

SOFIA ready for first flight

Waco, TX- The SOFIA Boeing 747SP aircraft left the paint hangar and is prepared for its first flight at the L3 Communications facilities in Waco, Texas. SOFIA is the largest airborne observatory in the world, and will make observations that are impossible for even the largest and highest of ground-based telescopes. SOFIA will provide an excellent platform for the study of black hole environments, galactic evolution, the chemical composition of interstellar gas clouds, complex organic molecules in space, and the formation of stars and solar systems. SOFIA will also provide a unique opportunity for educators to partner with scientists on research missions. The aircraft has been heavily modified for its new role as a flying astronomical observatory. Following a three year experimental phase from 2006 to 2009, the 747SP will be operated and maintained at NASA's Ames Research Center near San Jose, California. The in-service phase will last 20 years and involve continuous observation flights with scientists from USA and Germany.



SOFIA uses CANaerospace as realtime communication bus for several highly mission critical SOFIA subsystems. Throughout the entire aircraft, even on the low-pressure cavity side, CANaerospace buses provide the connection between VME-based host computers and numerous realtime control systems performing functions such as star tracking control positioning, pressure window control and temperature/pressure monitoring around the telescope assembly structure. Additional operator station annunciation panels are integrated into the CANaerospace network.

References:

NASA SOFIA website (<http://sofia.usra.edu>)

DLR SOFIA website (<http://solarsystem.dlr.de/Missions/SOFIA>)

New CANaerospace projects

Brno, Czech Republic - UNIS, spol. s.r.o. announced that the Ae270 aircraft equipped with the CANaerospace-interfaced avionics system SAM received the EASA type certificate in addition to CAA and FAA certification.

In a partnership with the Czech company PBS in Velka Bites, UNIS is now in the process of developing the digital engine control system for the TJ100C turbojet engine. The jet engine, developing 100 daN of thrust operates from a 28VDC power supply and uses CANaerospace as data link between the engine control system and the cockpit (or UAV remote control system).



TJ100C turbojet engine with CANaerospace interface (photo: PBS)

PBS has many years of experience in the design of aircraft APUs (Auxiliary Power Units). Potential areas for the use of the TJ100C are UAVs, experimental airplanes and sailplanes. A jet powered glider is used for the engine flight tests. UNIS is also involved in the EU program CESAR (Cost Effective Small Aircraft) which started in May, 2006. Within this program, the Brno based company will be responsible for the design of CANaerospace-networked aircraft components like a full authority digital engine control unit (FADEC) and new types of electro-hydrostatic and electro-mechanical actuators.

References:

UNIS, spol. s.r.o. website (www.unis.cz)

PBS a.s. website (www.pbsvb.cz)

Ae270 Propjet website (www.ae270.com)

Flying Maypole driven by CANaerospace

Cologne, Germany - Stock Flight Systems sponsored the "Flying Maypole" aerial vehicle for the 6th Red Bull Flugtag in Cologne, Germany on September, 10th. Being native Bavarians, the Stock Flight Systems staff felt a natural obligation to support this traditional element of Bavarian culture in its airborne version. Additionally, the event which took place before 135.000 spectators provided another opportunity to flight test CANaerospace equipment. Designed with CATIA 5 and built by a highly qualified team of young engineers, the 8m long "Flying Maypole" reached a distance of 13.74m, taking third place among the 40 flying objects of the event.



The "Flying Maypole" Team from left to right: Michael Stock (sponsor), Moritz Wünsch (manufacturing), Wolfgang Roos (design/manufacturing), Wolfgang Anger (test pilot), Sven Kahl (manufacturing) and Jan Kahl (design/manufacturing)

CANaerospace was used as data link between a landing gear wheel sensor and a ground speed indicator display in the rear of the maypole. The CANaerospace network performed perfectly during takeoff run, flight and even the submarine part of the mission. Takeoff speed was determined as 22.7 km/h from the 6m ramp which gave the maypole with NACA 0014 airfoil wings a gliding ratio of 2.29. The daredevil pilot survived the barnstorming type flight without injuries. Questioned afterwards, however, he was unable to clearly state what control inputs he made to land with a 30 degree right bank and 30 degree nose down attitude.

References:

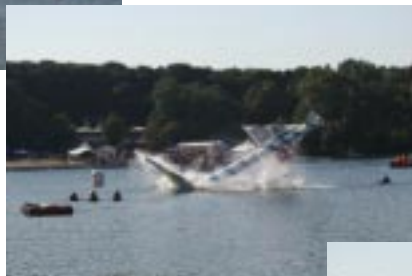
Red Bull Flugtag website: <http://www.redbullflugtag.de>

Red Bull Flugtag website (USA): <http://www.redbullflugtagusa.com>

Flying Maypole impressions



The "Flying Maypole" being erected on the ramp prior to flight



Takeoff run, flight and landing of the "Flying Maypole"

