



Aviation Investigation Final Report

Location:	Valparaiso, Florida	Accident Number:	ERA11FA354
Date & Time:	June 23, 2011, 04:44 Local	Registration:	N38029
Aircraft:	Beech C24R	Aircraft Damage:	Substantial
Defining Event:	Loss of control in flight	Injuries:	2 Fatal
Flight Conducted Under:	Part 91: General aviation - Instructional		

Analysis

During a night instructional flight, the private pilot under instruction attempted a 360-degree power off approach. The maneuver, which is also practiced as a simulated engine failure, involves a 360-degree change of direction to a preselected landing spot. The pattern is designed to be circular, but the turn may be shallowed, steepened, or discontinued at any point to adjust the accuracy of the flight path. Flaps and landing gear can also be used to control descent rate. The maneuver generally commences about 2,000 feet over the intended landing spot (high key), descends to a 180-degree position about 1,000 to 1,200 feet (downwind key, or low key), continues to a 90-degree position about 800 feet (base-leg key) with a turn to final at a minimum of 300 feet.

Radar data revealed that the airplane commenced the maneuver about 2,000 feet over the runway, but arrived at a 180-degree position about 400 feet high, and at a 90-degree position about 500 feet high. It continued around the circuit still high, and approaching the runway, the flight instructor advised the controller that student training was in progress, right base for the “option.” After being cleared for the option, the airplane descended to 1,100 feet over the runway. It then began a right turn away from the runway and had descended to 900 feet when the instructor stated that they were doing another 360-degree circuit. There were no further transmissions from the airplane, but there were two more radar returns, one at 900 feet, and the last at 600 feet in the right turn. About that time, a number of witnesses heard the engine “sputter,” but then all witnesses subsequently heard the engine power up. They then saw the airplane descend at a steep angle and impact an aircraft parking apron, coming to a stop in about 600 feet.

Because of a postcrash fire, not all engine items could be extensively examined. Those that could, did not reveal any engine anomalies, except that one fuel injector was found completely blocked, while another was partially blocked, most likely due to thermal effects from the fire. Propeller ground scars indicated power at the time of ground impact. The engine had over 2,380 hours of operation since its last overhaul, and another pilot reported that he had an engine failure while overflying an outlying airport about 12 months earlier, which maintenance personnel could not duplicate. During that failure, the engine did not sputter, and it could not be restarted, either in flight or on the ground until the following

day. No subsequent engine operating anomalies were noted.

Radar and wreckage path evidence indicated the likelihood that neither pilot adequately monitored the airplane's airspeed, which resulted in a right-turning aerodynamic stall. One pilot then attempted a recovery by adding power; however, by the time he did so, there was insufficient altitude to avoid the ground. The reason for the pilots' distraction from monitoring airspeed cannot be definitively determined; whether related to the power-off approach, the sputtering engine, or something altogether different. However, in all scenarios, it remained incumbent upon both pilots to ensure that proper airspeed was maintained, which they did not do.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilots' failure to maintain airspeed, which resulted in an inadvertent, low altitude aerodynamic stall.

Findings

Aircraft	Airspeed - Not attained/maintained
Personnel issues	Monitoring equip/instruments - Pilot
Personnel issues	Monitoring equip/instruments - Instructor/check pilot

Factual Information

History of Flight

Approach	Simulated/training event
Maneuvering	Loss of control in flight (Defining event)
Uncontrolled descent	Collision with terr/obj (non-CFIT)
Post-impact	Fire/smoke (post-impact)

On June 23, 2011, at 0444 central daylight time, a Beech C24R, N38029, registered to and operated by Eglin Air Force Base Aero Club as a 14 Code of Federal Regulations Part 91 instructional flight, was substantially damaged when it impacted an aircraft parking ramp at Eglin A.F.B. (VPS), Valparaiso, Florida. Night visual meteorological conditions prevailed and a local flight plan was filed. The certificated flight instructor (CFI) and the private pilot under instruction were fatally injured. The flight originated at VPS at 0421.

