

# RockSat-C Payload Launch

## Project Summary:

The RockSat-C program is a national program, run by the Colorado Space Grant Consortium (CSGC), where students build rocket payloads to complete science missions. The payload is launched in a rocket at Wallops Island and the payload completes its mission as it falls back to earth. The Temple University mission objective is to collect air samples throughout the atmosphere that can then be tested for CFC levels when the payload is recovered. The payload has been designed and manufactured by an SD team and requires minor integration work to be completed. We are required to get the payload fully operational by ship day (5/1/2021) and to oversee the launch preparations.

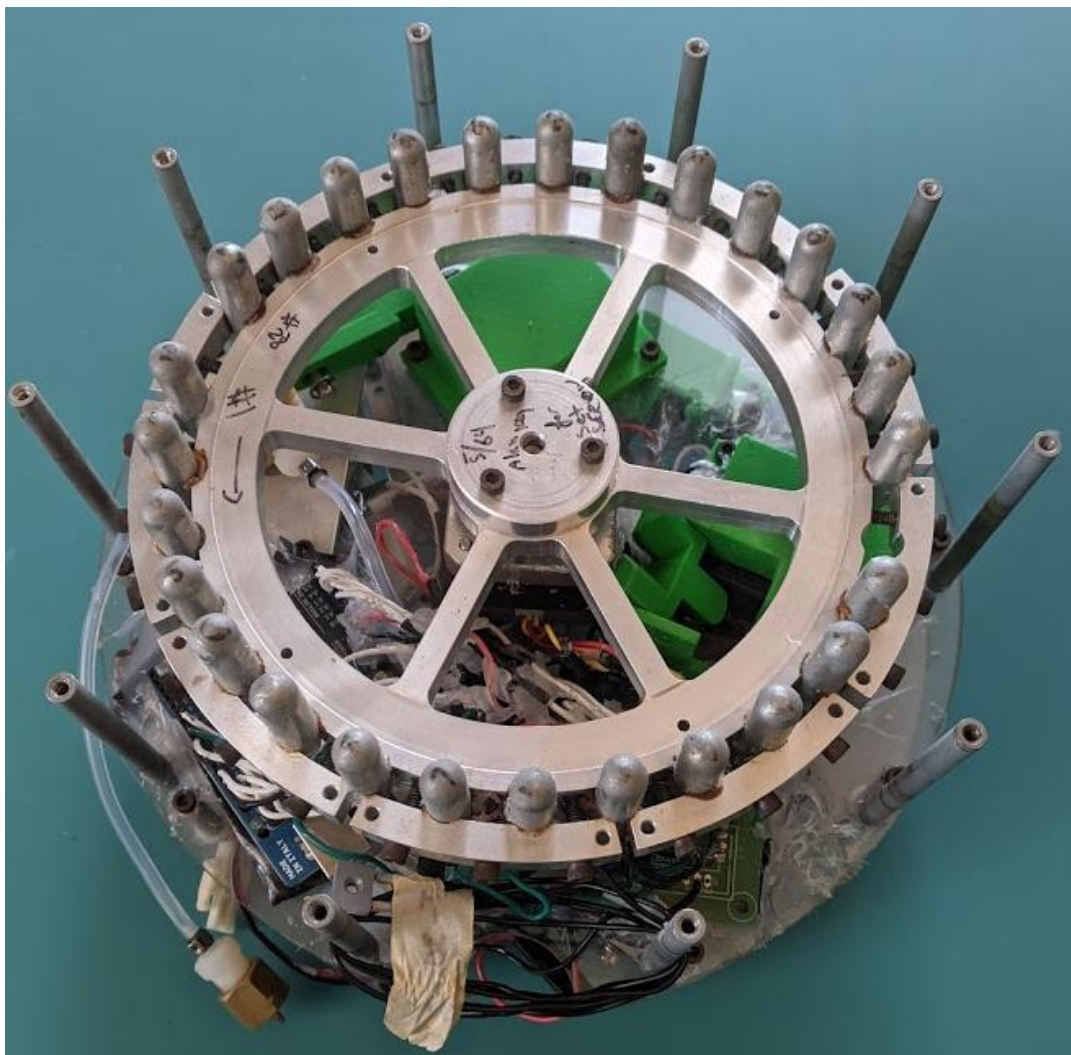
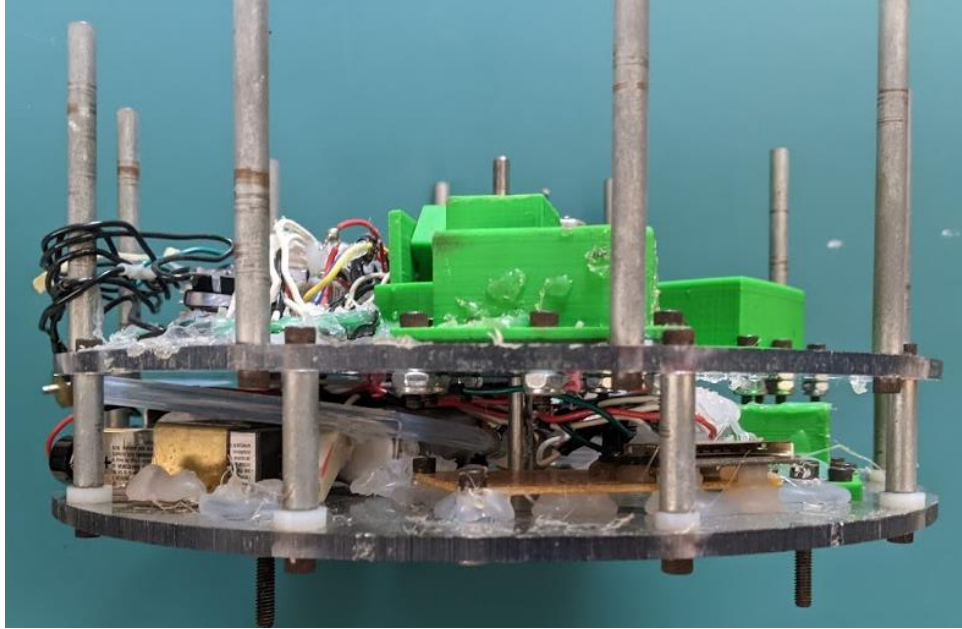
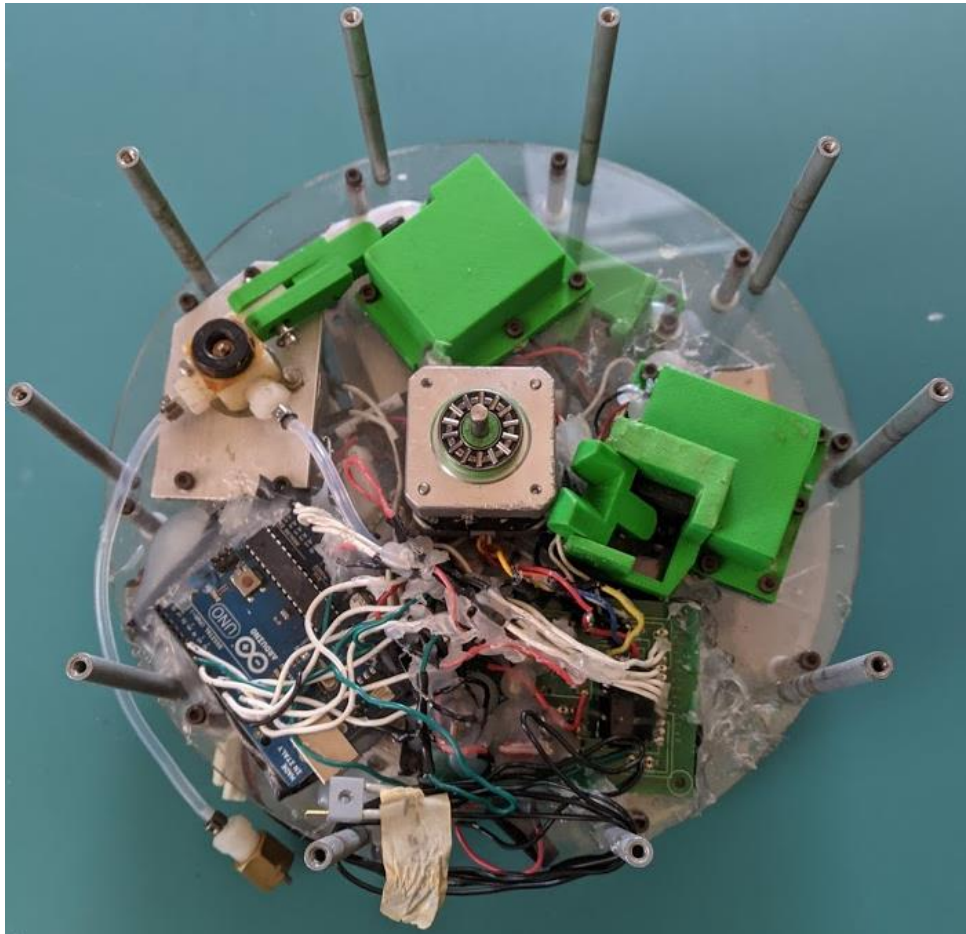


