

GOAL ORIENTED AERODYNAMIC DESIGN OF A NEW ACROBATIC AIRCRAFT

Jozsef Rohacs

Budapest University of
Technology and Economy

Budapest (Hungary)

jrohacs@rht.bme.hu

Arpad Veress

Budapest University of
Technology and Economy

Budapest (Hungary)

averess@rht.bme.hu

Istvan Jankovics

Rea-Tech Ltd.

Budapest (Hungary)

ijankovics@rea-tech.eu

Andras Voloscsuk

Corvus Aircraft Ltd.

Ballószög (Hungary)

andras.voloscsuk@corvus-aircraft.com

Csaba Farkas

Corvus Aircraft Ltd.

Ballószög (Hungary)

csaba.farkas@corvus-aircraft.hu

Abstract: The Red Bull organizing the Red Bull Air Race gave a contract to Corvus Aircraft Co. for developing and producing a new acrobatic aircraft. Because the limited time given by principal the Corvus Aircraft Co. had organized a special team from experts for solving the design problems in time. The group of experts had decided to use the goal and object oriented design process that contains

- the application of the conventional design process,
- identification of the goal and object oriented requirements and peculiarities of the special acrobatic aircraft targeting to design and
- improvement of the conventionally designed aircraft to meet the defined requirements.

There was developed a special software for aerodynamic design of the given type of acrobatic aircraft and the CFD technology was developed and applied for the investigation of the defined peculiarities and new solutions

The lecture gives information about the developed software and shows the results of the CFD investigations. Finally the aerodynamic characteristics of the Corvus Racer 540 will be figured. The new aircraft has produced, passed the flight tests and will be used in Red Bull Air Race within some months.

The program was supported by the National Developing Agency, too.

Keywords: aerodynamic design, acrobatic aircraft



Corvus Racer 540 during the test flights