

Rocket fin modal analysis – baseline model

Geometry:

- Root chord: 200 mm
- Tip chord: 100 mm
- Span: 150 mm
- Sweep: 50 mm
- Thickness: 3 mm

Mass properties of Trapezoidal_fin_v1
Configuration: Default
Coordinate system: -- default --

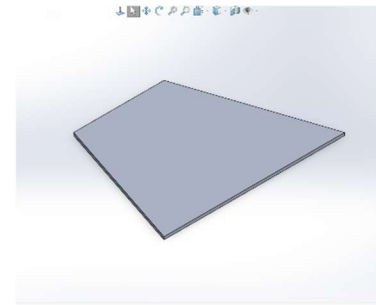
Density = 0.00 grams per cubic millimeter

Mass = 182.25 grams

Volume = 67500.00 cubic millimeters

Surface area = 46848.68 square millimeters

Center of mass: (millimeters)
X = 83.33
Y = 1.50
Z = -50.00



Material:

- 6062 aluminum

Mass:

- 182.25 g

Boundary condition:

- Root face fully fixed

Modal results:

- Mode 1- first bending: 136.19
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- Mode 2- first torsion: 381.54

Mesh check:

- Original mode 1: 136.19 Hz
- Finer mode 1: 136.19 Hz
- Original mode 2: 381.56 Hz
- Finer mode 2: 381.54 Hz
- Conclusion: results did not meaningfully change with a finer mesh.

