

Graphs and CAD: Analyzing the experience of a Mechanical Engineering Intern

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Internship Review

Matt Des Biens

Mechanical Engineering

Leader: Yevgeniy Beygel

Second Year Intern

Overview

- Personal background
- Projects
- Takeaways



Introduction

- Augustana College
 - Rock Island, IL
- Entering Senior Year
- Engineering-Physics Major
 - Math Minor
- Previously Worked in Operations
- Involved in Engineering Society, Choir, and Office of Student Life



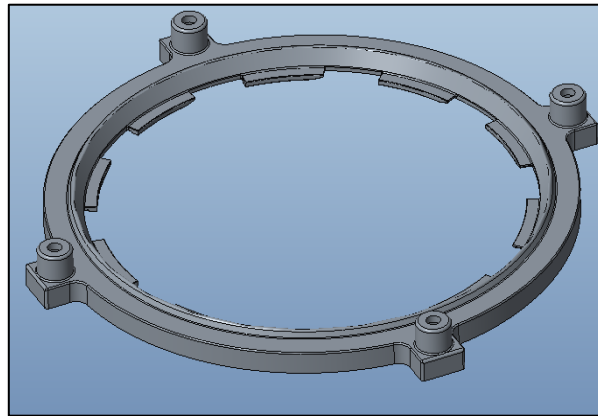
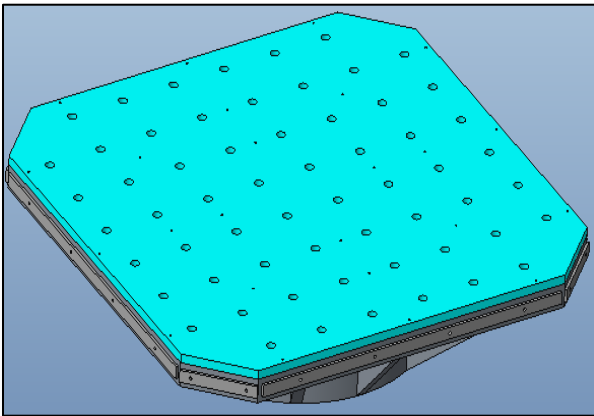
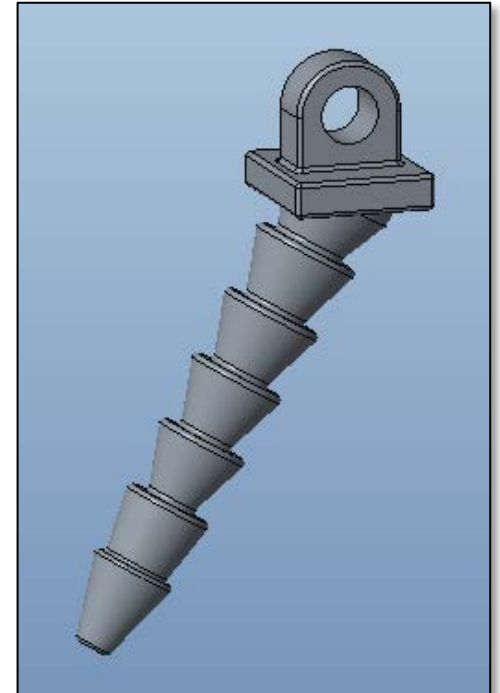
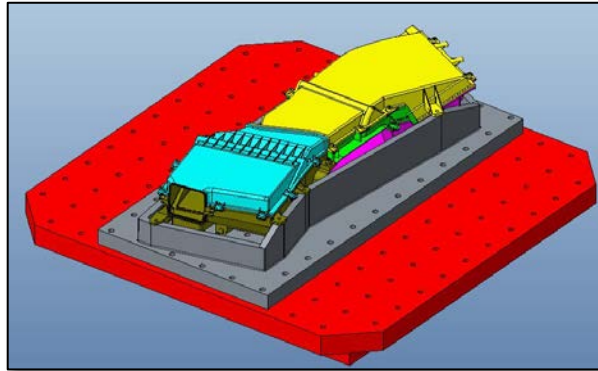
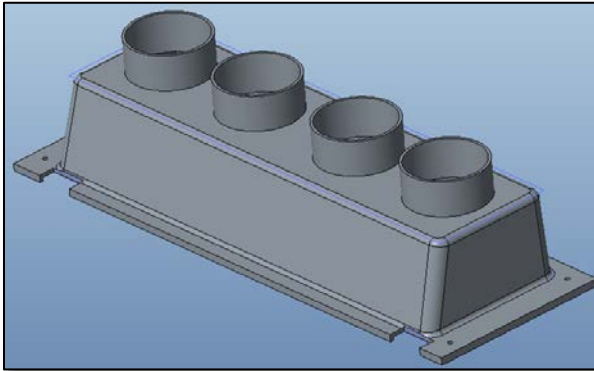
Summary of Projects

