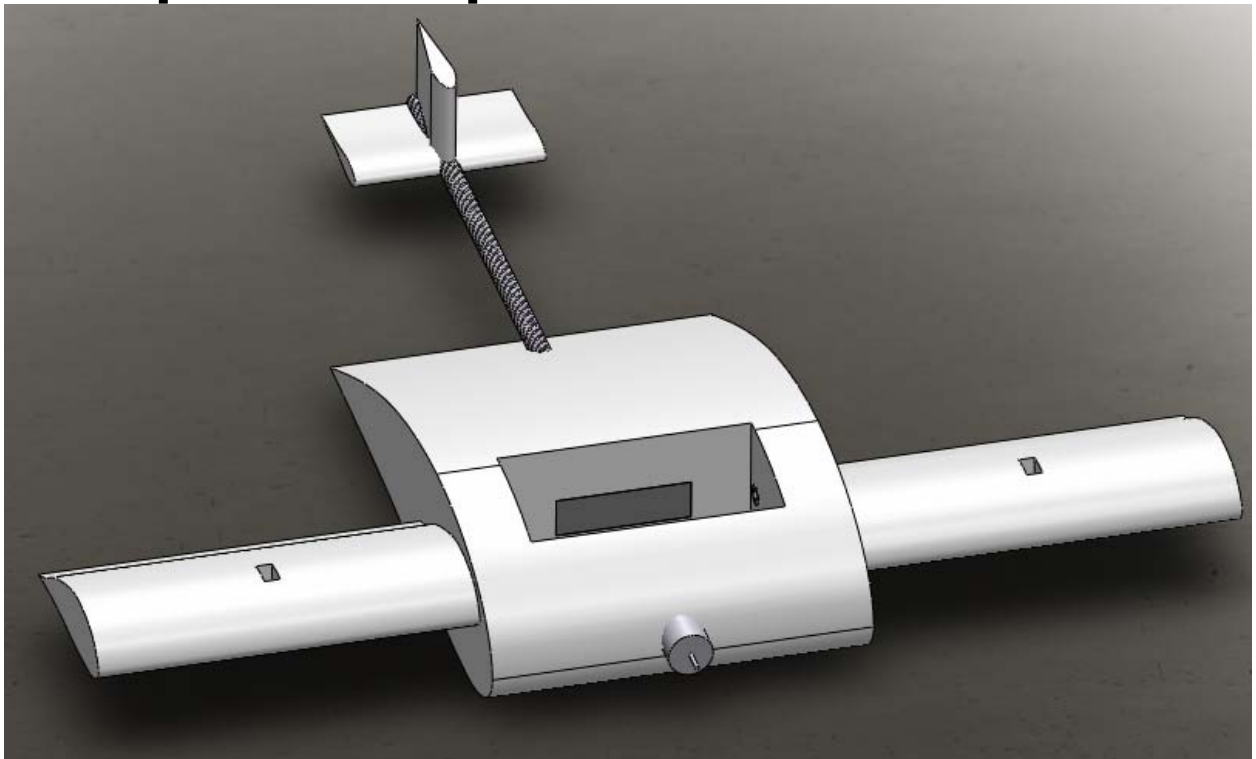




**Arizona State University  
Micro-class AeroDesign Team  
Sponsorship Packet 2008/2009**



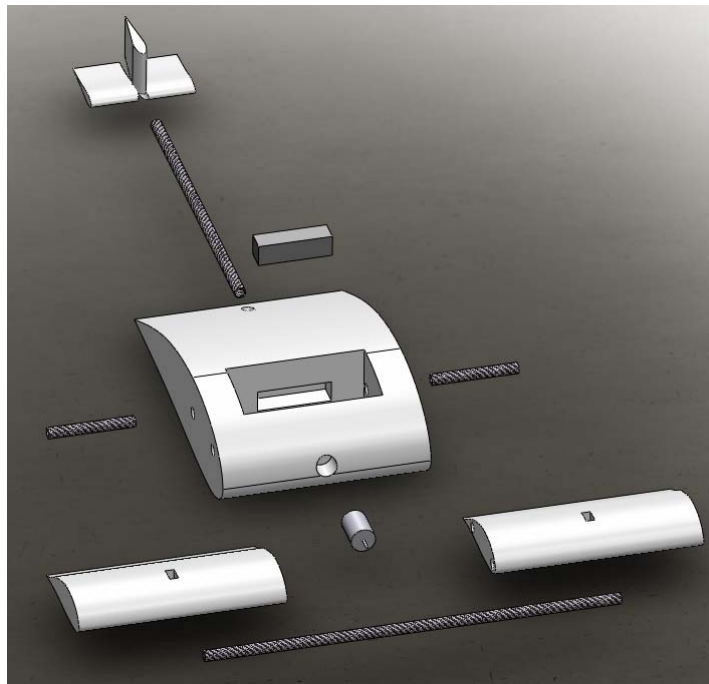
Conceptual design for SAE 2009 competition

## ASU Mechanical Engineering Students Need Your Help!

Sponsors give mechanical engineering students the opportunity to learn and apply practical skills, gain hands-on experience, and compete with their peers from around the world. Your assistance (in any form) creates valuable promotional opportunities for your company and is greatly appreciated by Arizona State University and the senior mechanical engineering design team.

### What is the Unmanned Aerial Vehicle Project?

Every year, senior mechanical engineering students at ASU design and build various projects that exploit the latest in technical innovation. This year, with the help of the Society of Automotive Engineers (SAE), our goal is to undertake the unique challenge of building a micro unmanned aerial vehicle (UAV). The team will compete with the UAV at the 2009 SAE AeroDesign Competition, held March 6th-8th in Van Nuys, CA. The competition requires that the plane have a 8 inch by 4 inch by 3 inch cargo bay that is easily accessible. The plane must also be able to be disassembled and stored in a 20 inch cubic carrying case