A radio communication transcript and radar data revealed that the airplane took off from runway 19 and remained in that runway's left traffic pattern for several "options." At 0434:40, a pilot from the airplane requested a "left ninety right two seventy" to runway 1. The request was approved, and a pilot later requested and was approved for an option to that runway.

At 0437:44, a pilot requested "a right out to climb to two thousand feet" and a "high key" for runway 1. After a delay for a runway "sweep," the controller approved the request and instructed the pilot to report high key.

At 0442:43, when the airplane was at 2,000 feet, about mid-length along the 10,001-foot runway, a pilot stated, "down to high key, be right hand turn." The controller informed the pilot to report the base leg, which a pilot acknowledged.

At 0443:11, a voice identified by the controller as the flight instructor stated that the airplane would be maneuvering south of the "apex." At the time, the airplane was heading southbound, at an altitude of 1,600 feet above mean sea level (msl) and approximately 3,300 feet abeam the runway.

At 0443:44, the flight instructor stated, "student training in progress, I guess we're in a right base for the option." About that time, the airplane was over taxiway H, just east of runway 1, heading northwest at 1,200 feet.

At 0443:51, the controller stated "runway one nine, wind calm, cleared for the option," which a pilot acknowledged. At the time, the airplane was angling over runway 1, about 2,000 feet from the approach end, at an altitude of 1,100 feet.

The airplane then began a right turn, to the northeast, and at 0444:03, had begun to fly over the aircraft parking ramp at 900 feet.

At 0444:05, a pilot stated that the airplane was doing “another...three sixty for runway zero one.” There were no further transmissions from the airplane.

At 0444:08, the airplane was still over the parking ramp, headed northeast, at 900 feet.

At 0444:13, the last radar contact occurred which indicated the airplane was in an increased right turn, at 600 feet.

Numerous witnesses located on the flight line reported observing the airplane just before impact. One witness heard the engine “sputter” before it “throttled up hard” and flew “into the ground at a slightly more than 45-degree angle.” Another witness also heard the engine “sputter,” then “throttle up hard,” before the airplane flew “hard straight into the ground.” A third witness stated that he saw the airplane “coming in...at an angle into the ground,” and that “it sounded as the plane attempted to speed up.” A fourth witness heard the engine “flicker or sound as if it was about to cut off” before the airplane “[made] a nose dive towards the ground.” A fifth witness only heard the engine “throttle up” before the airplane hit the ground.

Flight instructor Information

Certificate:	Commercial; Flight instructor	Age:	65, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	May 11, 2011
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	January 18, 2010
Flight Time:	17453 hours (Total, all aircraft), 334 hours (Total, this make and model), 158 hours (Last 90 days, all aircraft), 72 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Student pilot Information

Certificate:	Private	Age:	50, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	July 12, 2010
Occupational Pilot:	No	Last Flight Review or Equivalent:	December 28, 2010
Flight Time:	472 hours (Total, all aircraft), 44 hours (Total, this make and model), 429 hours (Pilot In Command, all aircraft), 79 hours (Last 90 days, all aircraft), 47 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

The CFI, age 65, held a commercial pilot certificate with ratings for airplane single-engine land, airplane multiengine land and instrument airplane, issued on January 25, 2000. In addition, he held a CFI certificate with ratings for airplane single-engine, airplane multiengine and instrument airplane, issued on November 8, 2009. The CFI also held a ground instructor certificate, issued on March 20, 2006. His last instrument proficiency check and last flight review were conducted on January 18, 2010.

The CFI had logged 10,926.8 total flight hours in his civilian logbook; of which, 10,906.1 hours were as pilot-in-command (PIC), 334.9 hours were in the C24R, and 40.6 hours were as PIC in the C24R since July 13, 2010.