- Part Modeling and Design
- Sound Testing
- Vibration and Accelerated Life Testing
- Small Tasks



Part Modeling and Design

- 3D modeled and printed a variety of parts



Sound Testing

- Unit was producing a high pitched sound
- Identify cause and propose a solution
- Tested under different conditions to deduce cause



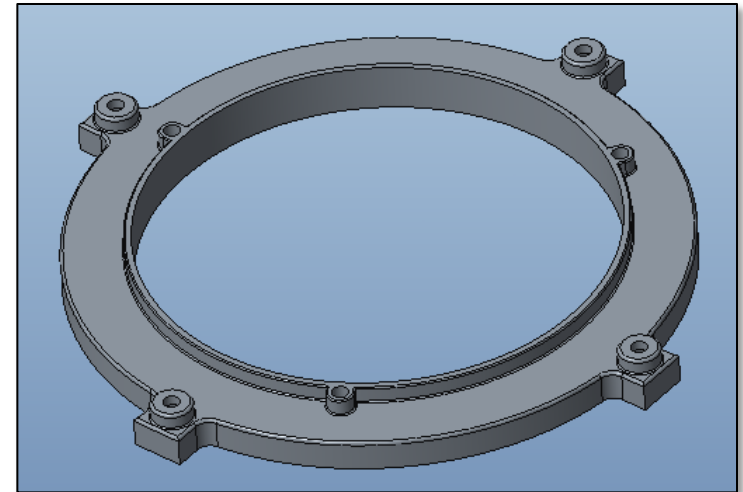
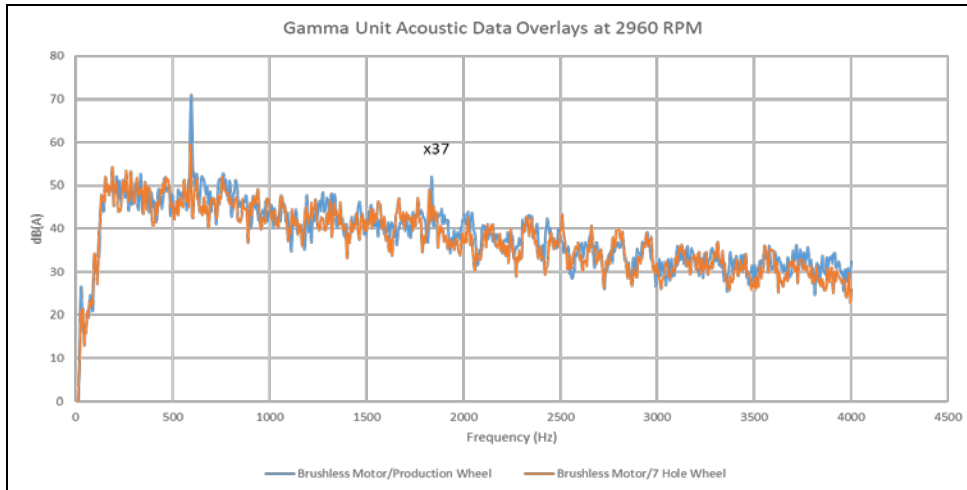
Sound Testing

- Design and 3D print mounting
- Helped with setup, execution, and takedown of testing
- Learned technical problem solving skills



Results

- Combination of multiple factors
- Change input signal form
- Change type of blower wheel



