



Cessna Aircraft Company Raytheon Missile Systems AIAA Foundation

The 2008 Cessna/Raytheon Missile Systems Design/Build/Fly Competition Flyoff was held at Cessna Field in Wichita, KS on the weekend of April 18-20, 2008. This was the 12th year the competition was held, and participation continued to increase from past years. A total of 60 teams submitted written reports to be judged. At least 51 teams attended the flyoff, 47 of which completed the technical inspection. Approximately 600 students, faculty, and guests were present. Near ideal weather allowed for non-stop flights to be conducted each day. Of the 166 official flight attempts, 55 resulted in a valid score. In almost every respect, the quality of the teams, their readiness to compete, and the execution of the flights was better than in any past flyoff. A historical perspective of participation is shown below.

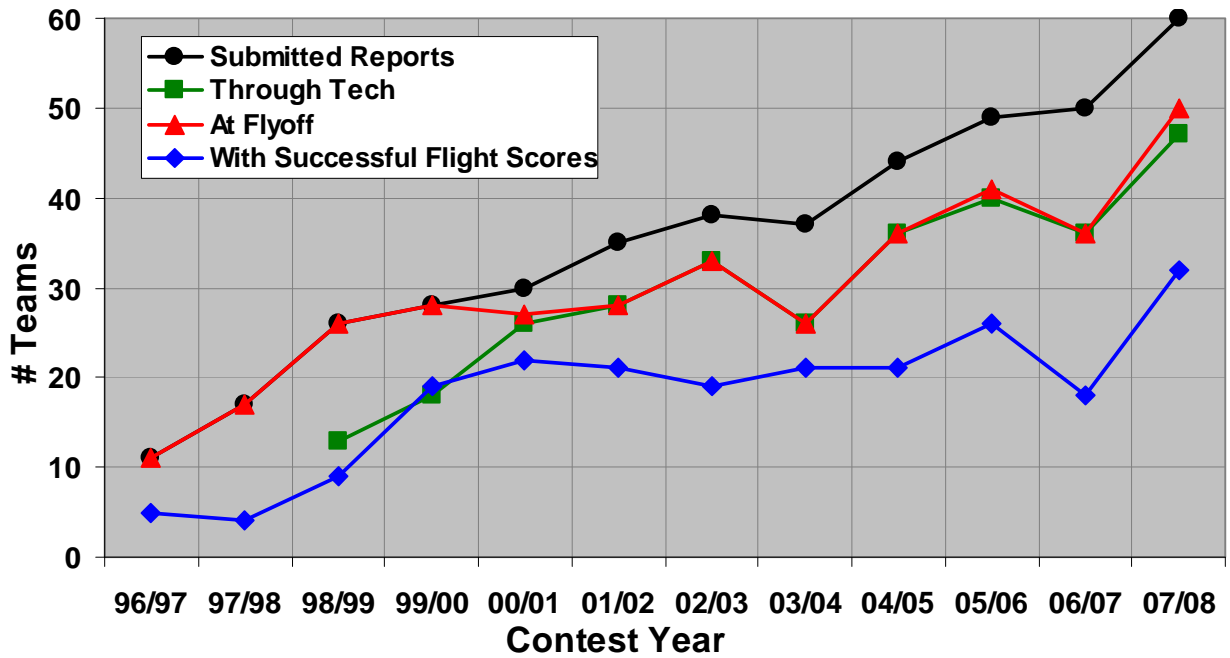
The primary design objective for this year was to accommodate a random payload combination composed of passengers (1/2 liter water bottles) and cargo pallets (1/2 size bricks). A delivery flight was first required, where the airplane was flown with no payload. The flight score was determined by the number of laps flown in a five minute period, divided by the battery pack weight for that flight. For the payload flights, teams were assigned a payload manifest determined at random, and the payload loading was timed. The airplane then had to fly two laps of the course to make the score valid. The payload flight score was determined by the inverted product of the loading time, battery weight, and empty weight. Total flight score was the sum of the delivery flight score plus up to two payload flight scores. 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/aiaadbfbf>

The top places were taken by teams from two universities: Oklahoma State and U. Texas at Austin. OSU Team Black scored first place with an excellent written report score, very low System Weight, and two of the top three flight scores. UT Austin Team Hornworks scored second, and OSU Team Orange was third. The top report score of 98% was achieved by Wichita State University Team AeroShock, and the lowest System Weight was built by Massachusetts Institute of Technology Team Cardinal. The complete standings are listed in the table below.

