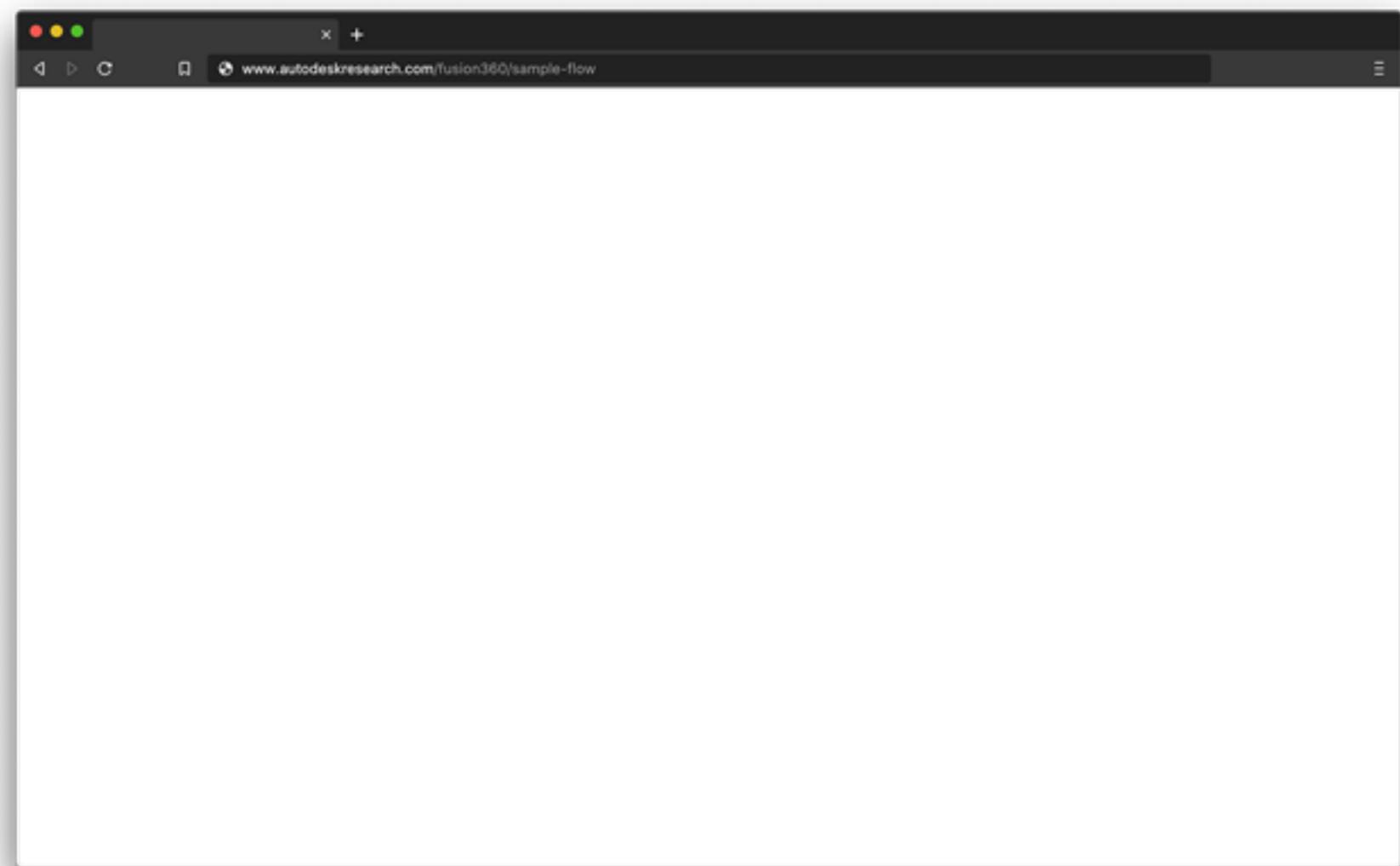
Study 1 - Outcome 1  
Iteration 1

Properties

Status	Completed
Material	AlSi10Mg
Print direction	Unrestricted
Volume ( $m^3$ )	260.8488
Mass (kg)	21.66
Max displacement (mm)	0.80
Max von Mises stress (psi)	5,364
Factor of safety target	2.00
Min factor of safety	33.33