along with the remote control and all flight batteries. Once the plane is on site it must be extracted from the carrying case and assembled to flight ready condition in less than three minutes. The scoring for all flights is based on the empty weight of the plane and the weight of the cargo it carries. This design criterion places a drive within the competition to build a light plane capable of carrying a heavy payload. We also desire to go above and beyond the design requirements of the competition. The design team will modify the design to encompass the use of a surveillance package or non-lethal package delivery.



Exploded view of parts for SAE 2009 competition

## Insight

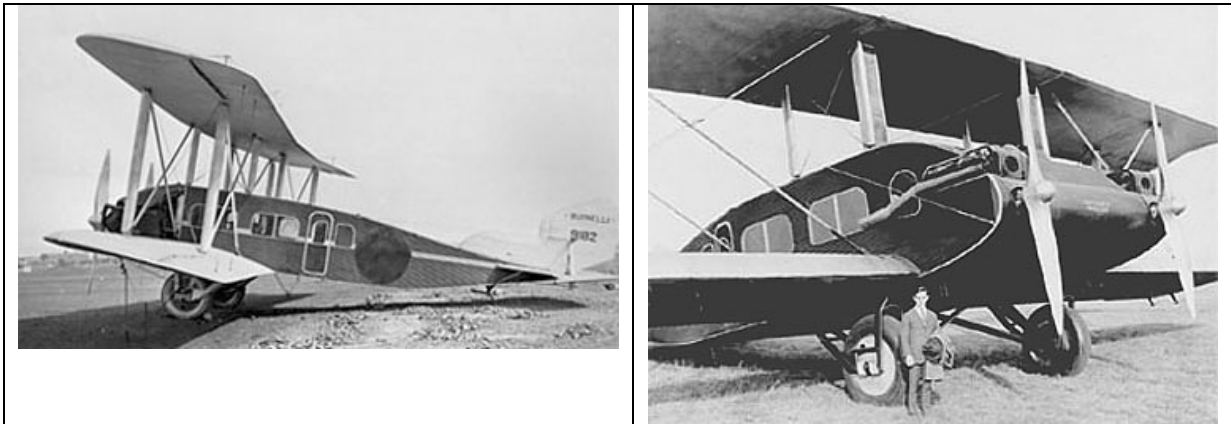
The AeroDesign team is comprised of four handpicked and highly motivated engineering students. With diverse backgrounds and years of rigorous training from the esteemed Department of Mechanical and Aerospace Engineering at ASU, each member brings a unique perspective and set of talents to the project. Members of the team combine forces to attack the complex problem with innovative design, sharp business acumen, systems engineering, and project management skills. This translates to an efficient and robust design that is sure to proudly represent Arizona State University and all of its sponsors.

