Aviation Investigation Final Report

Location:	LaGrange, Georgia	**Accident Number:**	ERA14FA128
Date & Time:	February 22, 2014, 14:05 Local	**Registration:**	N36638
Aircraft:	Beech 95-B55	**Aircraft Damage:**	Destroyed
Defining Event:	Loss of control in flight	**Injuries:**	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

The accident airplane was inbound to the airport, conducting an instrument approach in visual meteorological conditions, when the pilot announced its position over the airport's common traffic advisory frequency (CTAF). Witnesses described the accident airplane's approach as fast and stated that the airplane never touched down. The accident airplane's engines then rapidly accelerated to full power before the airplane pitched up into a steep climb, banked left, rolled inverted, and struck the ground in a nearly vertical nose-down attitude, about 3,600 feet down the 5,599-foot-long runway. Throughout the morning of the accident, glider operations were being conducted on an intersecting runway. As the accident airplane floated down the runway, witnesses observed a tow plane accelerating down the intersecting runway with a glider in tow; The tow plane pilot then announced over the CTAF, "abort abort abort." The glider was then released from the tow plane and landed undamaged on the runway prior to the intersection of the two runways, while the tow plane crossed over the intersecting runway before taxiing back to the ramp.

Examination of the wreckage revealed no preimpact mechanical anomalies. According to witnesses on the airport, neither the glider nor tow plane appeared to be in immediate conflict with the accident airplane just before the accident; they stated that the accident pilot could have safely continued the landing. Additionally, the three pilots onboard the accident airplane had flown into the airport earlier in the day and were aware of the glider operations being conducted on the other runway. However, the accident pilot's observed reaction, as evidenced by the sudden application of full engine power followed by the airplane's abrupt increase in both pitch attitude and bank angle, suggest that he may have been surprised by the appearance of the glider and tow plane in his field of vision and perceived an imminent collision.

The FAA airport manual contained advisories for glider operations at the accident airport. Examination of the airport rules and regulations, published on the airport website, revealed that a local notice to airmen (NOTAM) was required to be filed prior to the conduct of glider operations. Additionally, a "spotter" was prescribed to be used during glider operations, positioned in a location from which the

entire length of the intersecting runway could be viewed, in order to avoid conflicts with other aircraft. According to the airport rules and regulations, the tow plane and glider were prohibited from taking off without approval from the spotter. On the day of the accident, no NOTAM had been filed regarding the day's glider operations, nor was a spotter being used. Interviews with the glider operator revealed a widespread lack of knowledge regarding these published rules. Furthermore, while airport management was aware of the rules with regard to glider operations, there was no method in place to ensure compliance with the published risk management practices.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's overreaction to a perceived conflict with a tow plane and glider on an intersecting runway, which resulted in a loss of control during an attempted aborted landing. Contributing to the accident was the failure of the glider tow operator to follow and the airport operator to ensure compliance with published airport rules and regulations for glider tow operations.

Findings

Personnel issues	Perception - Pilot
Personnel issues	Unnecessary action - Pilot
Personnel issues	Aircraft control - Pilot
Aircraft	Angle of attack - Capability exceeded
Personnel issues	Following instructions - Pilot of other aircraft
Organizational issues	Oversight of operation - Airport

Factual Information

History of Flight

Approach-VFR go-around	Abrupt maneuver
Approach-VFR go-around	Aerodynamic stall/spin
Approach-VFR go-around	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)

HISTORY OF FLIGHT

On February 22, 2014, at 1405 eastern standard time, a Beech 95-B55, N36638, was destroyed when it collided with terrain following a loss of control during an aborted landing on runway 31 at LaGrange – Callaway Airport (LGC), LaGrange, Georgia. The commercial pilot, flight instructor, and pilot-rated passenger were fatally injured. Visual meteorological conditions (VMC) prevailed, and no flight plan was filed for the local instructional flight, which was conducted under the provisions of Title 14 Code of Federal Regulations Part 91.