10 20 30 40

Annotations







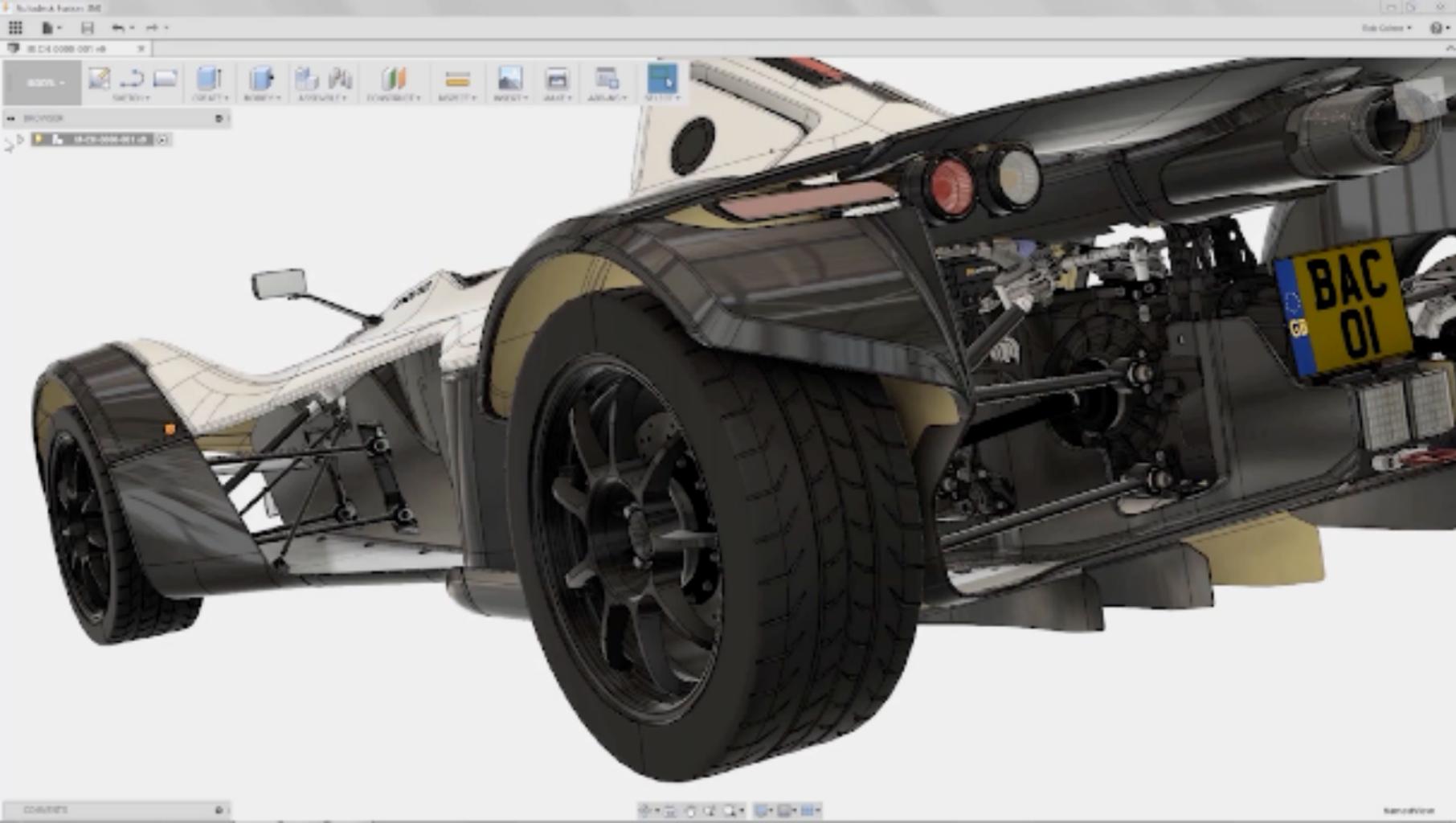


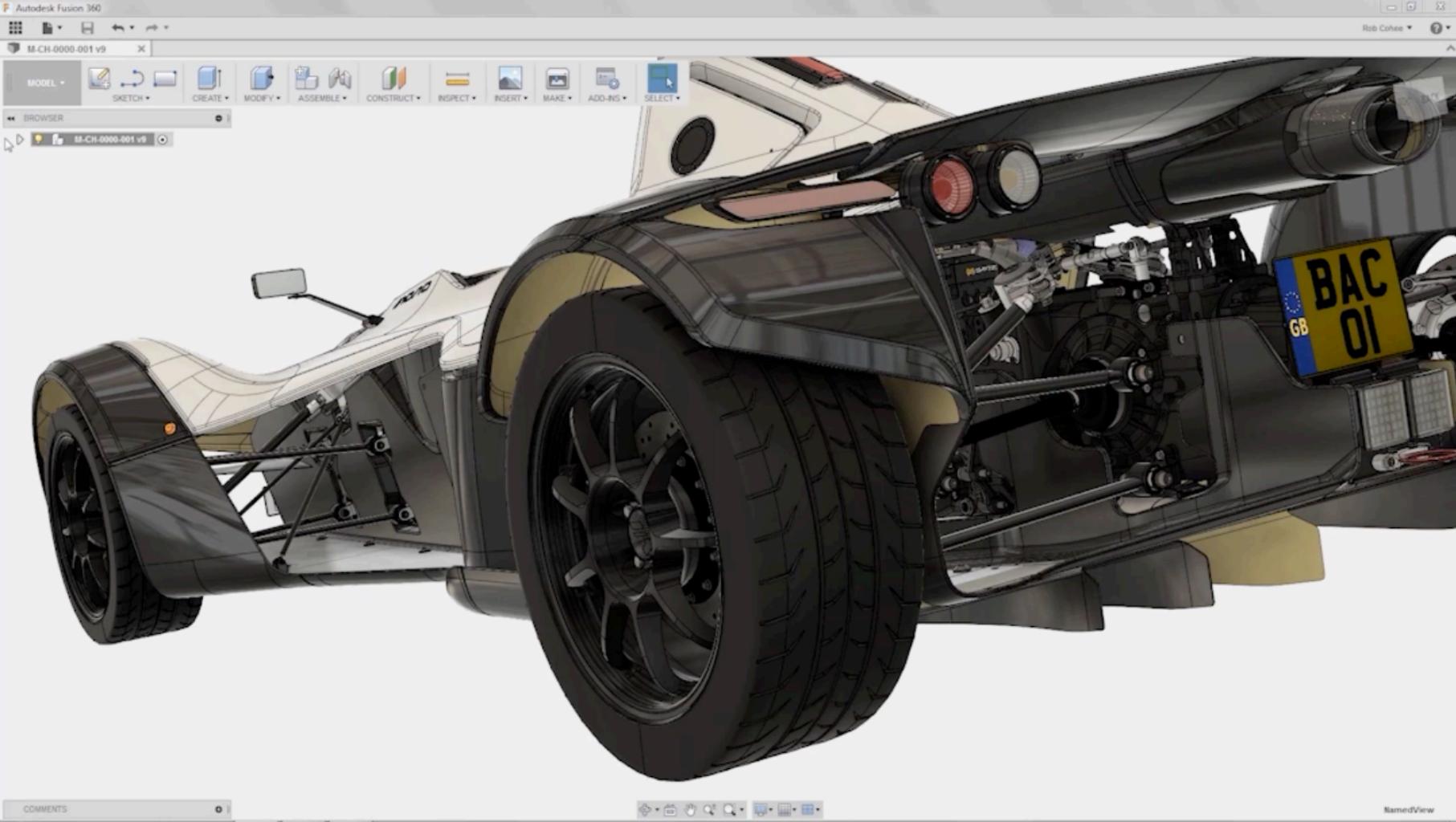


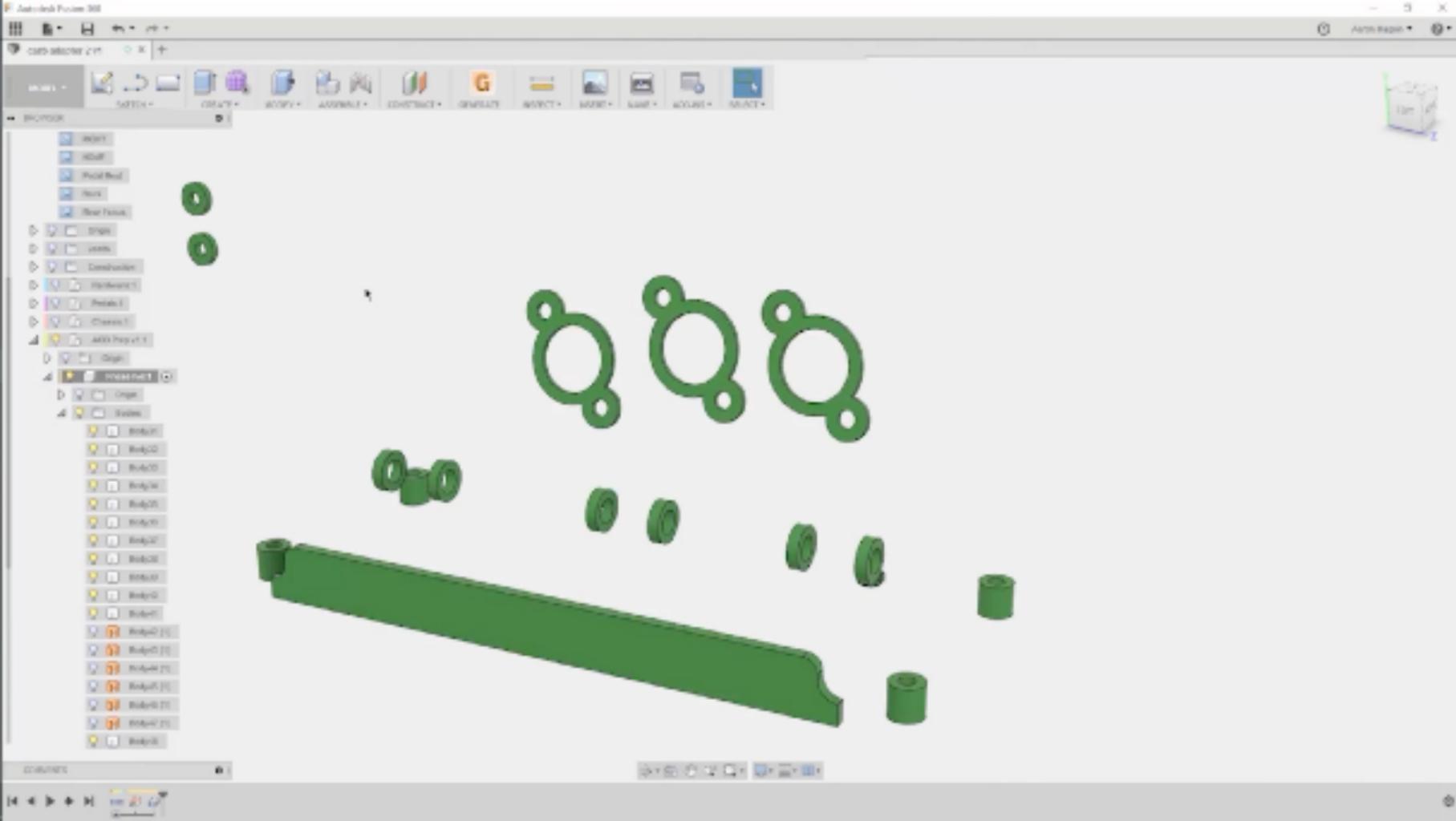








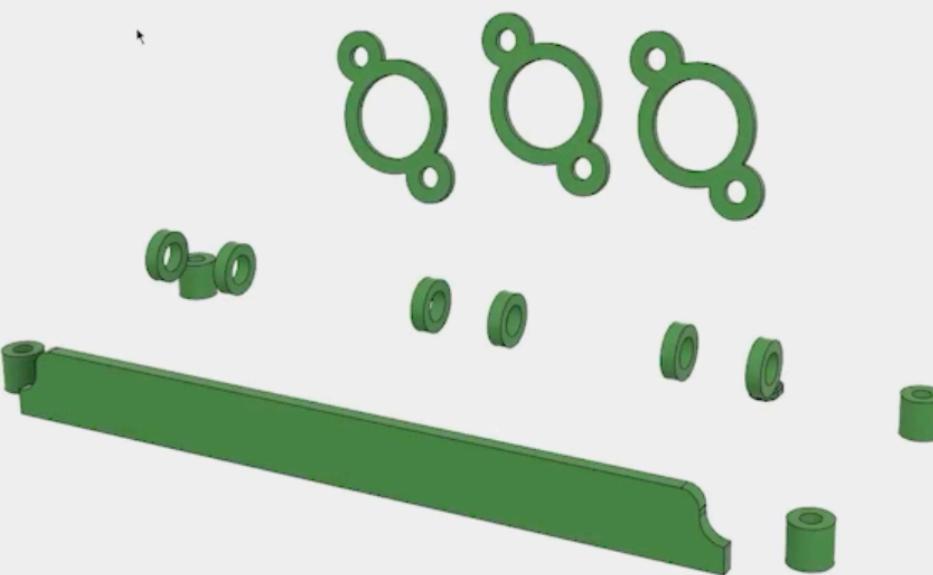






## BROWSER

RIGHT
HOME
Pedal Rest
Back
Rear Focus
Origin
Joists
Construction
Hardware 1
Pedals 1
Chassis 1