## Design

The design team has chosen a lifting body configuration for this year's competition. The lifting body serves a dual purpose. The first purpose it serves is to create a large interior cargo space which is needed to fit the competition required cargo. The second purpose is that the body provides half of the overall lift of the plane. The lift created by the body is made possible by the sharp edges on the body. This feature creates the boundary layer separation between the low pressure and the high pressure to produce lift, without which the plane would experience a hard stall from moderate angles of attack. The AeroDesign team has also decided to use an electric motor. This choice was made based on the fact that a battery does not create a continuously changing center of gravity, like a gas powered motor would.

## Exposure and Company Benefits of Sponsorship

Your generous tax-deductible donation will help ensure the success of our design team and give students the opportunity to showcase their knowledge and talents acquired during their education. As a sponsor, you will get personal, first-hand exposure to some of the highest caliber engineering students that ASU has to offer. This provides you with a great opportunity to get involved with many of the department's clubs and organizations and forge long-lasting relationships with the engineers of the future.



Bernoulli RB-2 was our inspiration

Regardless of your donation amount, we will place a sticker of your company name and logo on the vehicle in a conspicuous spot. The AeroDesign team will be attending many events throughout the year and its unique design is sure to demand a lot of attention, ensuring maximum exposure of your logo and your company's commitment to driving innovative technologies. By contributing to the ASU AeroDesign project, your company will be benefiting the education and leadership qualities of ASU students through practical hands-on experience in engineering and business fields. Your tax-deductible\* donation will go to more than just building a UAV, it will go towards building better students, better engineers, and a better tomorrow for all of us!

## Sponsorship Tiers and Benefits

We have three great opportunities for sponsorship. All sponsors will have their name listed on our sponsor board, which is displayed at all of our events.

### Maroon Sponsor - \$500

- Small Company logo displayed prominently on aircraft (approx. 12 sq. in)

### Gold Sponsor - \$1000

- Medium size Company logo on aircraft (approx. 24 sq. in)
- Company visit by ASU design team with the aircraft

### Title Sponsor - \$2,500

- Largest size company logo (approx 48 sq. in) displayed prominently on aircraft – Maximum exposure!
- Interactive flying seminar with the vehicle and photo opportunity
- Company name incorporated into aircraft name
- Largest logo on our sponsor board
- Only one Title Sponsor will be allowed per year

The ASU AeroDesign team looks forward to hearing from you and working with your company to fit into one of our sponsorship categories. Sponsorships do not need to be monetary. We welcome contributions of materials, tools, talent, shop facilities, parts, or anything that your company has and is willing to offer. Additionally, we are more than happy to work within your budget constraints.

Please feel free to ask us about our program, the benefits to the students and the benefits to yourself as a potential sponsor. We are eager to work with you to find an opportunity that benefits both of us! We are bright, talented, and enthusiastic, but need your support to make our goals a reality. We are excited about our future and hope that you can cross the finish line with ASU!

## Closing

The AeroDesign team and Arizona State University would like to thank you for taking the time to read through our sponsorship packet. We are very excited about the opportunity to work with you and discuss the ways in which we can both benefit greatly from our relationship. Thank you in advance for your contributions.

Sincerely,

The AeroDesign Team and Arizona State University

## Contact Information

Brett Glenn  
Team Captain  
bdglenn@asu.edu  
(480) 294-5718

Kenneth Huebner  
Faculty Advisor  
Kenneth.Huebner@asu.edu  
(480) 727-0102