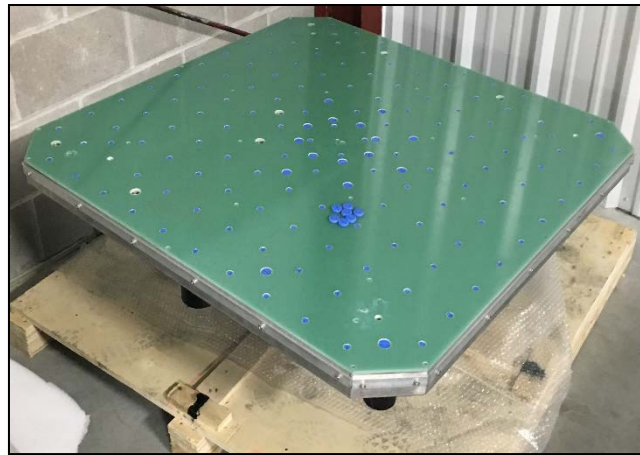
ALT and Vibration Testing

- Worked with new accelerated life testing (ALT) equipment
- Overcame multiple obstacles and set backs
- Helped preform the first in house testing of this kind



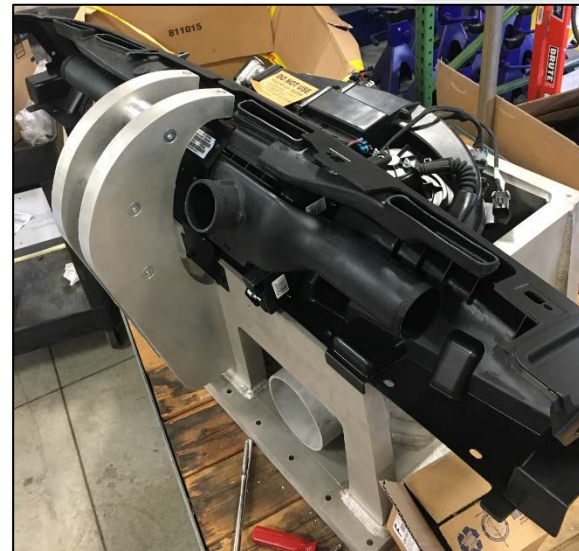
What is ALT and Vibration Testing?

- Simulates structural wear and tear
- ALT Simulates use over time
- Tests for longevity of the unit



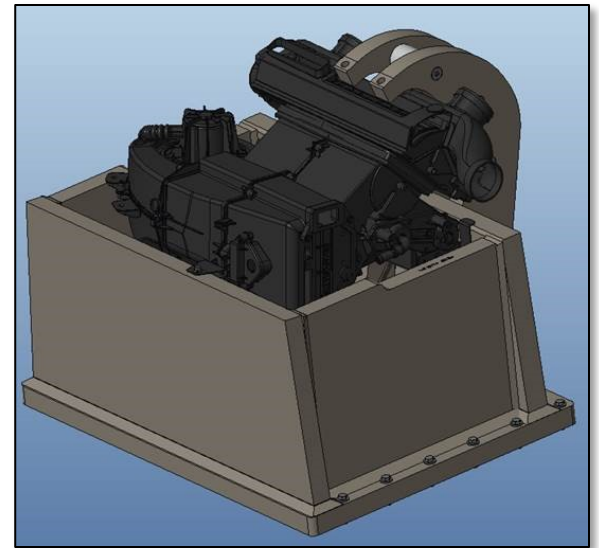
Testing Tasks

- Ran weekly meetings
- Fit up unit and fixture
- Fabricated and modified unit and testing equipment
- Worked throughout the company for help and resources



Setbacks

- Not able to complete project
 - Freezer Probes
 - Broken Armature
 - Keeping up with demand



What I Learned

- Skills

- Improved CREO ability
- Scheduling and tracking a large project
- Organizational Skills
- Fabrication
- Testing and deduction



- Concepts

- Importance of interdepartmental relationships
- Common practices in design and manufacturing
- Working with setbacks
- Importance of ensuring everyone on a team is on the same page

Special Thanks

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