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. Special thanks go to Cessna Aircraft for hosting the flyoff this year.

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.

David Levy
For the DBF Governing Committee



DBF Competition Historical Participation

2008 AIAA Design/Build/Fly Competition Final Results

Positions	University	Entry Name	Paper Score	RAC (System Wt)	Delivery Flight	Payload Flight #1	Payload Flight #2	Total Flight Score	Total Score
1	Oklahoma State University (STW)	OSU Team Black	94.75	3.17	50.00	50.00	45.67	145.67	13801.8
2	University of Texas at Austin	The Hornworks	84.50	3.42	42.50	35.80	22.96	101.26	8556.6
3	Oklahoma State University (STW)	OSU Team Orange	94.75	4.00	44.74	24.75	0.00	69.48	6583.4
4	University of Texas at Austin	"Orange Bullet"	87.50	3.68	49.04	17.10	0.00	66.14	5787.0
5	University of Colorado – Boulder	Air Buffs A420	94.50	5.79	24.64	13.87	20.70	59.21	5595.4
6	Istanbul Technical University	ATA - 9	91.00	5.13	24.43	11.12	17.35	52.89	4813.4
7	Georgia Institute of Technology	Team "Sierra Hotel"	90.00	6.89	34.00	16.09	0.00	50.09	4507.7
8	Wichita State University	AeroShock	98.00	5.79	31.78	6.19	6.72	44.69	4379.2
9	Massachusetts Institute of Technology	Concrete	96.50	3.15	42.50	0.00	0.00	42.50	4101.3
10	University of Southern California	Mad SCillz	91.75	4.69	39.84	0.00	0.00	39.84	3655.7
11	University of California, San Diego	TLAR IX: Cursor	91.00	5.19	25.28	5.07	8.71	39.05	3553.6
12	Purdue University	Shadow Drag	97.00	3.10	30.36	0.00	0.00	30.36	2944.6
13	California Polytechnic – San Luis Obispo	Tamland & Friends	85.50	8.77	20.24	3.05	3.66	26.95	2303.9
14	West Virginia University	WVU BLUE	85.75	6.66	25.95	0.00	0.00	25.95	2225.6
15	Wichita State University	Wu Haul	93.50	6.27	20.90	2.77	0.00	23.67	2213.3
16	University of California Irvine	Zot Airlines	82.00	5.35	25.30	0.00	0.00	25.30	2074.4
17	Technion - Israel Institute of Technology	Bottlefly	88.50	7.00	19.38	0.00	0.00	19.38	1715.2
18	University of Washington	The Growler	89.00	6.05	18.61	0.00	0.00	18.61	1656.6
19	Massachusetts Institute of Technology	Cardinal	95.50	2.81	17.00	0.00	0.00	17.00	1623.5
20	Cal Poly Pomona	Margin of Doom	96.50	7.73	16.59	0.00	0.00	16.59	1600.5
21	Washington State University – Pullman	CougAir	74.00	5.38	16.56	0.00	0.00	16.56	1225.3
22	The Pennsylvania State University	Spirit of Happy Valley	75.50	6.18	15.96	0.00	0.00	15.96	1205.2
23	University of Arizona	Phlying Fugoid	88.00	7.35	12.62	0.00	0.00	12.62	1110.9
24	ISTANBUL TECHNICAL UNIVERSITY	UçArı	83.50	7.15	12.78	0.00	0.00	12.78	1067.3
25	University of Central Florida	UCF Airways	70.20	8.31	13.84	0.00	0.00	13.84	971.8
26	Virginia Polytechnic	Quadrilateral Collateral	82.00	7.00	10.97	0.00	0.00	10.97	899.4
27	The University of Oklahoma	FLW	81.00	11.30	10.69	0.00	0.00	10.69	866.0
28	Rensselaer Polytechnic Institute	Rensselaer Redhawks	88.00	5.86	8.95	0.00	0.00	8.95	787.4
29	Auburn University	The Planesman	84.00	9.00	6.53	1.21	1.31	9.05	760.3
