A world first for Sagem and Airbus: Successful A320 flight test of an electrical aileron actuator

Paris, March 7th, 2011  An electromechanical actuator (EMA) developed and produced by Sagem (Safran group) flew for the first time in January 2011 as the primary flight control for the aileron on an Airbus A320 commercial jet. With this new type of actuator, aircraft manufacturers will eventually be able to replace all or part of the hydraulic systems that activate flight controls with lighter and simpler electrical systems offering the required reliability. The Sagem EMA used for flight testing features a highly integrated design, making it small enough to be installed in the reduced space of the wing, as well as several patented innovations. It will also offer a very long service life, to meet one of the main challenges facing tomorrow’s jetliners. Lasting 2 hours and 45 minutes, this first flight was the culmination of three years of intensive Research & Technology work by Sagem, in conjunction with Airbus and other companies in the Safran group. This innovative new technology calls on Sagem’s multidisciplinary expertise, spanning materials, power transmissions, electronics and sensors. The EMA tested on the A320 was developed within the scope of Covadis (flight control with distributed intelligence and systems integration), an Airbus project designed to test electromechanical actuator demonstrators on an A320 and assess their performance in flight, for incorporation in flight control systems wholly or partly based on electrical actuators. Safran’s work on the EMA was carried out within the scope of Ampères, an in-house project which aims to develop the systems needed by “more electric” aircraft. Group company Sagem is in charge of work on flight control drivetrains for wings with electrically-actuated systems, to be used on tomorrow’s commercial jets. “More electric” aircraft are lighter and more energy-efficient than conventional aircraft, enabling them to reduce fuel consumption and therefore the total cost of ownership as well as environmental impact. Based on the success of this latest test, a flight test of a “more electric” wing should be possible by about 2015, including EMAs for the primary flight control of ailerons and spoilers, in a near production-standard configuration. ***

Sagem, a high-tech company in the Safran group, holds world or European leadership positions in optronics, avionics, electronics and safety-critical software for both civil and military markets. Sagem is the No. 1 company in Europe and No. 3 worldwide for inertial navigation systems (INS) used in air, land and naval applications. It is also the world leader in helicopter flight controls and the European leader in optronics and tactical UAV systems. Operating across the globe through the Safran group, Sagem and its subsidiaries employ 7,000 people in Europe, Southeast Asia and North America. Sagem is the commercial name of the company Sagem Défense Sécourit. For more information: www.sagem-ds.com
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