

The 2009 Cessna Aircraft Company/Raytheon Missile Systems Design/Build/Fly Competition Flyoff was held at TIMPA Field in Tucson, AZ on the weekend of April 17-19, 2009. This was the 13th year the competition was held. A total of 54 teams submitted written reports to be judged. 41 teams attended the flyoff, 39 of which completed the technical inspection. Approximately 600 students, faculty, and guests were present. Near ideal weather allowed for near non-stop flights to be conducted each day. Of the 133 official flight attempts, 49 resulted in a successful score divided among 32 teams. The quality of the teams, their readiness to compete, and the execution of the flights continues to improve each year.

The first two mission objectives for this year were to fly a high-drag payload, a simulated external fuel tank, both empty at high speed and full for endurance. The third mission was to fly an asymmetric load of wing stores, simulated missiles. The flight score was the sum of the three flight scores. In addition to the flight tasks, teams had to design their complete system for the minimum weight with a constrained package size, and were timed on how quickly they could prepare their aircraft for flight. As usual, the total score is the product of the flight score and written report score. More details can be found at the competition website: http://www.ae.uiuc.edu/aiaadbf

The top places were taken by teams from two universities: Oklahoma State University and The University of Southern California. Oklahoma State University Team Black scored first place with an excellent written report score, very low System Complexity Factor score, and successful scores for all three flight Missions. Oklahoma State University Team Orange finished in Second place, and The University of Southern California team Turbo Encabulator finished in Third. A new feature for the contest was the Design Engineering TC sponsored award for the Best Paper Score, which was won by the Wichita State University sUAVe entry with a score of 97.50. The complete standings are listed in the table below.

The fastest pre-mission assembly was 11.60 seconds by OSU Team Black. That surprised us. But then, the students always surprise us. The asymmetric loading mission was a challenge, as expected, with only three teams successfully completing the mission; OSU Team Black, USC team Turbo Encabulator and Georgia Tech Team Buzzed. Note that this year the difference between 2nd and 3rd place was a higher report score, not a higher flight score. This confirms the importance the contest places on a teams ability to document their design work as well as demonstrate successful flight performance.

Raytheon Missile Systems hosted another great DBF event. We owe our thanks for the success of the DBF competition to the efforts of many volunteers from Cessna Aircraft, Raytheon Missile Systems, the Naval Research Lab, and the AIAA sponsoring technical committees: Applied Aerodynamics, Aircraft Design, Flight Test, and Design Engineering. These volunteers collectively set the rules for the contest, publicize the event, gather entries, judge the written reports, and organize the flyoff. Thanks also go to the Corporate Sponsors: the Raytheon Missile Systems, Cessna Aircraft, and the AIAA Foundation for their financial support.

Finally, this event would not be nearly as successful without the hard work and enthusiasm from all the students and advisors. If it weren't for you, we wouldn't keep doing it.

Greg Page For the DBF Governing Committee

2009 Design/Build Fly Competition Final Results

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University of Kentucky BIGBLUE Flyer 72.50 107.80 0.05 0.2 0.0 0.02 13 University of Arizona Up To No Good 56.25 133.80 0.05 0.2 0.0 0.0 0.2 11 Wichita State University Suave 97.50 25.90 0.00 0.0	University of Strathclyde Glasgow	The Claymore Pigeon	91.00	86.30	0.18	0.6	0.0	0.0	0.6	53
University of Arizona Up To No Good 56.25 133.80 0.05 0.2 0.0 0.0 0.2 11 Wichita State University Suave 97.50 25.90 0.00 0.0	Turkish Air Force Academy	Cevheri	67.00	74.30	0.14	0.3	0.0	0.0	0.3	18
Wichita State University Suave 97.50 25.90 0.00 0.0	University of Kentucky	BIGBLUE Flyer	72.50	107.80	0.05	0.2	0.0	0.0		13
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University of Arizona Team Attack Cat 53.23 999.00 0.0	University of Alabama	Team Subsonic Shocks	65.00	999.00	0.00	0.0	0.0	0.0	0.0	0
Washington State University Team HellCoug 39.00 999.00 0.00 0.0 0.0 0.0 0.0 0.0	University of Arkansas	Flying Razorbacks	59.00	999.00	0.00	0.0	0.0	0.0	0.0	0
	University of Arizona	Team Attack Cat				0.0	0.0	0,0	0,0	
City College of New York Joe Carty 30.85 999.00 0.00 0.0 0.0 0.0 0.0 0.0	Washington State University	Team HellCoug	39.00	999.00	0.00	0.0	0.0	0.0	0.0	0
	City College of New York	Joe Carty	30,85	999,00	0.00	0.0	0,0	0.0	0.0	0