The CFI had logged 859.2 hours of night flight time and his last night flight before the accident was on June 22, 2011. He also logged 157.8 hours in the last 90 days with 12.0 hours in the C24R; 71.7 hours in the last 30 days with 6.9 hours in the C24R; and 3.8 hours during the 24 hours prior to the accident. The CFI held an FAA second class medical certificate that was issued on May 11, 2011, with the restriction, "must wear corrective lenses."

The family of the CFI provided additional information regarding his military flight time, with a total military flight time of 6,526.2 hours. Total military and civilian flight time was 17,453.0 hours. (Note: The Core Data of this report reflects military and civilian total flight time as well as total flight instructor flight time. Other categories of flight time only reflect civilian flight time, as military flight times in those categories were not provided.)

The pilot receiving instruction, age 50, held a private pilot certificate with ratings for airplane single-engine land and instrument airplane, issued on January 28, 2011. The pilot was attending a 14 Code of Federal Regulations Part 141 commercial pilot certification course. The pilot had logged 471.8 total flight hours with 43.9 hours in the C24R. The pilot had logged 428.6 hours as PIC with 43.9 hours in the C24R.

The pilot receiving instruction had flown 79.1 hours in the last 90 days with 26.7 hours in the C24R; 46.6 hours in the last 30 days with 13.2 hours in the C24R; and 3.8 hours in the 24 hours prior to the accident. The pilot's last flight review was on December 28, 2010, and he received a complex airplane endorsement in the Beech C24 R on March 2, 2011. The pilot held an FAA second class medical

certificate which was issued on July 12, 2010, with the restriction, "must wear corrective lenses."

Aircraft and Owner/Operator Information

Aircraft Make:	Beech	Registration:	N38029
Model/Series:	C24R	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	MC-746
Landing Gear Type:	Retractable -	Seats:	4
Date/Type of Last Inspection:	April 23, 2011 100 hour	Certified Max Gross Wt.:	2750 lbs
Time Since Last Inspection:	49 Hrs	Engines:	1 Reciprocating
Airframe Total Time:	9253 Hrs at time of accident	Engine Manufacturer:	LYCOMING
ELT:	C91 installed, activated, did not aid in locating accident	Engine Model/Series:	IO-360SER A&C
Registered Owner:	EGLIN AIR FORCE BASE AERO CLUB	Rated Power:	200 Horsepower
Operator:	EGLIN AIR FORCE BASE AERO CLUB	Operating Certificate(s) Held:	None

The Beech C24R was a four-place, single-engine airplane with a retractable tricycle landing gear, serial number MC746, manufactured in 1980. It was powered by a Lycoming IO-360, 200-horsepower, horizontally opposed four-cylinder engine, driving a two-bladed constant-speed propeller.

The airplane logbooks revealed that the last annual inspection was completed on December 4, 2010, at a recorded tachometer time of 3,782.1 hours. The total airframe time at the annual inspection was 9,105.75 hours. The last 100-hour inspection was completed on April 23, 2011, at a recorded tachometer time of 3,881.63 hours, HOBBS time of 161.45 hours, and total airframe time of 9,204.92 hours. The estimated tachometer time at the accident site was 9,253.2 hours.

The engine was factory-overhauled on November 5, 2003. The total time since major overhaul was 2,384.65 hours. The total hours on the engine at the accident site were 4,504.65 hours. The total time flown since the last 100-hour inspection was 47.77 hours. The altimeter and static system test and inspection was completed on June 30, 2009. The airplane was last refueled on June 22, 2011, with 14 gallons of 100 low lead fuel.

According to a former aeroclub pilot, on June 14, 2010, he was overflying an outlying airport in the accident airplane when the engine quit without any power changes. He attempted a restart, but still could not get the engine to start, and subsequently completed a forced landing to the airport.

Once on the ground, the pilot still could not get the engine to start, and finally had to have someone pick him up. The next day, when he wasn't there, maintenance personnel did get the airplane started, but later could not duplicate the problem.

