Aviation Investigation Final Report

Location:	GILMER, Texas	**Accident Number:**	FTW01FA023
Date & Time:	November 22, 2000, 16:36 Local	**Registration:**	N462SH
Aircraft:	Hall GLASAIR III	**Aircraft Damage:**	Destroyed
Defining Event:		**Injuries:**	1 Fatal
Flight Conducted Under:	Part 91: General aviation - Personal		

Analysis

Witnesses observed the experimental amateur built airplane make three high speed passes over the runway at about 100 feet agl. On the third pass, over the north end of the runway, the airplane nosed up to an approximate 20-degree climb. At approximately 1,000-1,500 feet agl, the airplane began a right barrel roll maneuver. After it rolled to the inverted position, there was a "noticeable hesitation," and the airplane had "dropped to a nose low attitude." The airplane disappeared behind trees in a 40 to 60-degree left bank and 45-degree nose low attitude. After disappearing behind the trees, the sound of the airplane's engine "stopped abruptly." The airplane impacted the ground in a residential back yard. No anomalies with the airplane or engine were noted, and the pilot/builder had not logged any formal aerobatic training.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot's performance of aerobatic maneuvers at a low altitude and his failure to maintain aircraft control. A contributing factor was the pilot's lack of aerobatic experience.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: MANEUVERING

Findings

1. (C) AEROBATICS - PERFORMED - PILOT IN COMMAND
2. (C) ALTITUDE - LOW - PILOT IN COMMAND
3. (C) AIRCRAFT CONTROL - NOT MAINTAINED - PILOT IN COMMAND
4. (F) LACK OF TOTAL EXPERIENCE IN TYPE OPERATION - PILOT IN COMMAND

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings
5. TERRAIN CONDITION - GROUND

Factual Information

HISTORY OF FLIGHT

On November 22, 2000, approximately 1636 central standard time, a Hall Glasair III experimental amateur built airplane, N462SH, was destroyed upon impact with terrain while maneuvering near Gilmer, Texas. The airplane was manufactured, owned, and operated by the pilot/builder. The commercial pilot, sole occupant, was fatally injured. Visual meteorological conditions prevailed throughout the area, and a flight plan was not filed for the 14 Code of Federal Regulations Part 91 personal flight. The local flight originated from the Gilmer-Upshur County Airport (Fox Stephens Field), Gilmer, Texas, about 1620.

Witnesses observed the airplane make three high speed passes over runway 18-36 at about 100 feet agl. On completing the first pass (south to north), the airplane nosed up to a 25-30 degree climb to approximately 1,500 feet agl, and turned west (left). The pilot executed a second pass (north to south) over the runway. At the south end of the runway, the airplane climbed to approximately 1,500 feet agl and barrel rolled to the right. The pilot's "recovery from this roll was at an extremely low altitude and south of Fox-Stephens Airport." On the third pass, which was south to north, over the north end of the runway, the airplane nosed up to an approximate 20-degree climb. At approximately 1,000-1,500 feet agl, the airplane began a right roll maneuver. After it rolled through the inverted position, there was a "noticeable hesitation." By this time the airplane had "dropped to a nose low attitude." The airplane disappeared behind trees while in an approximate 40-60 degree left bank and 45-degree nose low attitude. After disappearing behind the trees, the sound of the airplane's engine "stopped abruptly." The airplane impacted the ground in a residential back yard.

PERSONNEL INFORMATION

The pilot received his private pilot certificate on April 9, 1986, and his commercial certificate on April 22, 1993. In addition, the pilot held instrument and multi-engine airplane ratings. The pilot was issued a third-class medical certificate on August 31, 2000, with the restriction "MUST HAVE AVAILABLE GLASSES FOR NEAR VISION." According to the pilot's logbook, he had accumulated 2,179.8 total flight hours, of which 93.5 hours were in the accident airplane, and no formal aerobatic training was logged. His last biennial flight review (BFR) was completed on April 21, 1999.

The pilot was not wearing a parachute at the time of the accident.

On April 11, 2000, the pilot received a repairman experimental aircraft builder certificate for the accident airplane.

AIRCRAFT INFORMATION

The two-seat, single-engine airplane (serial number 3320) was issued an experimental airworthiness certificate on September 28, 1999. The airplane was powered by a 300-horsepower Lycoming IO-540-KIA5 engine (serial number L-11531-48). According to the aircraft records, the amateur-built airplane's last condition inspection was completed on November 22, 2000, at a total time of 101.8 hours. The accident flight was the first flight conducted since the condition inspection was completed.

