High Powered Composite Payload
Fairing Rocket for Deployable Robotics

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Competition Background

- Engineering design & flight competition
- Produce Preliminary & Critical Design Reviews
- Develop and deliver launch vehicle and robot
- Competition: Culpepper, VA on April 5, 2014

Vehicle Features

- Fiberglass Fairings
- Carbon Fiber Airframe
- Redundant Recovery Pods
- Solid Rocket Motor
- 3D Printed Mount

Vehicle Numbers

<table>
<thead>
<tr>
<th>Mission Profile</th>
<th>Physical Specs</th>
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<tbody>
<tr>
<td>Apogee</td>
<td>Length Overall 79.5in</td>
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<tr>
<td>Payload Deployment</td>
<td>1200 ft</td>
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<tr>
<td>Motor (54mm) CTI J600</td>
<td>Faring Diameter 7.2in</td>
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<tr>
<td>Stability (dimensions from nose)</td>
<td>Faring Length 17in</td>
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<tr>
<td>Center of Pressure</td>
<td>43.75in</td>
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<tr>
<td>Center of Gravity</td>
<td>34.5in</td>
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<tr>
<td>Stability (Separation)</td>
<td>1.49 (9.25in)</td>
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<tr>
<td>2x 65in Parachutes</td>
<td>35 lbs</td>
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Rocket Flight Sequence

1. Launch
2. Apogee = 1500ft a.g.l., Recovery deployment
3. Rover Deployment = 1100ft a.g.l
4. Landing of rover and rocket
5. Rover travels 10 feet
6. Rover turns 90 degrees
7. Rover travels additional 10 feet

The UAH Space Hardware Club is a volunteer student organization dedicated to the design, development, fabricating, testing, and flying of student engineering hardware, to make students better engineers. Find out more about SHC Projects, and how you can help, at space.uah.edu.

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