The pilot had not had any problems with the engine prior to the incident, and during the subsequent week of flight training remaining to finish his commercial rating he also did not have any problems. The pilot further indicated that the engine did not sputter before it quit, it just ceased to operate.

No additional engine failures were identified by the investigation.

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	VPS,87 ft msl	Distance from Accident Site:	
Observation Time:	04:55 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 1600 ft AGL	Visibility	10 miles
Lowest Ceiling:	Broken / 1900 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	280°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.95 inches Hg	Temperature/Dew Point:	26°C / 23°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Valparaiso, FL (VPS)	Type of Flight Plan Filed:	Company VFR
Destination:	Valparaiso, FL (VPS)	Type of Clearance:	VFR
Departure Time:	14:21 Local	Type of Airspace:	Class D

The 0455 VPS surface weather observation was: wind 290 degrees at 3 knots, visibility 10 miles, scattered clouds 1,600 feet, broken clouds at 1,900 feet, temperature 26 degrees Celsius, dew point temperature 23 degrees Celsius, and altimeter 29.95 inches of mercury.

According to U.S. Naval Observatory data, civil twilight began at 0517 and sunrise occurred at 0545.

Airport Information

Airport:	Eglin Air Force Base VPS	Runway Surface Type:	Asphalt
Airport Elevation:	87 ft msl	Runway Surface Condition:	Dry
Runway Used:	01	IFR Approach:	None
Runway Length/Width:	1012 ft / 300 ft	VFR Approach/Landing:	Simulated forced landing

Runway 1 was 10,001 feet long and 300 feet wide. Field elevation was 60 feet. Pattern altitude was 1,100 feet msl, right traffic.

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Substantial
Passenger Injuries:		Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal	Latitude, Longitude:	30.483055,-86.525833(est)

Examination of the crash site revealed that the airplane impacted the aircraft parking ramp between parking rows G and H, in a left wing low, nose down attitude on a heading of 292 degrees magnetic. The left main landing gear separated from the airframe and three propeller blade marks were present on the ramp. The airplane continued down the crash debris line (CDL) on a heading of 290 degrees magnetic for 203 feet, before the left wing collided with an external power cart located to the rear of an F-15 parking sun shade. The left wing separated and a post-crash fire ensued. The airplane continued down the CDL and came to rest in the infield, east of runway 19/01, on a heading of 202 degrees magnetic. The crash debris line extended for 600 feet.

Examination of the nose section revealed that the engine assembly was displaced to the right. The engine remained secure on its engine mounts. The propeller assembly was connected to the propeller crankshaft flange. Both propeller blades remained attached to the propeller hub. One propeller blade exhibited twisting and the propeller blade tip was curled forward through mid-span about 15 degrees. The remaining 5 inches of the propeller blade was curled aft, and about 2.5 inches of the propeller blade tip was missing. The leading edge of the propeller blade exhibited gouging and chord wise scratching. Chord wise scarring was present on the cambered side. The remaining propeller blade exhibited twisting and the propeller blade tip was curled forward through mid-span about 90 degrees. The remaining 5 inches of the propeller blade was curled aft, and about 2.5 inches of the propeller blade tip was missing. The propeller spinner remained attached to the propeller hub and exhibited minor damage in the cuff areas.

The upper and lower engine cowlings remained attached to the airframe and were fire damaged. The nose landing gear upper trunnion remained attached to the airframe. The lower section of the nose landing gear was separated from the upper trunnion. The position of the nose landing gear could not be determined.

The forward cabin area was consumed by fire from the engine firewall, extending aft to the aft baggage compartment. The upper cabin structure was consumed by fire. The cabin windshield and cabin windows were destroyed. The right cabin door was separated from the airframe hinge attachment point. The door handle was in the locked position. The upper door pin was extended and the lower door pin was missing. The left cabin door and baggage compartment door were consumed by fire. Continuity of the flight control system was confirmed from the control yokes aft to all flight control surfaces, except for both elevators and the left aileron up cables. The left aileron up cable and both elevator cables separated at the wing spar splice plate. The cables exhibited failures consistent with overload. The throttle, propeller, mixture, and friction levers were destroyed. The fuel selector valve was in the right main fuel tank position.

