



University of Maryland
April 2012 Status Update

HASP 2012: StratoPigeon III

1. Activities of Team Members

A lot of team progress has been made this month. The first test of the detachment mechanism was successfully conducted, initially with test electronics, and later with flight electronics. A more accurate required current draw for the payload weight was determined with this testing. Thermal chamber testing with the mechanical detach system and flight electronics was also conducted. Tests occurred between -50 and 80 degrees Celsius. Successful payload detachments were achieved at -50 and at +80 degrees, without any needed heaters or heat sinks. The payload and electronics were let sit at each temperature for approximately 15 minutes before a drop was attempted. Based on these tests, there will be no active heating or cooling systems on the detach mechanism or electronics external to the dropped payload.

The electronics team, as demonstrated in the team testing, populated and tested all of the flight electronics successfully.

Visual observation of the initial drop tests in various environments also seems to indicate a very straight payload drop, an important factor is safety and risk to the HASP gondola. These observations will be expanded upon in further testing.

2. Issues Encountered During Design

No current issues have been encountered.

3. Milestones Achieved in April

- a. First revision custom electronics populated and tested
- b. Successful electronics testing and design
- c. First test of the mechanical detach system
- d. Thermal testing of flight electronics and detach mechanism (at extreme cold and hot temperatures)

May Target Milestones

- e. Order 2nd revision of custom flight electronics
- f. Machine flight payload box and internal structure
- g. High drop testing (25 ft)

4. Current Team Members and Leaders

Team Members who will be actively participating in our HASP Payload development are as follows:

Dr. Mary Bowden - Faculty Advisor

bowden@umd.edu

301-275-7723

Connie Ciarleglio - Student Lead/Electronics Lead

cciarleg@umd.edu

202-441-0103

Chris Carlsen - Mechanical Systems Lead

rentacop.intern@gmail.com

David Thorig - Ground Software Lead & Testing

davidthorig@yahoo.com

Kristy Weber - Electronics & Operations

kjweber@umd.edu

Lauren Powers - Mechanical Systems and Operations

powersl@terpmail.umd.edu