AGD Prep v1.1
Origin
<b>Preserve:1</b>
Origin
Bodies
Body31
Body32
Body33
Body34
Body35
Body36
Body37
Body38
Body39
Body40
Body41
Body42 (1)
Body43 (1)
Body44 (1)
Body45 (1)
Body46 (1)
Body47 (1)
Body48



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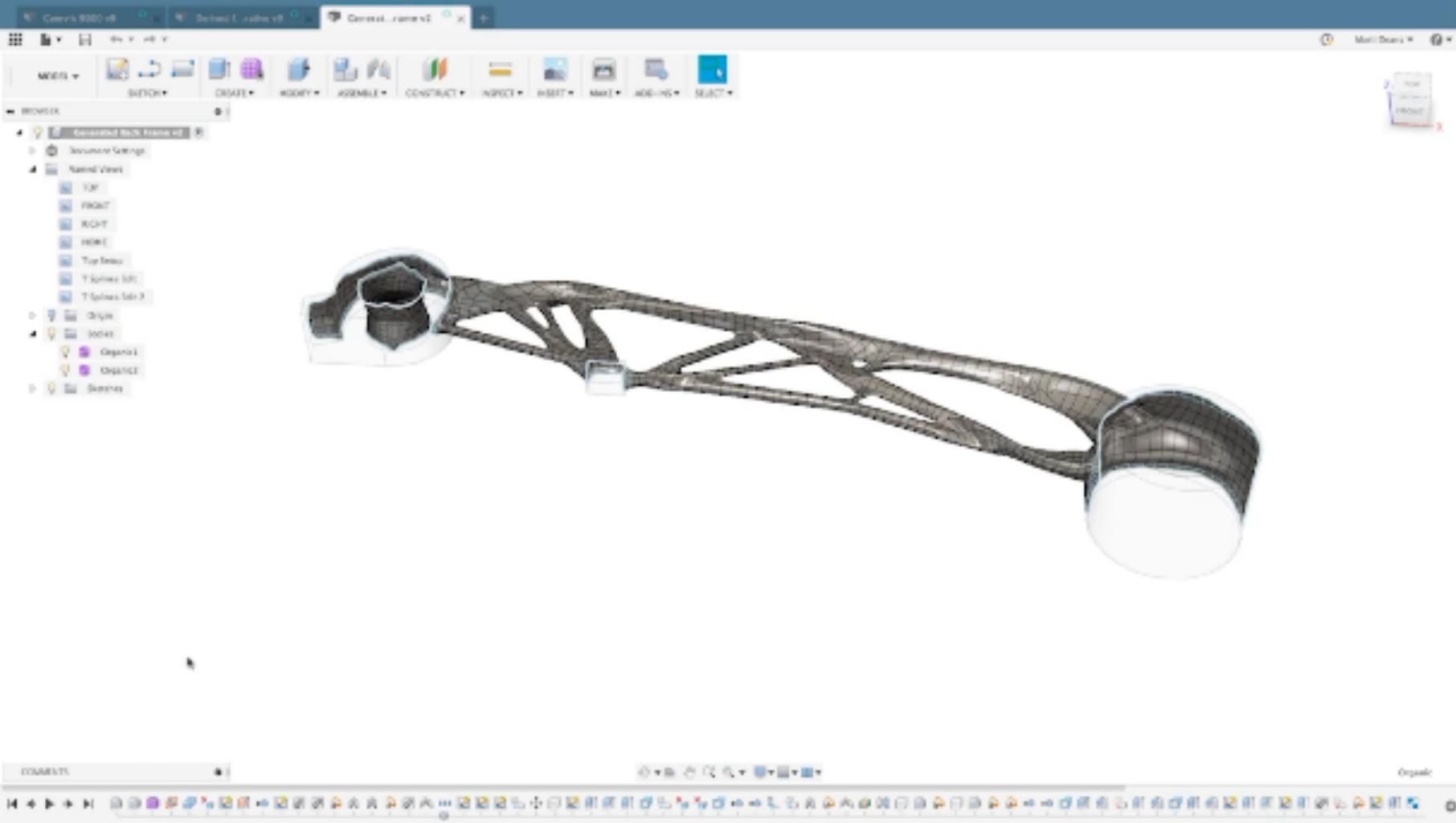
Study 1 - Outcome 1  
Iteration 1

