Brief of Accident

Adopted 09/24/2013

Make/Model: Gulfstream / GVI
Engine Make/Model: Rolls-royce Deutschland / BR700-725A1
Aircraft Damage: Substantial
Number of Engines: 2
Operating Certificate(s): None
Type of Flight Operation: Flight Test
Reg. Flight Conducted Under: Part 91: General Aviation

Last Depart. Point: ROSWELL, NM
Destination: Local Flight, NM
Airport Proximity: On Airport/Airstrip
Airport Name: Roswell Intl Air Center Airpor
Runway Identification: 21
Runway Length/Width (Ft): 13001 / 150
Runway Surface: Asphalt; Concrete
Runway Surface Condition: Dry

Crew Fatal 4 0
Pass Serious 0 0

Condition of Light: Day
Weather Info Src: Weather Observation Facility
Basic Weather: Visual Conditions
Lowest Ceiling: None
Visibility: 10.00 SM
Wind Dir/Speed: 210 / 004 Kts
Temperature (°C): 17
Precip/Obscuration:

Pilot-in-Command Age: 64

Certificate(s)/Rating(s)
Airline Transport; Flight Instructor; Commercial; Multi-engine Land; Single-engine Land; Glider

Total All Aircraft: 11237
Last 90 Days: Unk/Nr
Total Make/Model: 263
Total Instrument Time: UnK/Nr

*** Note: NTSB investigators traveled in support of this investigation and used data obtained from various sources to prepare this aircraft accident report. ***

The Safety Board’s full report is available at http://www.ntsb.gov/investigations/reports Aviation.html. The Aircraft Accident Report number is NTSB/AAR-12-02.

On April 2, 2011, about 0934 mountain daylight time, an experimental Gulfstream Aerospace Corporation GVI (G650), N652GD, crashed during takeoff from runway 21 at Roswell International Air Center Airport, Roswell, New Mexico. The two pilots and the two flight test engineers were fatally injured, and the airplane was substantially damaged by impact forces and a postcrash fire. The airplane was registered to and operated by Gulfstream as part of its G650 flight test program. The flight was conducted under the provisions of 14 Code of Federal Regulations Part 91. Visual meteorological conditions prevailed at the time of the accident.

Updated at Sep 24 2013 2:20PM
The National Transportation Safety Board determines the probable cause(s) of this accident to be:

an aerodynamic stall and subsequent uncommanded roll during a one engine-inoperative takeoff flight test, which were the result of (1) Gulfstream’s failure to properly develop and validate takeoff speeds for the flight tests and recognize and correct the takeoff safety speed (V2) error during previous G650 flight tests, (2) the G650 flight test team’s persistent and increasingly aggressive attempts to achieve V2 speeds that were erroneously low, and (3) Gulfstream’s inadequate investigation of previous G650 uncommanded roll events, which indicated that the company’s estimated stall angle of attack while the airplane was in ground effect was too high. Contributing to the accident was Gulfstream’s failure to effectively manage the G650 flight test program by pursuing an aggressive program schedule without ensuring that the roles and responsibilities of team members had been appropriately defined and implemented, engineering processes had received sufficient technical planning and oversight, potential hazards had been fully identified, and appropriate risk controls had been implemented and were functioning as intended.