The instrument panel was displaced from the firewall to the right. All gyro instruments were consumed by post-crash fire. The left and right forward cabin seats remained attached to the seat tracks. The seatbelts and shoulder harnesses were consumed by fire. The rear bench seat remained attached to the airframe.

The right wing remained attached at the wing root and was fire damaged. The leading edge of the right wing was not damaged. The right wing tip was separated. The right aileron was damaged and remained attached to all attachments points. The wing attachment for the right aileron inboard hinge was separated. The right flap was separated. The right main fuel tank was ruptured, exhibited hydraulic deformation, and no fuel was present. The fuel cap was secured with a tight seal. The right main landing gear separated at the upper trunnion wing attachment. The forward upper side of the right main landing gear trunnion fork exhibited scoring marks. The scoring marks were consistent with the gouge marks present at the initial point of impact, which measured about 3 inches in length and 1 inch wide.

The aft fuselage was partially consumed by fire and the tail cone separated. The horizontal stabilator, with its trim tab; and vertical stabilizer, with its rudder and trim tab remained attached to the aft fuselage. The stabilator trim tab actuator extension was measured and observed to be about 1 inch, which equated to 5- degrees trailing edge down.

The left wing was fire damaged, and was separated from the wing attach points. The leading edge of the wing exhibited accordion crushing, extending from the wing root outboard 3 feet. The leading edge of the wing was compressed inward at mid-span, extending outboard to the wing tip and inboard to the wing spar. The right main landing gear tire was located wedged under the leading edge of the wing, adjacent to the left main fuel tank. The leading edge of the wing was compressed rearward 11 feet 3 inches outboard of the wing root. Paint transfer marks were present on the leading edge of the wing from impact with the left rear tire of the external power cart. Paint transfer marks from the airplane were also present on the external power cart tire. The wing tip separated from the wing. The left main fuel tank was ruptured, exhibited hydraulic deformation, and no fuel was present. The left flap separated from its attachment point. The left aileron was damaged and remained attached to all attachments points. The wing attachment for the left aileron inboard hinge was separated. The trailing edge of the left aileron collided with a concrete ballard located adjacent to the external power cart. The left aileron push-pull tube was attached to the aileron and the left aileron bell crank. The left main landing gear separated at the upper trunnion wing attachment. The forward upper side of the left main landing gear trunnion fork exhibited scoring marks. The scoring marks were consistent with the gouge marks present at the initial point of impact, which measured about 3 inches in length and 1 inch wide.

Examination of the engine revealed that the exhaust system remained attached to all cylinders. The exhaust system was located beneath the engine and was damaged. The starter was not damaged and remained attached its mounting flange. The starter was not removed or tested. The ignition harness leads were fire damaged and not tested. The left magneto was fire damaged and remained attached to its mounting flange. The magneto was removed and the drive shaft was rotated freely by hand. The impulse coupling snapped and no spark was produced. The right magneto was fire damaged and remained attached to its mounting flange. The magneto was removed but could not be rotated by hand. The oil pump gears were observed rotating through the tachometer drive when the engine was rotated by hand. The oil filter was secure on its mount. The filter was removed and the filter element was destroyed by fire. The oil sump was breached. The oil suction screen was displaced and located with the wreckage.

The oil suction screen was contaminated with dirt and debris. Oil was observed along the CDL and in and around the engine area. The oil cooler was separated and was located near the engine.