Figure 1. Current payload with sample ring (top view)



*Figure 2. Current payload without sample ring (side view)*



*Figure 3. Current payload without sample ring (top view)*

## Project Details:

### Stakeholder:

Colorado Space Grand Consortium

### Requirements:

The requirements for the project can be viewed in the “SD2 Team B01 Final Documentation.docx” document hosted in the Teams channel. The requirements for testing the payload can be found in the “Full Integration Testing Plan.docx” document.

### Goals:

- Finish system integration of payload
- Create new circuit board for payload electronics
- Perform integration tests
  - Test each subsystem
  - Test full payload as if it was completing mission after rocket launch
- Do any systems engineering reviews not completed by SD team

### Timeline:

There is no real schedule for this project. We will be working until April to get the payload in working order. After April 1<sup>st</sup>, we need to be ready for the absolute last day to ship the payload, May 1<sup>st</sup>. Throughout this work period, we will be meeting with a woman from the CSGC on certain Thursdays from 3-4 EST. These meetings are not weekly but may be monthly.

Date	Project Milestone
4/1/2021	Payload testing should have begun
5/1/2021	Ship payload to Wallops Island
6/24/2021	Payload is launched from Wallops Island

### Important Documents:

- Colorado Space Grant Consortium RockSat-C Homepage  
(<https://spacegrant.colorado.edu/national-programs/rs-c-home>)
  - General webpage for the RockSat-C project. Shows prior missions and pictures of previous payloads
- RockSat-C User Guide  
([https://spacegrant.colorado.edu/images/RockSatC/2020/RSC\\_Users\\_Guide\\_2019-2020\\_RevB.pdf](https://spacegrant.colorado.edu/images/RockSatC/2020/RSC_Users_Guide_2019-2020_RevB.pdf))
  - Manual detailing launch and payload specifications. This is where the requirements for the project are sourced from.
- “SD2 Team B01 Final Documentation.docx” (TEAMS)
  - This is the final Senior Design documentation produced by the 2019-2020 RockSat-C SD team
- “Full Integration Testing Plan.docx” (TEAMS)
  - This document outlines the testing procedure and requirements of the payload. We will have to go through this document and perform the tests laid out by the prior SD team.