PRESS RELEASE
Tuesday 19 December 2017

Sonaca Aircraft performs static and fatigue analysis on the Sonaca 200 with the support of Sonaca's "Numerical Methods" team

News:

- Static and fatigue analysis on the Sonaca 200 has been performed under Sonaca's SONIA virtual sizing environment
- Sonaca Aircraft is currently in the final phase of the Sonaca 200 flight test programme
- The delivery of the first Sonaca 200's is scheduled for the beginning of 2018

The static and fatigue analysis for the Sonaca 200, a single-engined two-seater designed for training and leisure flights, were undertaken entirely within the SONIA environment[1]. SONIA is a structural computing environment that has been developed by the aerospace equipment manufacturer Sonaca, and embed:

- the best computation software using the finite element method (SAMCEF, ABAQUS or NASTRAN);
- sizing methods developed over more than 40 years by Sonaca's design office.

"SONIA automates and standardises our sizing process. It covers structure idealisation, load application, launch of analyses as well as result post-processing according to design requirements", explains Albert-Paul Gonze, Head of Sonaca's "Numerical Methods" team.

SONIA: a proven environment

This approach has been developed over more than 15 years and has been validated by numerous tests. It is used for certifying Sonaca aircraft. It allows innovation in the design of aircraft and more efficiency in terms of weight reduction. "SONIA is able to solve very complex problems such as impact resistance, de-icing, non-linear behaviour, large deformation, fatigue analysis and damage tolerance, etc.", Albert-Paul Gonze says.

The Sonaca 200's 800 parts and 15,000 rivets

"We naturally turned to Sonaca for the sizing of the Sonaca 200. The Sonaca Group has significant experience in the sizing and certification of aeronautical structures for CS-25 category aircraft[2] whose certification criteria are much more stringent than those for the Sonaca 200", says Carl Dewandel, Head of Structure Compliance at Sonaca Aircraft. "In the specific case of the Sonaca 200, the digital model included the 800 parts and 15,000 rivets that make up the plane. SONIA has made it possible

[1] SONIA: Structure design Environment, Numerical Analyses & Virtual Testing, Sonaca.
[2] EASA Category CS-25: Large Aeroplanes.

to precisely calculate the safety coefficients and to maximise the reliability of all the elements ".

Final stage of Sonaca 200 flight tests for EASA CS-VLA certification

After successfully passing the static test programme as well as all stability, noise, vibration, performance and stall tests, the Sonaca 200 begins the final flight-test phase (spin test). Sonaca Aircraft completes the steps to obtain DOA[3]. Delivery of the first aircrafts is still scheduled for the beginning of 2018.

END

Pictures © Sonaca : Views of the different stages of sizing.

About Sonaca Aircraft

Sonaca Aircraft is a new subsidiary of Sonaca Group, major actor in the development, production and assembly of advanced aircraft destined for the civil, military and spatial markets. With a start-up capital of more than 2 million euros, Sonaca Aircraft is owned at 65% by the aeronautical supplier Sonaca.Sonaca Aircraft's primary objective is to develop, certify and commercialise a new two-seater aircraft (« Sonaca 200 ») specifically designed and adapted for training and leisure flights. More information: www.sonaca-aircraft.com

About Sonaca

The Sonaca Group is active in the development, manufacturing and assembly of aircraft for the aerospace, civil, military and space markets. The company's headquarters is located in Gosselies, Belgium. Its 5,000 employees work throughout its subsidiaries or production sites located in Canada, United States, Brazil, Mexico, England, China, Romania, Sri Lanka and Germany. The Group also offers engineering services and has recently introduced a flight school aircraft, the Sonaca 200.

Sonaca 200 : Technical specifications and price

ENGINE :

- BRP Rotax 914 F – 115 hp

SEATS :

- Number of seats:2

DIMENSIONS :

- Wing span:9,15 m
- Lenght:7 m

WEIGHT AND LOAD:

- Empty weight:445 kg
- Maximal mass at take-off:750 kg
- Fuel capacity:140 l (2 x 70 l)

PERFORMANCES :

- Max cruise speed :115 knots
- Climb rate :750 feet per minute

[3] DOA: Design Organisations Approvals, EASA.

STRUCTURE :

- Aluminium alloy

CONSOMMATION :

- 18 l/hour

PRIX :

- Price:175 000 euros.

Contacts national and international press

Pierre Van Wetter
Pilot & Chief Commercial Officer
Sonaca Aircraft
Email : pierre.vanwetter@sonaca-aircraft.com
Tel :+32 71 25 57 61

Frédérique Jacobs
External Communication
Sonaca Aircraft
Email : frederique.jacobs@sonaca-aircraft.com
Tel :+32 479 429 636