The airplane was based at Dekalb-Peachtree Airport (PDK), Atlanta, Georgia. The purpose of the flight was for each pilot to perform an instrument proficiency flight with the instructor. It was surmised that the airplane arrived at LGC and purchased fuel. The accident pilot then moved from the back seat to the left front seat, and the airplane subsequently departed on the accident flight.

Several witnesses provided statements, and their versions of the events that day were consistent throughout. Glider tow operations by the Civil Air Patrol (CAP) were being conducted on an intersecting runway (03/21) at the non-tower controlled airport beginning that morning. Many noticed the accident airplane as it was fueled in front of the terminal at 1335. While the airplane was serviced, the occupants came into the terminal, spoke with other pilots in the terminal, and subsequently departed.

The witnesses described the radio traffic on the airport's common traffic advisory frequency (CTAF) as "constant" from the glider tow operation throughout the day. Some were unable to recall hearing an inbound radio call from the accident airplane, or a departure radio call from the tow plane. Several witnesses distinctly remembered hearing the accident airplane announce "inbound on the ILS runway 31" prior to the accident. Just prior to the accident, several also recalled hearing an "Abort! Abort!" transmission over the CTAF.

One witness, who observed the accident airplane on final approach for landing, stated that the airplane was "sort of hot and landing long." About 2,000 feet past the runway threshold, the airplane was still airborne, "bobbling" and "searching for the ground." He heard the engines accelerate suddenly to full power as the airplane pitched up into a steep climb, banked left, and rolled inverted. The turn continued until the airplane struck the ground in an 80- to 90-degree nose-down attitude. The witness added, "The airplane never touched down, he was in a flare, and he floated a long way, because his speed was excessive."

Several other witnesses stated their attention was drawn to the airplane by the sound of the engines' rapid acceleration. It was at that time they also noticed a tow plane and glider departing from runway 03, with the tow plane still on the runway, and the glider on tow and flying above the runway. One witness felt that a left turn by the accident airplane to sidestep the runway would have resolved the perceived conflict with the tow plane.

Another witness was positioned just inside the open doors of the hangar where he worked. The CTAF was monitored and played over a loudspeaker in the hangar. He distinctly remembered the accident airplane departing after its fuel purchase, and "a few minutes later," making a radio call announcing that it was inbound on the ILS Runway 31 approach. The witness did not hear the glider tow plane announce its takeoff, but did hear the "abort" call.

The witness watched as the airplane pitched up to approximately 60 degrees and 150 feet above the ground, before it "stalled," rolled inverted, and descended nose-down with the engines running "wide open." He watched as the glider, which had been released from the tow, stopped before the runway intersection. The tow plane crossed the intersecting runway, and then taxied back.

The purpose of the CAP glider flight was to provide a "check-out" for one of their members. In interviews with the FAA, the tow-plane pilot stated that he called "abort" over the radio when he perceived a potential conflict with the accident airplane over runway 31. Both he and the glider pilots reported that they stopped their aircraft prior to the intersection of the two runways.

PERSONNEL INFORMATION

The pilot held a commercial pilot certificate with ratings for airplane single engine land, multiengine land and instrument airplane. His most recent Federal Aviation Administration (FAA) third class medical certificate was issued on October 21, 2013. He reported 1,642 total hours of flight experience on that date.

Photographs of the pilot's logbook were forwarded by a family representative. The cover page was dated January 5, 2000, and the first page of entries photographed began in 2012. As a result, the details of the pilot's entire flight history could not be reconciled. His most recent flight review was performed in the accident airplane on May 20, 2012, and the last flight recorded in the logbook was dated August 7, 2013. As of that date, the pilot had logged 1,706.7 total hours of flight experience, of which 1,124.2 hours were in multi-engine airplanes. From approximately January 2012 until the time of the accident, the pilot logged 73 hours of multiengine experience; all of which was in the accident airplane.