The fuel servo unit was separated from its mount. The throttle plate was observed in the full open position. The servo remained attached to the engine by the control cables. The fuel servo was removed and examined. No fuel was observed in the servo. The fuel suction screen was removed and was free of contaminants. The fuel manifold was secure on its mount. The servo was removed and disassembled. The piston movement was restricted due to thermal damage. The fuel manifold diaphragm was examined and no anomalies were noted. The engine driven fuel pump was consumed by fire. The fuel injector lines were removed and no anomalies were noted. The fuel injector nozzles were removed. Cylinder Nos. 1 and 2 were clear, and cylinder No. 3 was obstructed. Cylinder No. 4 was partially obstructed. All fuel lines were destroyed. No fuel was found in the fuel system. The propeller governor, which was destroyed by fire, was secure on its mount, and removed.

The top and bottom spark plugs were removed. All sparkplugs displayed a mid-service life and color consistent with a rich mixture, when compared to the Champion Aviation Check-A-Plug card, except for the bottom, No. 2 cylinder plug, which was observed oil wet. The alternator was secure on its mount. The alternator was not removed or tested. The engine driven vacuum pump was removed, and the drive shaft was destroyed by fire.

All rocker covers were removed from the engine. All cylinders were inspected using a lighted bore scope and no anomalies were noted. The engine was rotated by hand from the propeller. Thumb suction and compression was noted on all cylinders. Impulse coupling snapping was heard. All rocker arms were observed moving on all cylinders. Crankshaft, camshaft, and valve train continuity was verified.

Medical and Pathological Information

The Armed Forces Medical Examiner, Rockford, Maryland, conducted an autopsy on the CFI on June 24, 2011. The cause of death was "multiple blunt force injuries." The Bioaeronautical Research Science Laboratory, FAA, Oklahoma City, Oklahoma performed a postmortem toxicology of specimens from the pilot. The specimens were negative for carbon monoxide, cyanide, and ethanol. No drugs were detected in the blood.

The Armed Forces Medical Examiner, Rockford, Maryland, conducted an autopsy on the pilot receiving instruction on June 24, 2011. The cause of death was "multiple blunt force injuries." The Bioaeronautical Research Science Laboratory, FAA, Oklahoma City, Oklahoma performed a postmortem toxicology of specimens from the pilot. The specimens were negative for carbon monoxide, cyanide, and ethanol. No drugs were detected in the blood.

Additional Information

According to FAA-H-8083-3A, “Airplane Flying Handbook,”

“The 360-degree power-off approach is one in which the airplane glides through a 360-degree change of direction to the preselected landing spot. The entire pattern is designed to be circular, but the turn may be shallowed, steepened, or discontinued at any point to adjust the accuracy of the flightpath.

The 360-degree approach is started from a position over the approach end of the landing runway or slightly to the side of it, with the airplane headed in the proposed landing direction and the landing gear and flaps retracted.

It is usually initiated from approximately 2,000 feet or more above the ground—where the wind may vary significantly from that at lower altitudes. This must be taken into account when maneuvering the airplane to a point from which a 90-degree or 180-degree power-off approach can be completed.

After the throttle is closed over the intended point of landing, the proper glide speed should immediately be established, and a medium-banked turn made in the desired direction so as to arrive at the downwind key position opposite the intended landing spot.

At or just beyond the downwind key position, the landing gear may be extended if the airplane is equipped with retractable gear. The altitude at the downwind key position should be approximately 1,000 to 1,200 feet above the ground.

After reaching that point, the turn should be continued to arrive at a base-leg key position, at an altitude of about 800 feet above the terrain. Flaps may be used at this position, as necessary, but full flaps should not be used until established on the final approach.

The angle of bank can be varied as needed throughout the pattern to correct for wind conditions and to align the airplane with the final approach. The turn-to-final should be completed at a minimum altitude of 300 feet above the terrain.”

Administrative Information

Investigator In Charge (IIC):	Smith, Carrol
Additional Participating Persons:	James I West; FAA Birmingham FSDO; Birmingham, AL Earnest Hall; Hawker Beechcraft; Wichita, KS John Butler; Lycoming Engines; Arlington, TX
Original Publish Date:	February 3, 2014
Last Revision Date:	
Investigation Class:	Class
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=80859

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).