NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Aviation Engineering Division
Washington, D.C. 20594

3-20-2007

AIRWORTHINESS GROUP CHAIRMAN'S FACTUAL ADDENDUM

A. ACCIDENT:

NTSB Accident Number:	DCA07MA003
Location:	Manhattan, New York
Date:	October 11, 2006
Time of Accident:	Approximately 1442 Eastern Daylight Time
Aircraft:	Cirrus SR20

B. SYSTEMS GROUP

Chairman:	Mike Hauf National Transportation Safety Board Washington, DC
Member:	Brannon D. Mayer Air Safety Investigator Cirrus Design Corporation Duluth, Minnesota
Member:	David Spangler Air Safety Investigator Ballistic Recovery Systems, Inc.

C. SUMMARY

On October 11, 2006, about 1442 PM eastern daylight time, a Cirrus Design SR20, N929CD, struck an apartment building while maneuvering above Manhattan, New York. The airplane was destroyed by impact forces and a post crash fire. The certificated private pilot, owner of the airplane, and a certificated flight instructor were fatally injured. Visual meteorological conditions prevailed, and no flight plan was filed for the flight that departed Teterboro Airport, Teterboro, New Jersey. The personal sightseeing flight was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The on-scene phase of the investigation was conducted at the accident site (Belaire Condominiums located at 524 East 72nd Street, Manhattan, New York) from October 11, 2006 to October 13, 2006. At the accident site, the airplane wreckage was examined in its final resting position; the aircraft's cockpit instruments, primary and secondary flight control systems were identified, photographed and documented.

This addendum to the Airworthiness Group chairman's factual report, dated November 15, 2006, contains a system description of the stall warning system installed on the SR20 airplane.

D. DETAILS OF THE INVESTIGATION

D.1 Stall Warning System

D.1.1 Description

According to the FAA approved Cirrus Design SR20 Pilot's Operating Handbook (POH), the airplane is equipped with an electro-pneumatic stall warning system to provide audible warning of an approach to aerodynamic stall. The system consists of an inlet in the leading edge of the right wing, a pressure switch and associated plumbing located on the left side panel of the mid-console (forward of the circuit breaker panel), and a piezo ceramic horn behind the instrument panel. As the airplane approaches a stall, the low pressure on the upper surface of the wings moves forward around the leading edge of the wings. As the low-pressure area passes over the stall warning sense inlet, a slight negative pressure is sensed by the pressure switch. The pressure switch completes a ground circuit causing the warning horn to sound.

The warning horn is designed to provide a 94dB continuous 2800 Hz tone. The warning is designed to sound at approximately 5 knots above stall with full flaps and power off in wings level flight and at slightly greater margins in turning and accelerated flight. The system operates on 28 VDC supplied though the 2-amp STALL WARNING circuit breaker on the Essential Bus.

D.1.2 On-site Activities

During the on-site activities of this investigation, October 12, 2006, the Airworthiness Group could not identify any of the stall warning system components due to the impact and post crash fire.