According to a representative of the insurance company for the accident airplane, both the accident pilot and the rear seat passenger were required to complete an instrument proficiency check each year to meet policy requirements. The accident pilot was not due a regulatory flight review until May 2014.

The flight instructor held ratings for airplane single and multiengine land. He also held an airline transport pilot certificate with multiple type ratings. His logbooks were not recovered. He reported 12,100 total hours of flight experience on the date of his most recent FAA second-class medical certificate, which was issued October 4, 2011. While his medical certificate was expired, Federal Aviation Regulations (FARs) did not require that it be current while he functioned as a flight instructor with a certificated pilot at the flight controls.

AIRCRAFT INFORMATION

According to FAA records, the airplane was manufactured in 1980. Its most recent annual inspection was completed July 2, 2013, at 5,109.6 aircraft hours. The airplane accrued 17.8 hours of flight time after the inspection.

According to the manufacturer's Pilot's Operating Handbook, given the atmospheric conditions at the time of the accident and calculated at maximum takeoff weight, the estimated landing distance was 2,200 feet when measured from 50 feet above the landing threshold. A landing performed as prescribed above would stop the airplane approximately 2,300 feet prior to the intersection of runways 03/21.

METEOROLOGICAL INFORMATION

At 1355, the weather conditions reported at LGC included calm winds, clear skies, and 10 miles of visibility. The temperature was 19 degrees C, the dew point was -4 degrees C, and the altimeter setting was 30.09 inches of mercury.

AERODROME INFORMATION

LGC was located about 6 miles southwest of LaGrange, Georgia at an elevation of 693 feet. The airport was not tower-controlled. Runway 13/31 was 5,599 feet long and 150 feet wide, and runway 03/21 was 5,001 feet long and 100 feet wide. Instrument approach procedures (ILS, RNAV, and VOR) were published for runway 13/31.

Runways 31 and 03 were in use at the time of the accident. Due to terrain and trees, the approach end of runway 31 could not be viewed from the ground from the approach end of runway 03, and vice versa.

The "Glider Operations" symbol was depicted on the most recent VFR sectional chart for LGC. The most recent Airport Facilities Directory (A/FD) advised, "Glider [operations on and in the vicinity of airport during daylight hours Saturday-Sunday].

"Airport Rules and Regs: ADDITIONAL RULES AND REGULATIONS
AS TO GLIDER OPERATIONS DECEMBER 15, 2003" published on the airport website included the following:

1. Each day glider operations are planned; the glider club shall contact the Macon Flight Service Station to file a local NOTAM for glider operations to be conducted in the vicinity of KLGC. The glider club shall provide the following information to both Flight Service and the FBO at the airport:

a. before the day's first glider flight the anticipated time of the first glider flight takeoff; and the estimated highest altitude gliders may attain that day in the NOTAM area.

5. During glider operations, an agent of the glider operation shall be positioned on the ground so as to be able to see an aircraft along the entire length of runway 13/31 and the approach and departure path of aircraft operating to or from either end of that runway. This agent shall hold at least a FAA Private Pilot certificate. The agent must observe and determine that there will be no apparent traffic conflict prior to a glider launch. The agent shall then advise the tow plane and glider by radio, on the CTAF, that no apparent traffic conflict will be involved during their departure. The tow plane and glider shall not

depart on that runway until they receive the advisory from the agent. Conversely, powered aircraft holding for sequential departure will allow both the tow plane and glider to clear the intersection of runways 03/21 and 13/31 before beginning their departure roll.

At the time of the accident, no NOTAM was posted with regard to the glider operations, and no "agent" or spotter from the glider activity was posted as outlined in the published airport regulations. Furthermore, airport staff had not ensured that the requirements were met prior to commencement of glider operations, as outlined in their airport regulations.