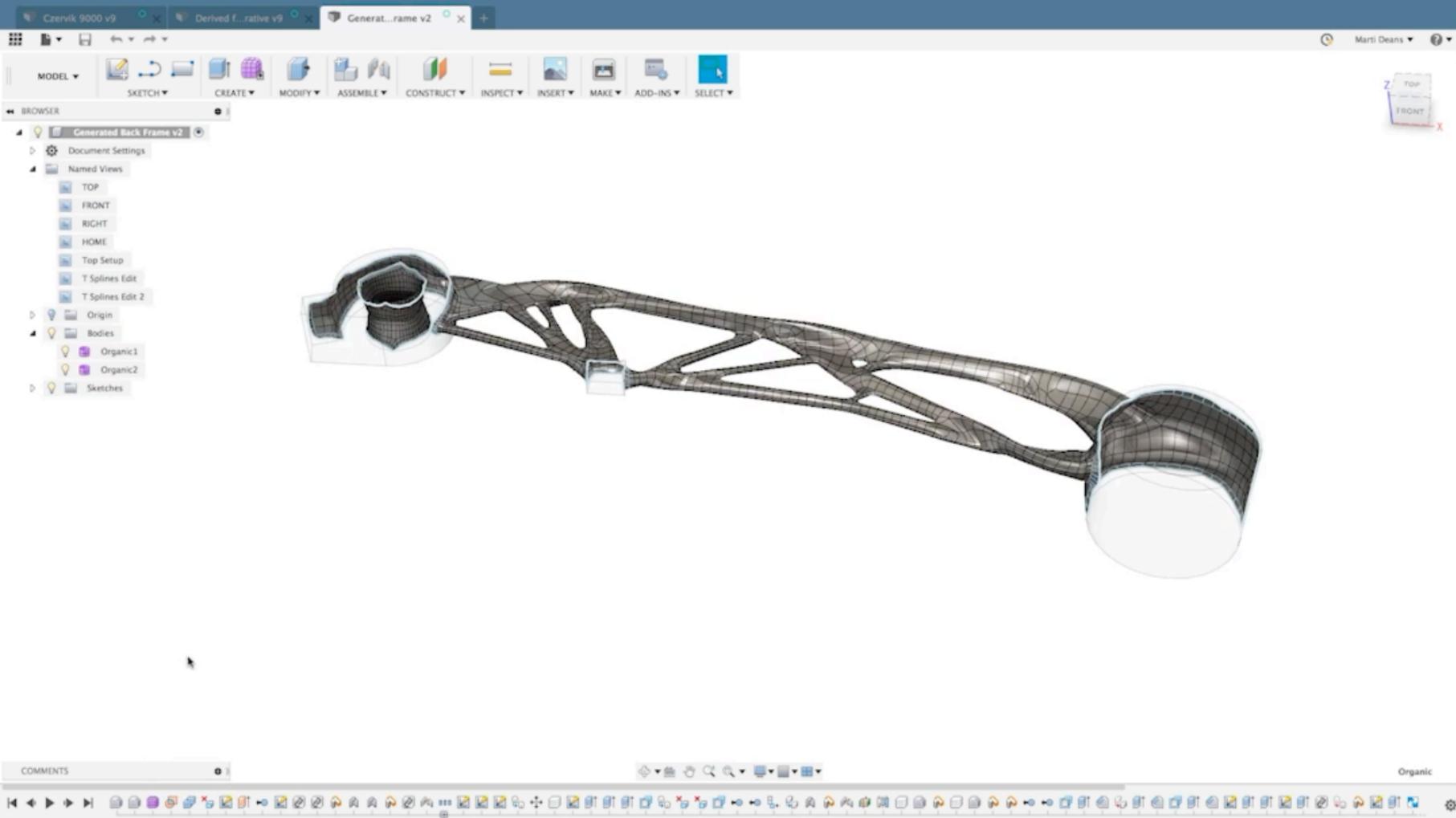
Properties

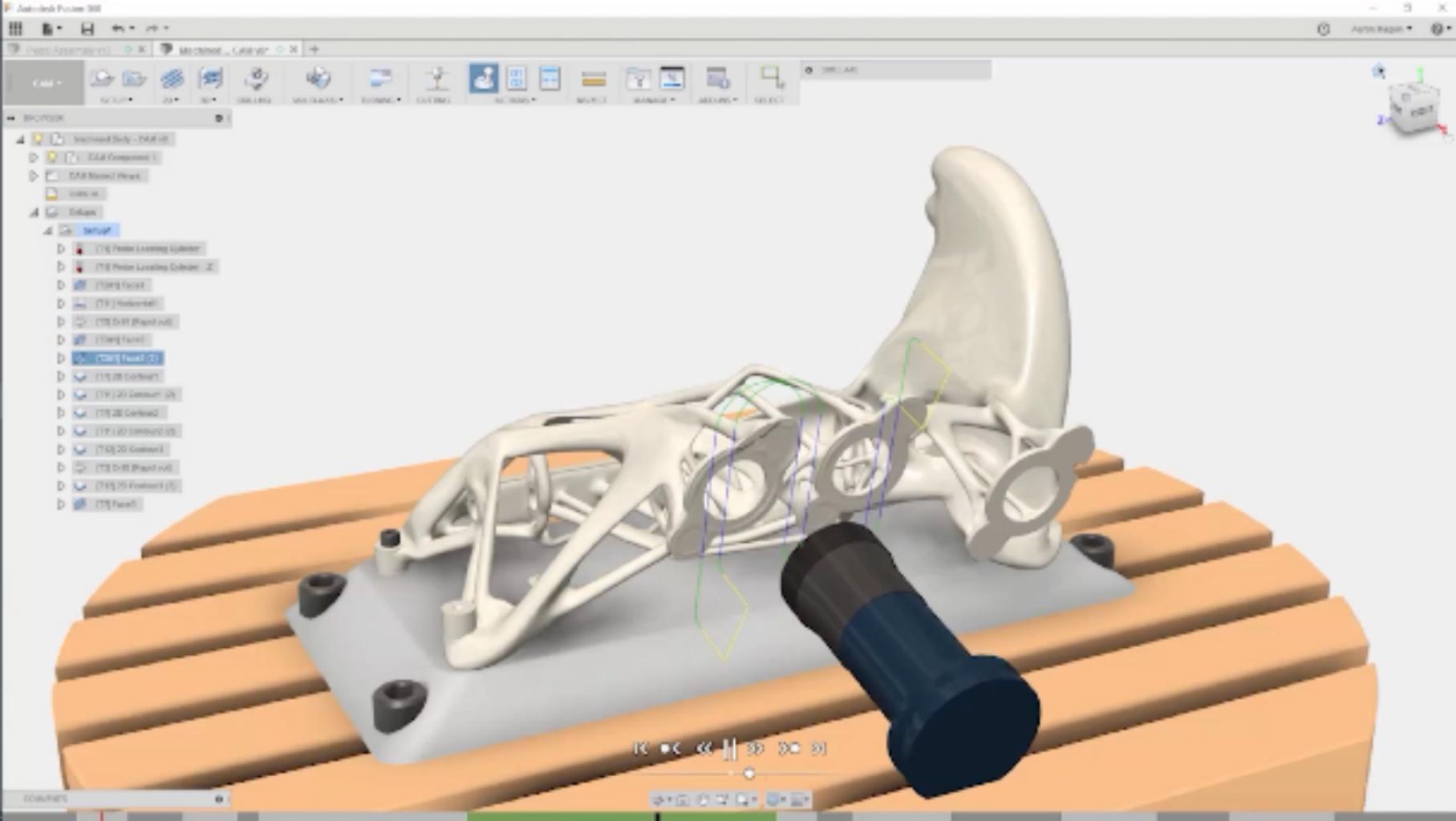
Status	Completed
Material	AlSi10Mg
Print direction	Unrestricted
Volume ( $\text{in}^3$ )	289.8456
Mass (lb)	27.96
Max displacement (in)	0.00
Max von Mises stress (psi)	1,364
Factor of safety target	2.00
Min factor of safety	25.52