30	University of Illinois at Urbana Champaign	Colbert Force One	83.50	8.81	3.59	0.00	0.00	3.59	299.5
31	University of Utah	Team Str Plane	23.50	10.89	7.52	0.52	0.58	8.62	202.6
32	The Pennsylvania State University	Nittany AirLions	82.00	8.72	1.88	0.00	0.00	1.88	153.9
33	Rose-Hulman Institute of Technology	Flying Elephants	47.00	11.88	2.66	0.00	0.00	2.66	125.2
34	Western Michigan	Pegasus	83.00	4.77	0.00	0.00	0.00	0.00	0.0
35	University of Florida	Swamp Thing	86.25	5.97	0.00	0.00	0.00	0.00	0.0
36	Saint Louis University	Parks Aircraft Inc.	50.50	6.06	0.00	0.00	0.00	0.00	0.0
37	Case Western Reserve University	Optimist Prime	74.00	6.94	0.00	0.00	0.00	0.00	0.0
38	West Virginia University	WVU GOLD	84.00	7.30	0.00	0.00	0.00	0.00	0.0
39	San Diego State University	Aztecs	87.00	9.01	0.00	0.00	0.00	0.00	0.0
40	University of Strathclyde	The Tartan Specials	82.00	9.07	0.00	0.00	0.00	0.00	0.0
41	TURKISH AIR FORCE ACADEMY	CEVHERI	71.00	9.11	0.00	0.00	0.00	0.00	0.0
42	University of Tennessee - Knoxville	VOLocity	69.50	10.67	0.00	0.00	0.00	0.00	0.0
43	University at Buffalo SUNY	The Coefficient of Uncontrollable	77.50	11.79	0.00	0.00	0.00	0.00	0.0
44	University of Texas at Arlington	Maverick 5000	79.50	11.90	0.00	0.00	0.00	0.00	0.0
45	University of Arkansas at Fayetteville	Discovery	40.33	12.60	0.00	0.00	0.00	0.00	0.0
46	Daniel Webster College	Elephant Chipmunk	84.50	13.75	0.00	0.00	0.00	0.00	0.0
47	University of Maryland, College Park	Team Cheburashka	91.50	15.28	0.00	0.00	0.00	0.00	0.0
48	UNIVERSITY OF LJUBLJANA	EDVARD RUSJAN SLOVENIAN TEAM	86.50	9999.00	0.00	0.00	0.00	0.00	0.0
49	Middle East Technical University	Anatolian Craft - 08	81.00	9999.00	0.00	0.00	0.00	0.00	0.0
50	The University of Alabama, Tuscaloosa	Team Sabanator	76.00	9999.00	0.00	0.00	0.00	0.00	0.0
51	Embry-Riddle AZ campus	Atsah	74.00	9999.00	0.00	0.00	0.00	0.00	0.0
52	Clarkson University	KnightHawk	73.50	9999.00	0.00	0.00	0.00	0.00	0.0
53	Arizona State University	Air Devils	71.83	9999.00	0.00	0.00	0.00	0.00	0.0
54	Mississippi State University	Will It Blend?	60.75	9999.00	0.00	0.00	0.00	0.00	0.0
55	Syracuse University	Flying Orange	57.25	9999.00	0.00	0.00	0.00	0.00	0.0
56	City College of New York, CUNY	Sky City	52.55	9999.00	0.00	0.00	0.00	0.00	0.0
57	Columbia University	CU AirLions	51.50	9999.00	0.00	0.00	0.00	0.00	0.0
58	Ohio Northern University	Tundra Flyers	49.00	9999.00	0.00	0.00	0.00	0.00	0.0
59	University of Alabama in Huntsville	UAH AIAA ALPHA TEAM	28.00	9999.00	0.00	0.00	0.00	0.00	0.0
60	San Jose State University	Spartan Stealth	9.00	9999.00	0.00	0.00	0.00	0.00	0.0



Thanks to Mike Metheny for the team and airplane photos

First Place Winner: Oklahoma State University Black Team.



Thanks to Mike Metheny for the team and airplane photos

Second Place Winner: University of Texas at Austin: The Hornworks.



Thanks to Mike Metheny for the team and airplane photos

Third Place Winner: Oklahoma State University Orange Team.