The flight instructor in the glider at the time of the accident stated he was "unaware" of the additional rules at LGC with regards to glider operations, and was also unaware of the rule that required a spotter. He added that the airport authority had never corrected glider operators for not placing spotters during glider operations.

All three CAP pilots involved in the glider operation at the time of the accident had current CAP Flight Evaluation Forms completed with satisfactory results. The areas evaluated included, "Local Procedures" as well as "Surface and Traffic Pattern Operations."

WRECKAGE AND IMPACT INFORMATION

The wreckage was examined at the accident site on February 23, 2014, and all major components were accounted for at the scene. The wreckage path was oriented 245 degrees magnetic and was 77 feet long. The main wreckage came to rest on its main landing gear in a nearly vertical nose-down attitude. The nose compartment, instrument panel, and cockpit area were destroyed by impact. The left and right engine tachometers displayed indications of 2,810 rpm and 2,650 rpm, respectively.

The airplane was equipped with fully functioning, dual flight control yokes mounted on a single column. Flight control continuity was established from the cockpit to all flight control surfaces. The main landing gear was down and locked, and the flaps were in the 30-degree down position.

The airplane was removed from the site, and a detailed examination of the airframe and both engines, completed February 24, 2014, revealed no preimpact mechanical anomalies.

MEDICAL AND PATHOLOGICAL INFORMATION

The FAA Bioaeronautical Sciences Research Laboratory, Oklahoma City, Oklahoma, performed the toxicological testing for the pilot and flight instructor.

Chlorpeniramine, Ephedrine, and Pseudoephedrine were detected in the blood and urine of the pilot. While detected, the quantities were too small to quantify.

The following tested-for drugs were detected in the flight instructor:

Amlodipine detected in Urine
Amlodipine NOT detected in Blood (Cavity)
2.129 (ug/ml, ug/g) Methadone detected in Liver
0.187 (ug/ml, ug/g) Methadone detected in Blood (Cavity)
Methadone Metabolite (EDDP) detected in Liver

Methadone Metabolite (EDDP) detected in Blood (Cavity)
Metoprolol detected in Liver
Metoprolol detected in Blood (Cavity)
Amlodipine was in a group of drugs called channel blockers, and was used in the treatment of high blood pressure.
Metaprolol belonged to a group of medicines called beta blockers, and was used in the treatment of high blood pressure.
Methadone was a synthetic opioid and analgesic, which was used as a maintenance drug for opiate dependence, or for the treatment of chronic pain and its use, was contraindicated for use while flying.

In a telephone interview, the flight instructor's wife detailed her husband's cancer diagnosis, treatment, and subsequent remission. She explained that the disease, and its treatment, resulted in nerve damage to her husband's feet, legs, and hands, which further resulted in chronic pain. The pain was managed with medication, but she could not recall the medication prescribed.

The Office the Chief Medical Examiner for the State of Georgia performed autopsies on the pilot and instructor. The autopsy reports listed the cause of death as "blunt impact injuries."

ADDITIONAL INFORMATION

As stipulated in 14 CFR Part 91, aircraft while on final approach to land or while landing, have the right-of-way over other aircraft in flight or operating on the surface.

FAA Advisory Circular CA-90-48C, Pilot's Role in Collision Avoidance, stated, "The importance of flight instructors training pilot applicants to devote maximum attention to collision avoidance while conducting flight operations in today's increasing air traffic environment cannot be overemphasized. Flight instructors and persons acting as safety pilots should: Guard against preoccupation during flight instruction to the exclusion maintaining a constant vigilance for other traffic, and be particularly alert during the conduct of simulated instrument flight where there is a tendency to 'look inside.'"

The Airplane Flying Handbook (FAA-H-8083-3), chapter 8, "Faulty Approaches and Landings" stated, "If the airspeed on final approach is excessive, it will usually result in the airplane floating. Before touchdown can be made, the airplane may be well past the desired landing point and the available runway may be insufficient…Since prolonged floating utilizes considerable runway length, it should be avoided…If a landing cannot be made on the first third of the runway…the pilot should EXECUTE A GO AROUND."