METEOROLOGICAL INFORMATION

At 1653, the weather reporting facility at the Tyler Pounds Field (located 30 miles southwest of the accident site) reported the wind from 160 degrees at 7 knots, visibility 10 miles, sky overcast at 6,500 feet agl, temperature 57 degrees Fahrenheit, dew point 46 degrees Fahrenheit, and altimeter setting of 30.24 inches of mercury.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in a wooded residential area approximately one mile north of the departure end of runway 36. Examination of the site revealed a wreckage path, which included tree strikes, extending a total distance of approximately 75 feet on a measured magnetic heading of 300 degrees. Three trees, located at the start of the wreckage path, 10, 8, and 4 inches in diameter, were freshly broken at a height of 35, 20, and 15 feet agl, respectively.

Sections of both wings were found in the trees at the start of the wreckage path. The nose landing gear, engine, cockpit, portions of the rudder, both ailerons, and elevator were found embedded in an impact crater that measured 8 feet in length, 7 feet in width, and 3.5 feet in depth. The engine was separated from its mounts, but remained attached to the cockpit by engine control cables. The engine accessories were destroyed and could not be tested. Engine continuity could not be established due to the fractured crankcase. The propeller, separated from the engine crankshaft, came to rest adjacent to the crater and displayed leading edge gouging and "S" bending. The propeller spinner was compressed aft and flattened around the propeller hub.

The main wreckage came to rest past the impact crater along the wreckage path. The cockpit, empennage, and tail section were destroyed. Flight control continuity, cockpit control positions, instrument indications, and the fuel selector position could not be determined. The fuel tanks and fuel system were destroyed. The seats and seat restraints were found separated from the fuselage.

MEDICAL AND PATHELOGICAL INFORMATION

An autopsy was performed at the Office of the Medical Examiner in the County of Dallas, Texas, on November 23, 2000. No preexisting conditions were noted that would have effected

the pilot's ability to fly the airplane. Toxicological tests for carbon monoxide, cyanide, drugs and alcohol were negative.

ADDITIONAL DATA

The airplane wreckage was released to the owner's representative on December 15, 2000.

Pilot Information

Certificate:	Commercial	**Age:**	47,Male
Airplane Rating(s):	Single-engine land; Multi-engine land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	None	**Toxicology Performed:**	Yes
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim	**Last FAA Medical Exam:**	August 31, 2000
Occupational Pilot:	UNK	**Last Flight Review or Equivalent:**	
Flight Time:	2167 hours (Total, all aircraft), 103 hours (Total, this make and model), 1630 hours (Pilot In Command, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Hall	**Registration:**	N462SH
Model/Series:	GLASAIR III GLASAIR II	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	Yes
Airworthiness Certificate:	Experimental (Special)	**Serial Number:**	3320
Landing Gear Type:	Retractable - Tricycle	**Seats:**	2
Date/Type of Last Inspection:	November 22, 2000 100 hour	**Certified Max Gross Wt.:**	2400 lbs
Time Since Last Inspection:	1 Hrs	**Engines:**	1 Reciprocating
Airframe Total Time:	103 Hrs	**Engine Manufacturer:**	Lycoming
ELT:	Installed, not activated	**Engine Model/Series:**	IO-540-KIA5
Registered Owner:	SCOTT S. HALL	**Rated Power:**	300 Horsepower
Operator:		**Operating Certificate(s) Held:**	None
Operator Does Business As:		**Operator Designator Code:**	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Day
Observation Facility, Elevation:	TYR ,544 ft msl	**Distance from Accident Site:**	30 Nautical Miles
Observation Time:	16:53 Local	**Direction from Accident Site:**	220°
Lowest Cloud Condition:	Thin Overcast / 6500 ft AGL	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	7 knots /	**Turbulence Type Forecast/Actual:**	/
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	/
Altimeter Setting:	30 inches Hg	**Temperature/Dew Point:**	57°C / 30°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(4F4)	**Type of Flight Plan Filed:**	None
Destination:		**Type of Clearance:**	None
Departure Time:	16:20 Local	**Type of Airspace:**	Class G

Airport Information

Airport:	GILMER-UPSHUR COUNTY 4F4	**Runway Surface Type:**	
Airport Elevation:	415 ft msl	**Runway Surface Condition:**	
Runway Used:	0	**IFR Approach:**	
Runway Length/Width:		**VFR Approach/Landing:**	

Wreckage and Impact Information

Crew Injuries:	1 Fatal	**Aircraft Damage:**	Destroyed
Passenger Injuries:		**Aircraft Fire:**	None
Ground Injuries:	N/A	**Aircraft Explosion:**	None
Total Injuries:	1 Fatal	**Latitude, Longitude:**	32.72911,-94.939437(est)

Administrative Information

Investigator In Charge (IIC):	Wigington, Douglas
Additional Participating Persons:	THOMAS C HOOVER; DALLAS , TX JOHN BUTLER; ARLINGTON , TX
Original Publish Date:	September 19, 2001
Last Revision Date:	
Investigation Class:	Class
Note:	
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=50668