Iterations 1 10 20 30 35

10 20 30 35



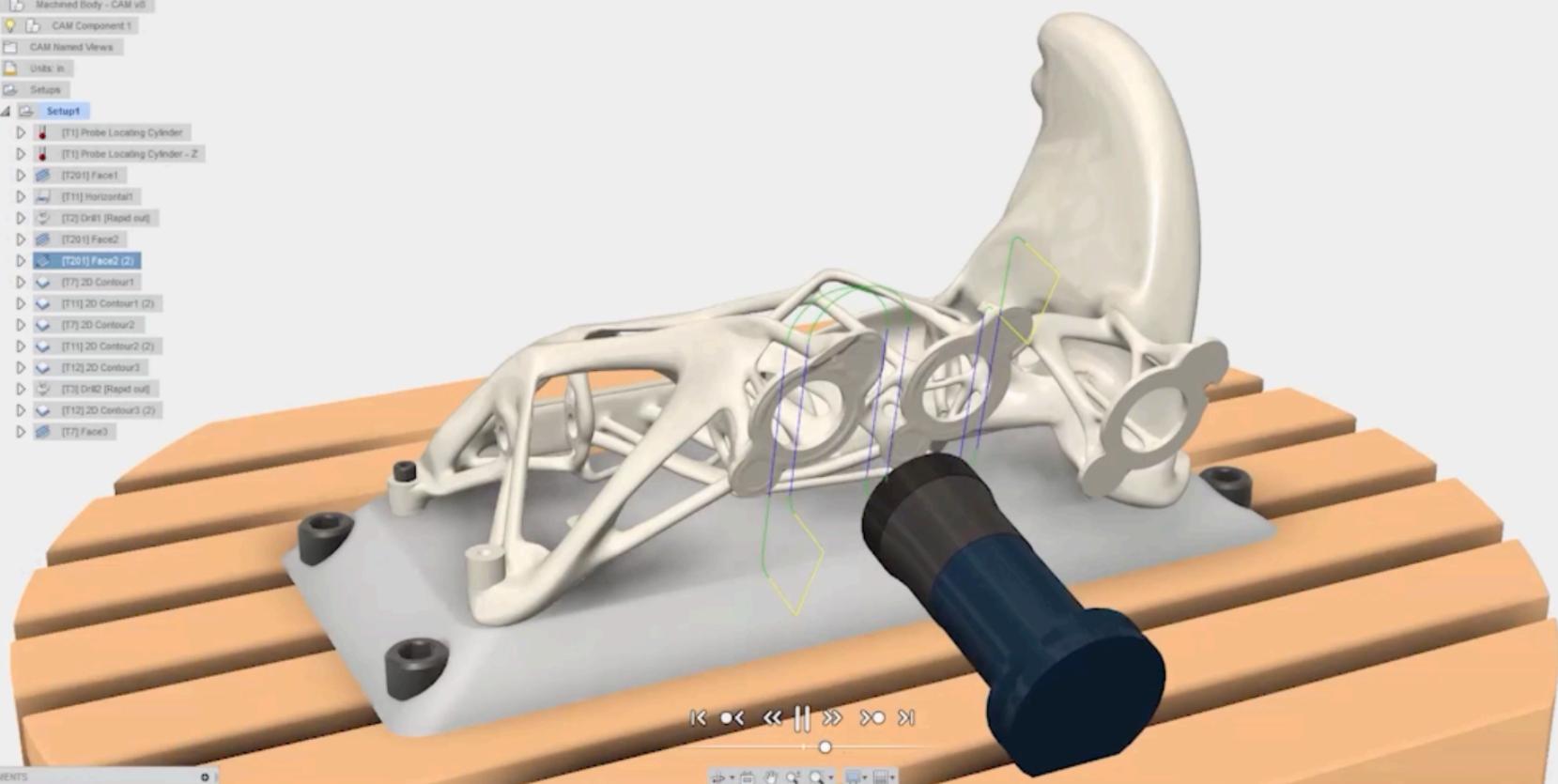


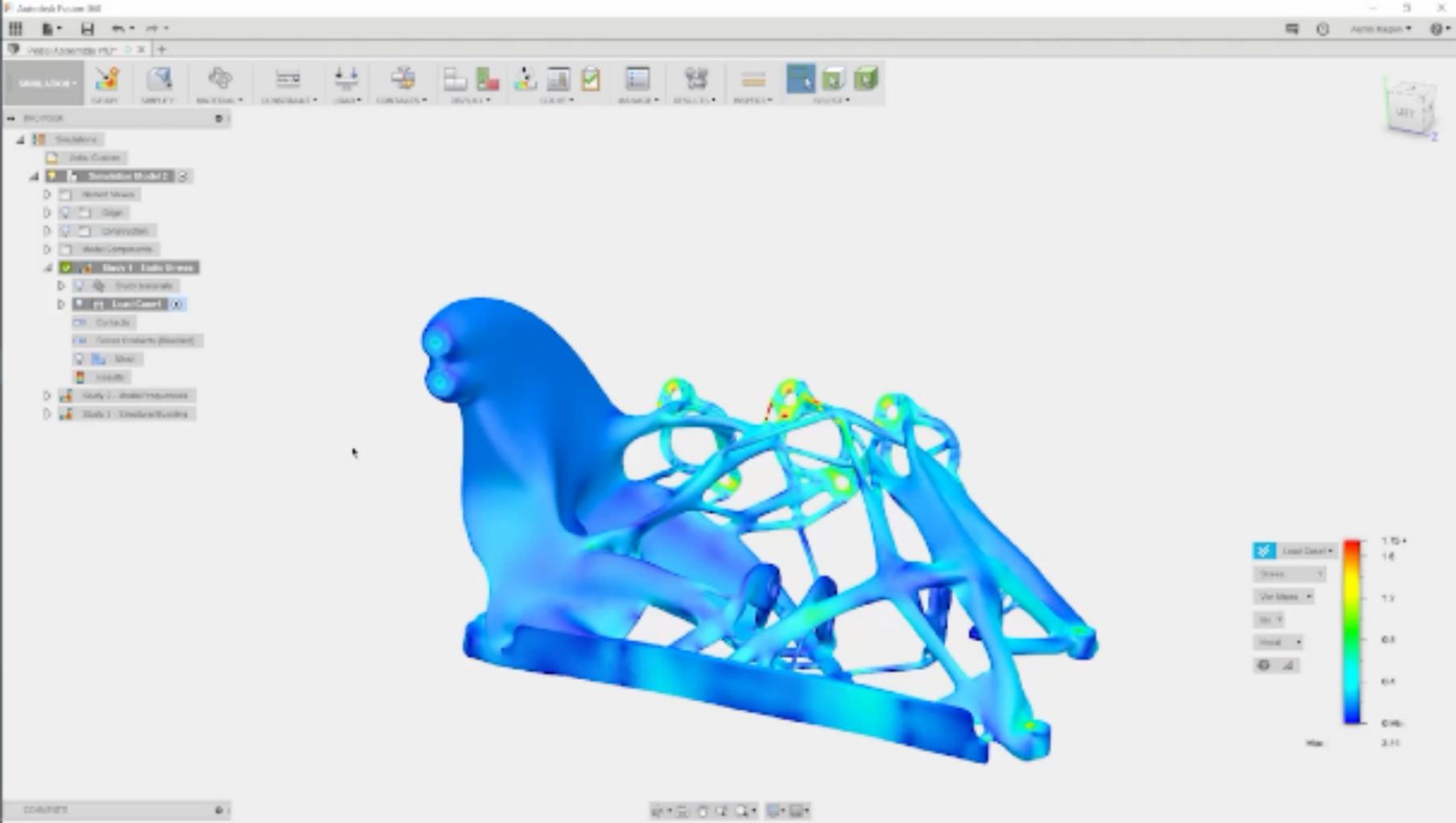




## BROWSER

- Machined Body - CAM v0\*
- CAM Component 1
- CAM Named Views
- Units: in
- Setups
- Setup1
  - [T1] Probe Locating Cylinder
  - [T1] Probe Locating Cylinder - Z
  - [T201] Face1
  - [T11] Horizontal
  - [T2] Draft [Rapid out]
  - [T201] Face2
  - [T201] Face2 (2)
  - [T7] 2D Contour1
  - [T11] 2D Contour1 (2)
  - [T7] 2D Contour2
  - [T11] 2D Contour2 (2)
  - [T7] 2D Contour3
  - [T3] Draft [Rapid out]
  - [T12] 2D Contour3 (2)
  - [T7] Face3

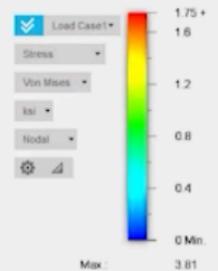
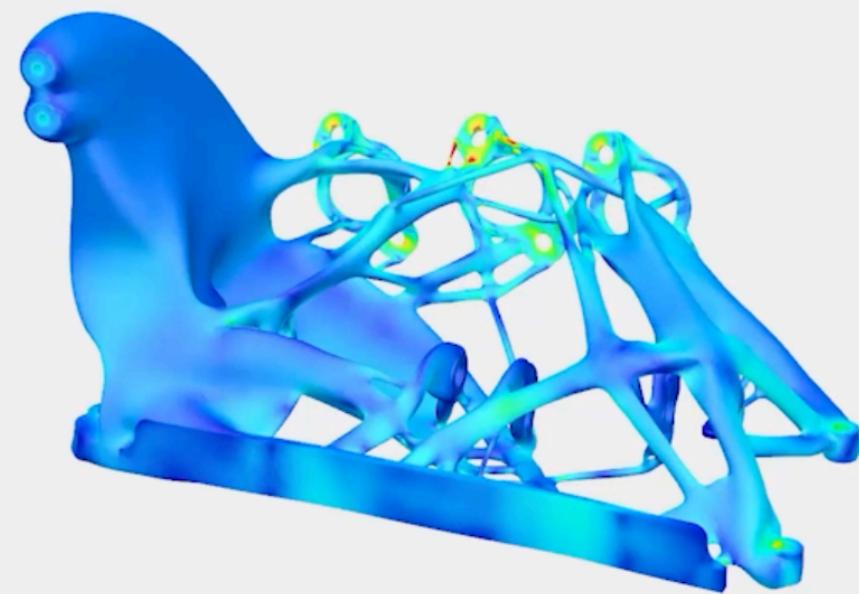




