VOLVO AERO

Press Information

Volvo Aero's lightweight technology passed the important Fan Blade Out test

The important testing of Volvo Aero composite technology in EU's VITAL environmental project has been successful.

"These tests were a huge success, taking us over the highest hurdle towards a competitive new product offer," says Anders Sjunnesson, project co-ordinator at Volvo Aero.

The Fan Blade Out (FBO) test is crucial in order to demonstrate the ability of the components to cope with maximum strain. The test was recently carried out in collaboration with Rolls-Royce in their facilities in Derby in England.

VITAL – an acronym for Environmentally Friendly Aero Engine – is a EUR 90 million programme which aims to deliver the technological breakthroughs that will help Europe meet its ambitious environmental goals for 2020. These goals are 50 per cent lower carbon dioxide emissions, 80 per cent lower nitrogen dioxide emissions and a 50 per cent reduction in noise.

Volvo Aero has invested heavily in the programme and is playing a leading role.

One of Volvo Aero's contributions to VITAL is a composite fan frame. This primary load-carrying structure in the engine has been made from composites – specifically carbon fibres bound by a polymer matrix – making it up to 30 per cent lighter than today's metal technology.

The "fan blade out" test performed at Rolls-Royce saw the fan accelerated to maximum speed in an underground spin rig, after which an explosive charge blew one fan blade away from the hub; a "severe, heavy and expensive test," according to Sjunnesson. "In this event, we have very high forces going through the structure."

The fan frame performed as the calculations had predicted it would.

"We still have to examine our parts and see the high-speed films Rolls-Royce has recorded, but we regard this as a success," says Sjunnesson.

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For pictures, see news images on: http://www.volvo.com/volvoaero/global/en-gb/newsmedia/image_gallery/image_galler_inc.htm

Facts on VITAL

VITAL is a collaborative research project, which will run for four years and aims to reduce aircraft engine noise and CO2 emissions significantly. It has a total budget of EUR 90 million, including EUR 51 million in funding from the European Commission. Snecma is leading a consortium of 53 partners including all the major European engine manufacturers, Rolls-Royce, MTU Aero Engines, Avio, Volvo Aero, Techspace Aero, Rolls-Royce Deutschland and ITP, plus Airbus.

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