Chapter 14, "Transition to a Multiengine Airplane" stated, "The complexity of multiengine airplanes makes a knowledge of and proficiency in emergency go-around procedures particularly essential for safe piloting. The emergency go-around during a landing approach is inherently critical because it is usually initiated at a very low altitude and airspeed with the airplane's configuration and trim adjustments set for landing. Unless absolutely necessary, the decision to go around should not be delayed to the point where the airplane is ready to touch down. The more altitude and time available to apply power, establish a climb, retrim, and set up a go-around configuration, the easier and safer the maneuver becomes."

According to the manufacturer's pilots operating handbook, the procedure for a balked landing was:
1. Propellers – LOW PITCH (high rpm)
2. Power – MAXIMUM ALLOWABLE

3. Airspeed – BALKED LANDING CLIMB SPEED (88 KTS/101 MPH)
4. Flaps – UP (0 degrees)
5. Landing Gear – UP
6. Cowl Flaps – AS REQUIRED

Pilot Information

Certificate:	Commercial; Private	**Age:**	60
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 With waivers/limitations	**Last FAA Medical Exam:**	October 21, 2013
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 1642 hours (Total, all aircraft), 73 hours (Total, this make and model)		

Flight instructor Information

Certificate:	Airline transport; Commercial; Flight instructor	**Age:**	69
Airplane Rating(s):	Single-engine land; Single-engine sea; Multi-engine land	**Seat Occupied:**	Right
Other Aircraft Rating(s):	Glider	**Restraint Used:**	3-point
Instrument Rating(s):	Airplane	**Second Pilot Present:**	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	**Toxicology Performed:**	Yes
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	October 4, 2011
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 12100 hours (Total, all aircraft), 0 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	**Registration:**	N36638
Model/Series:	95-B55	**Aircraft Category:**	Airplane
Year of Manufacture:	1980	**Amateur Built:**	
Airworthiness Certificate:	Normal	**Serial Number:**	TC-2325
Landing Gear Type:	Retractable - Tricycle	**Seats:**	6
Date/Type of Last Inspection:		**Certified Max Gross Wt.:**	
Time Since Last Inspection:		**Engines:**	Reciprocating
Airframe Total Time:		**Engine Manufacturer:**	
ELT:		**Engine Model/Series:**	
Registered Owner:	EXECUTIVE AIRCRAFT STORAGE LLC	**Rated Power:**	
Operator:	EXECUTIVE AIRCRAFT STORAGE LLC	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	LGC,697 ft msl	**Distance from Accident Site:**	
Observation Time:	13:55 Local	**Direction from Accident Site:**	
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	/	**Turbulence Type Forecast/Actual:**	/ None
Wind Direction:		**Turbulence Severity Forecast/Actual:**	/ N/A
Altimeter Setting:	30.09 inches Hg	**Temperature/Dew Point:**	19°C / -4°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	LaGrange, GA (LGC)	**Type of Flight Plan Filed:**	None
Destination:	LaGrange, GA (LGC)	**Type of Clearance:**	None
Departure Time:	14:00 Local	**Type of Airspace:**	

Airport Information

Airport:	LaGrange-Callaway Airport LGC	**Runway Surface Type:**	Asphalt
Airport Elevation:	693 ft msl	**Runway Surface Condition:**	Dry
Runway Used:	31	**IFR Approach:**	None
Runway Length/Width:	5599 ft / 150 ft	**VFR Approach/Landing:**	Touch and go

Wreckage and Impact Information

Crew Injuries:	2 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Fatal	**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	3 Fatal	**Latitude, Longitude:**	33.005279,-85.070274

Administrative Information

Investigator In Charge (IIC):	Rayner, Brian
Additional Participating Persons:	
Original Publish Date:	July 23, 2015
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=88825