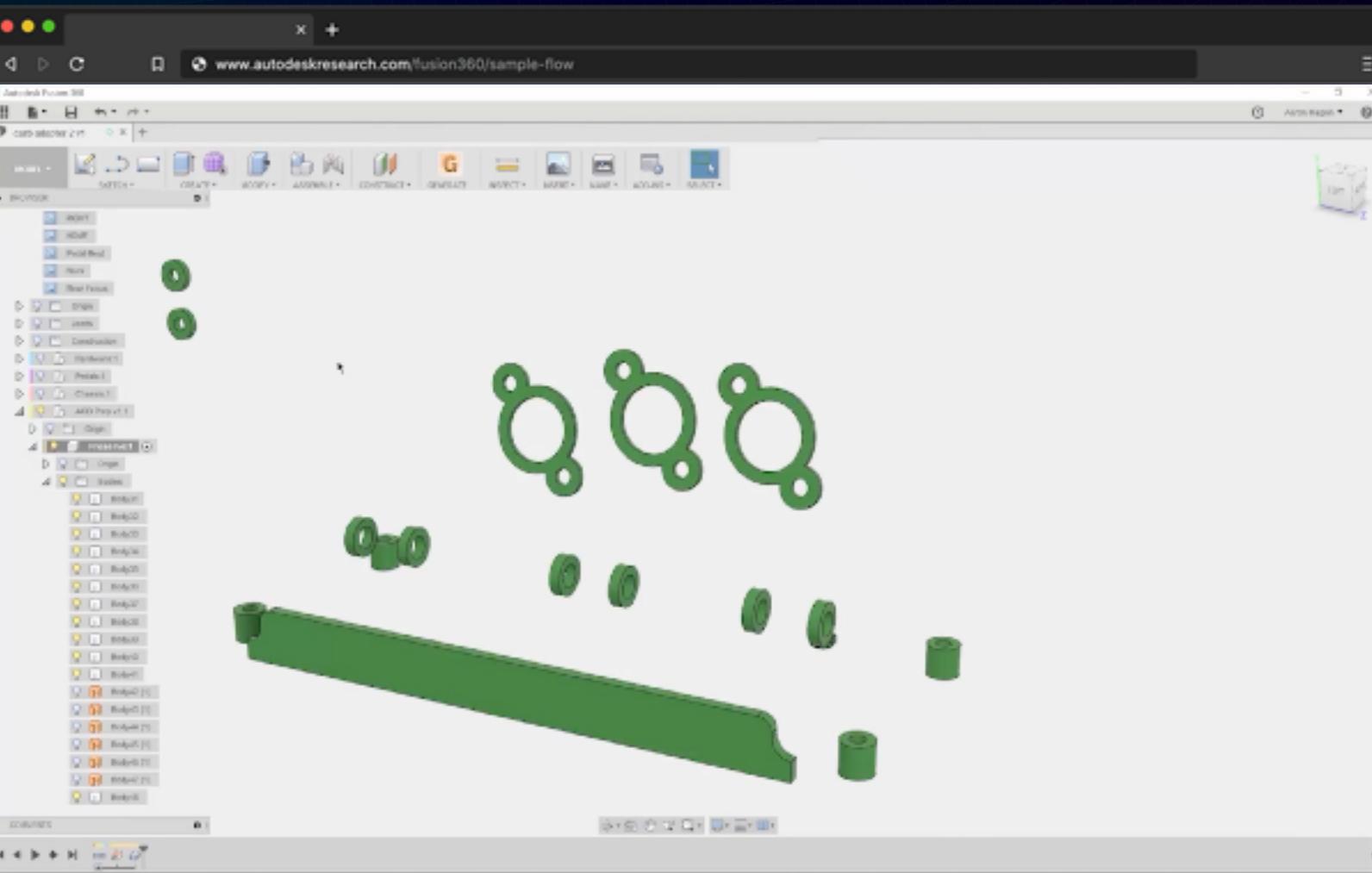
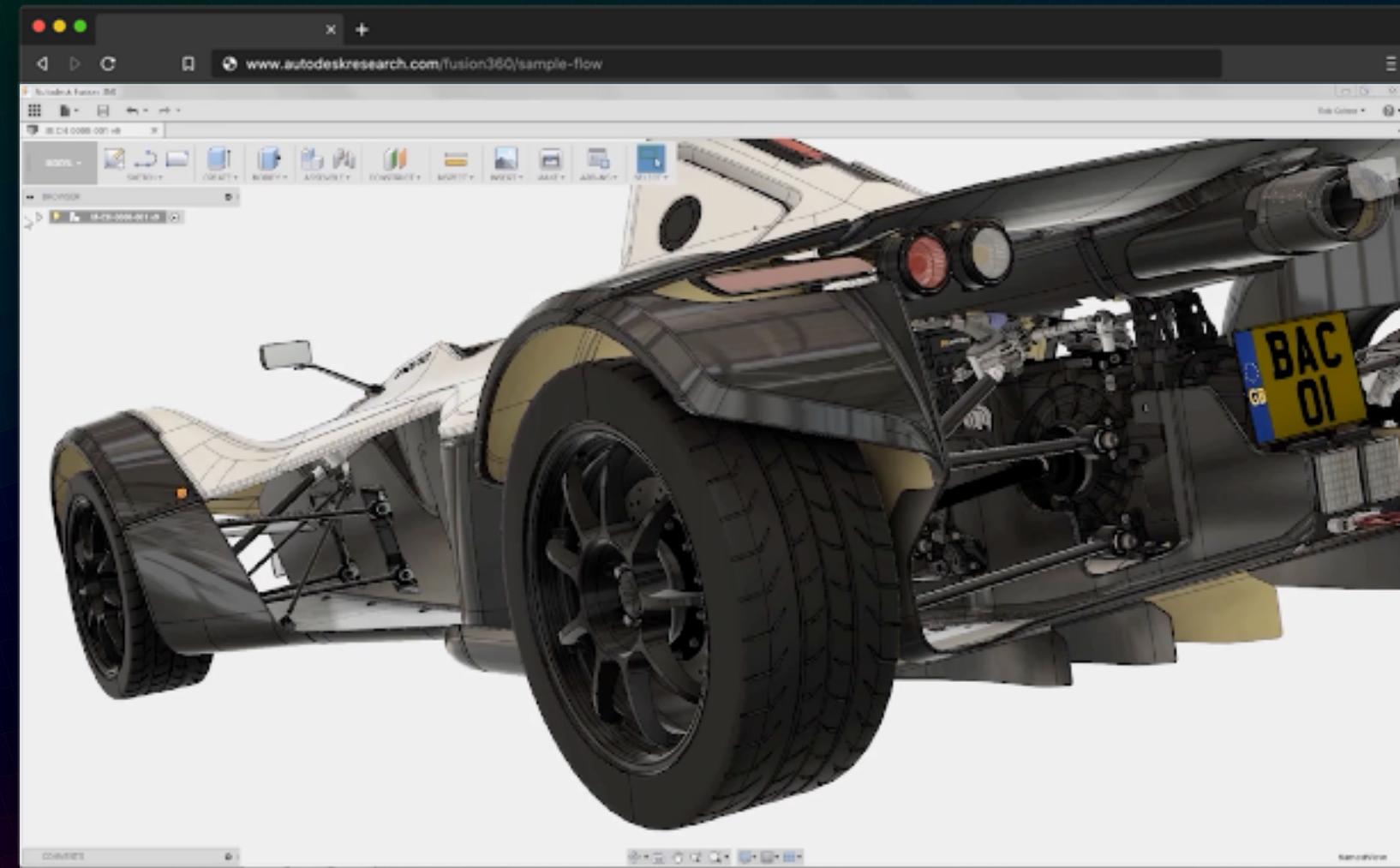


