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Saab performing tests with unmanned aircraft

Saab Aerospace is currently performing studies in order to develop unmanned aircraft. Tests are now being carried out with a model of a UAV (Unmanned Aerial Vehicle) in a wind tunnel at FFA (the Aeronautical Research Institute of Sweden) in Stockholm. The aim of the tests is to study the flight enveloped, i.e. to measure aerodynamic forces. The UAV must be able to operate as a complement to today's piloted aircraft.

The project is being carried out within the framework of the National Aeronautics Research Program (NFFP) and is designated NFFP 272 UAV configurations. The project is a collaborative effort by Saab, the FFA, Ericsson, Saab Avionics and Saab Dynamics. The name given to the UAV is SHARC (Swedish Highly Advanced Research Configuration). SHARC is 10 m long and has a wingspan of 8 m (see accompanying diagram).

The aim of the project is to design a UAV configuration for attack missions at low serial cost and with low signatures, and to demonstrate that this is achievable. The project has been in progress for several years and has so far proved successful. Cost and signature results have been presented as planned.

During the introductory phase, April-June 1998, nine configurations were defined, representing different construction philosophies. Work has since continued and in March 1999 a low-speed model was tested at the same time as a test with weapons deployment from an internal weapons bay was performed in the FFA wind tunnels. The work is currently in a phase with tests in the T1500 wind tunnel at FFA to study the flight envelope.

The project has been oriented towards: concept design, aerodynamics, design, production engineering, strength, propulsion system, radar and IR signatures, and weapons separation.

Background

The requirements for the study has been characterized by a continuation of the Swedish goal of breaking the trend towards continuously more expensive aircraft, which began with the Gripen project.

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By designing the vehicle with a low signature, it is possible to avoid detection and counter-attack from anti-aircraft units and interceptors. No weapons sensors are needed to detect enemy fire or countermeasures. Neither is there any need for evasive maneuvers with steep turns involving loads of 20 g or more. This keeps down costs.

In order to be able to use existing weapons, which are not of stealth type, an internal weapons bay is required. The attack mission has therefore been chosen to study the effect on the configuration.

Facts about NFFP

NFFP stands for Nationellt Flygtekniskt Forsknings-Program, which is intended to coordinate Swedish research and development resources in industry, research institutes and universities. NFFP contributes to strengthening the competitiveness of the Swedish aviation industry and the nation's ability to actively participate in and benefit from international research collaboration.

Facts about Saab

Saab is northern Europe's leading high technology company, mainly active in the defence, aviation and space industry, and offers advanced products and systems based on sophisticated information technology. The business areas within Saab are Infomatics, Aerospace, Dynamics, Technical Support and Services, Space and Aviation Services.

With a wide variety of advanced systems, products and services, Saab focuses on both independent and collaborative projects in military and commercial growth areas where we are among the world's leaders.

Photographs

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Photographs and graphics are also available on the Internet:
<http://www.saab.se/node878.asp>

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NFFP-PROJEKT 272, UAV-CONFIGURATIONS

SHARC

(Swedish Highly Advanced Research Configuration)

Lenght 10 m, Span 8 m, Take Off Weight 5 000 kg