## BROWSER

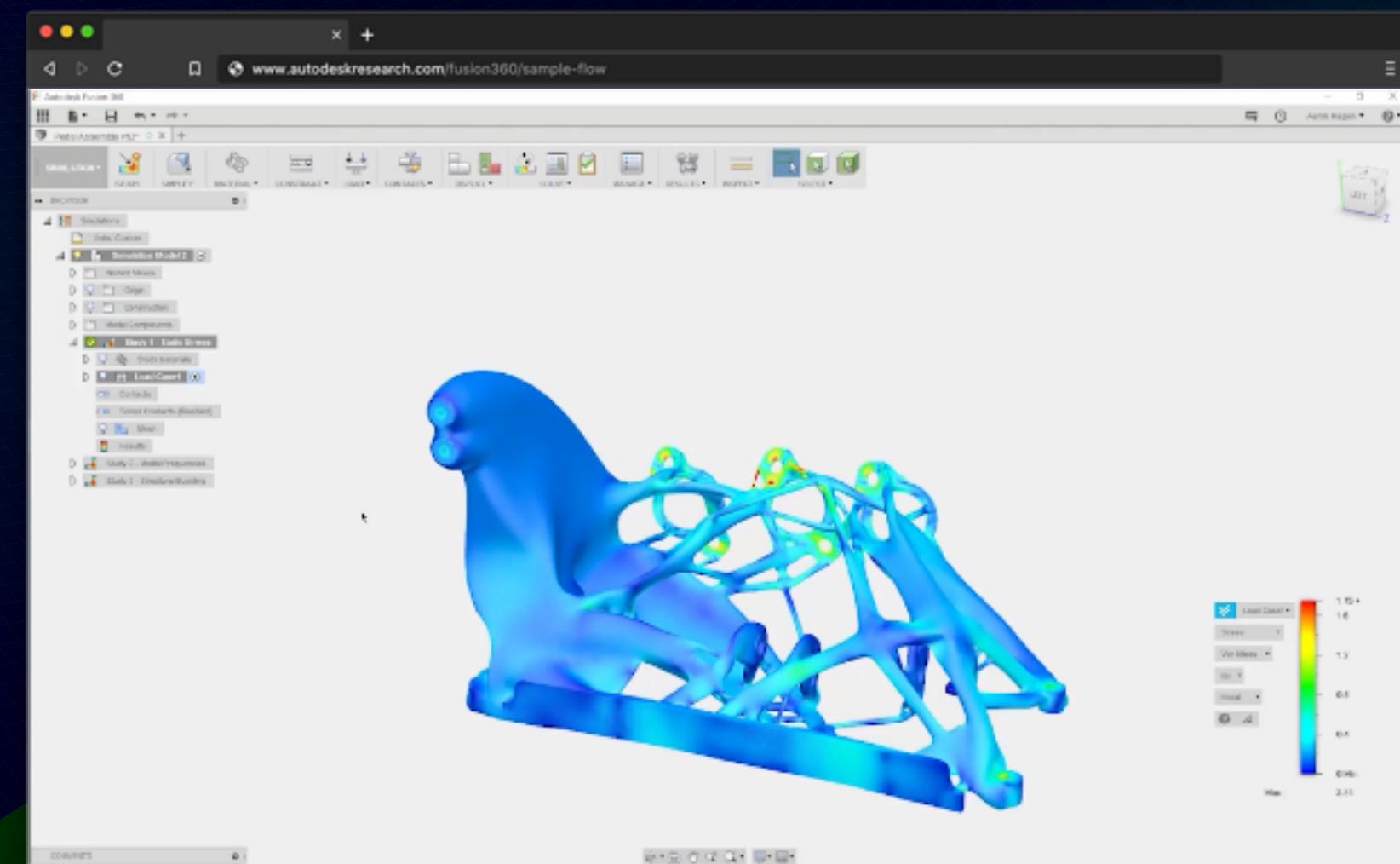
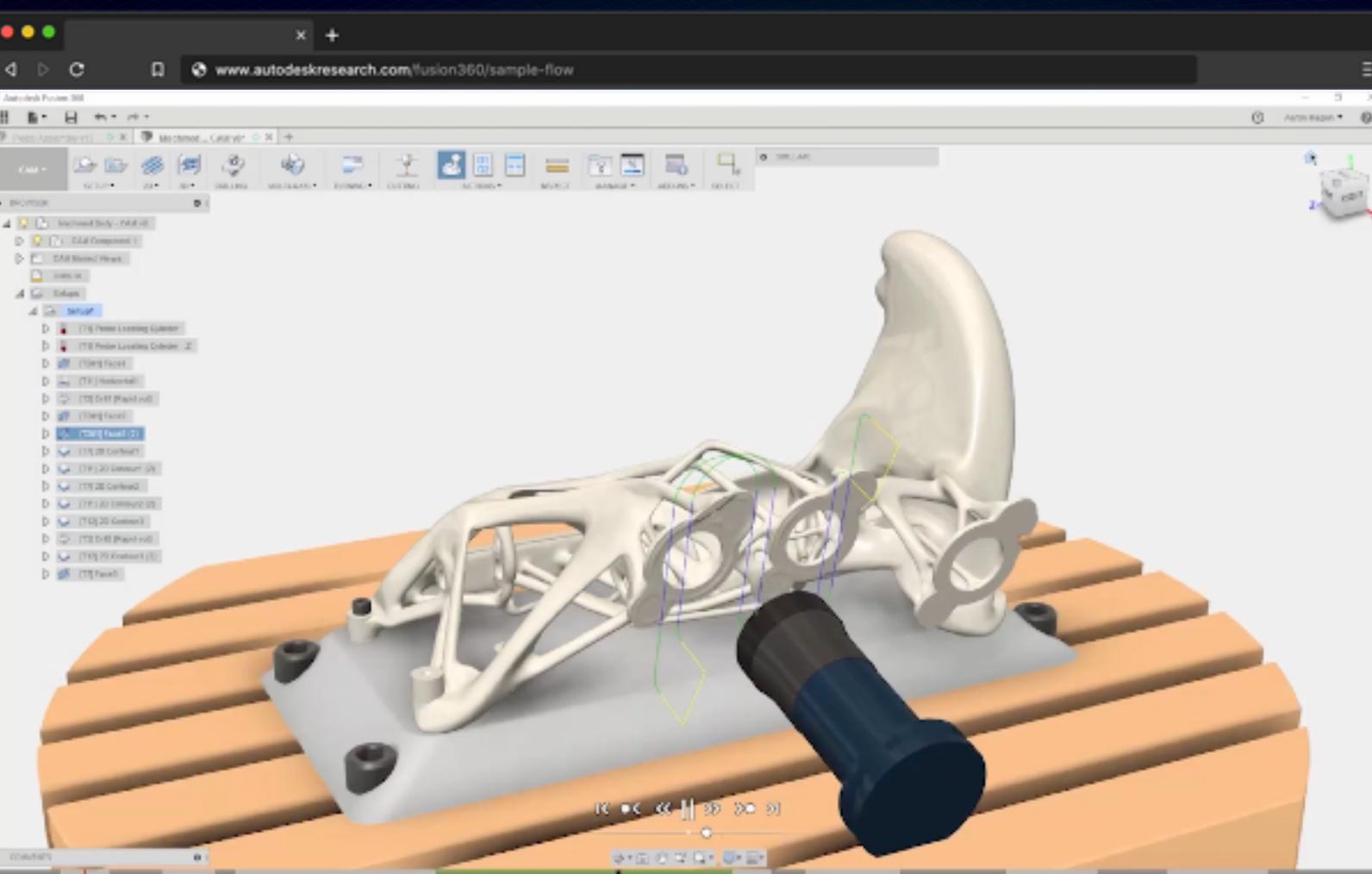
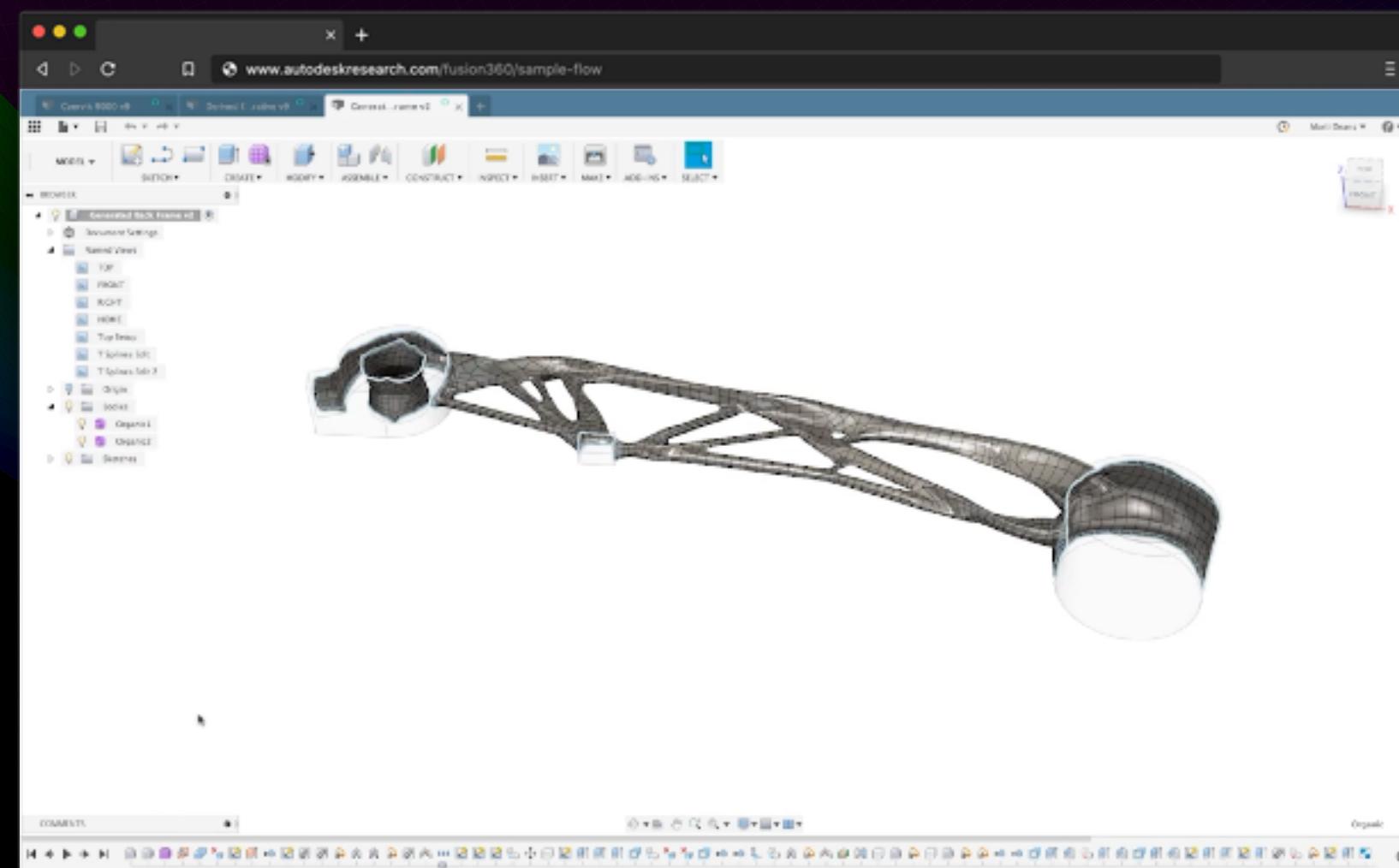
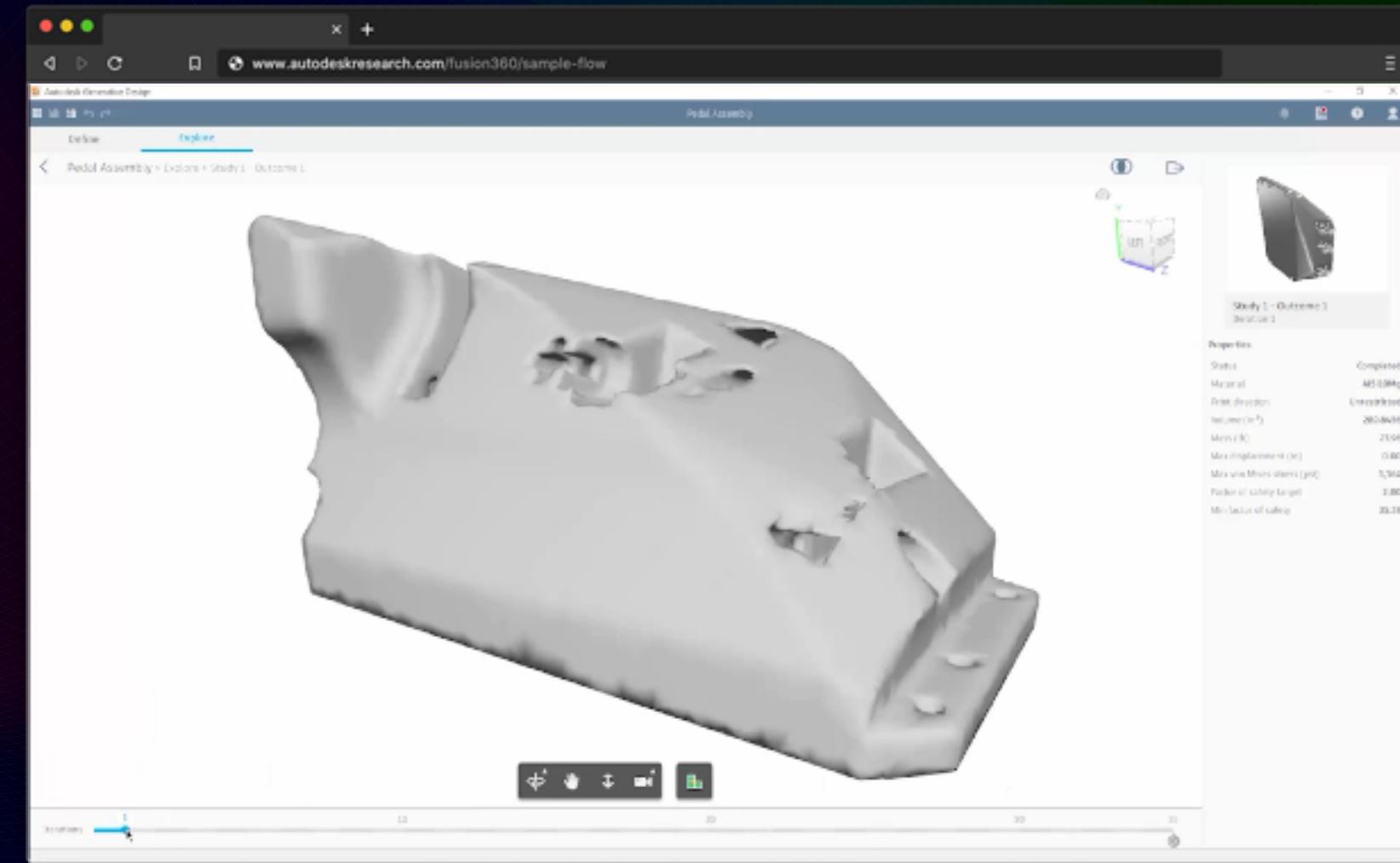
- Simulations
  - Units: Custom
- Simulation Model 2
  - Named Views
  - Origin
  - Construction
  - Model Components
- Study 1 - Static Stress
  - Study Materials
  - Load Case 1
    - Contacts
    - Solver Contacts (Disabled)
    - Mesh
    - Results
- Study 2 - Modal Frequencies
- Study 3 - Structural Buckling



## FULLY INTEGRATED



## DESIGN EXPLORATION



## MACHINE COLLABORATION

## MANUFACTURE SIMULATION

## STRUCTURAL ANALYSIS

— beyond the seamless integrated environment, and human-machine-interplay - this specific example shows 87 components converted to 1 —

# Case Studies

*Pier9 collaboration & Fusion integration*

An advanced beta-test / early release phase. We really needed to:

- Stretch and break the tool
- Be as agnostic as possible to the use-case
- Whilst being as flexible as possible
- Understand limitations before roll-out
- Know what to release and what to hold-back
- Create best solution for integrations, without the complexity
- Validate whether the design philosophy translates easily