



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	MANITOWISH WATR, WI	<b>Accident Number:</b>	CHI00FA284
<b>Date &amp; Time:</b>	09/01/2000, 2210 CDT	<b>Registration:</b>	N3076C
<b>Aircraft:</b>	Beech K35	<b>Aircraft Damage:</b>	Destroyed
<b>Defining Event:</b>		<b>Injuries:</b>	2 Fatal, 2 Serious, 1 Minor

**Flight Conducted Under:** Part 91: General Aviation - Personal

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## Analysis

The airplane was destroyed on impact with trees and terrain during an approach. The pilot and one passenger were fatally injured. The flight originated on an IFR clearance to VFR conditions on top. The flight acknowledged radar termination but continued to squawk 0106. A witness heard a crash about 2210 and said the ceiling was low and overcast. A front passenger stated she thought the pilot was performing an IFR approach and it was a normal approach. She said that she saw the runway lights. She stated that she remembers hitting something and the pilot saying, "OH NO, OH NO." She said that the pilot was using the emap GPS. A rear seat passenger was interviewed. He stated that during the flight from GRB to D25, the airplane was flying above clouds. He said that he saw runway lights, heard a rumbling or growling sound, like "RRRRRahRRRRRahRRRRR." He and another rear seat passenger both stated that the pilot said, "It's not working, it's not working." He said that the sound occurred about 300 feet or about a minute prior to hitting. The front passenger said that she was not aware of the pilot's conversation that the rear seat passengers heard. The sky condition was 400 feet overcast. The airport's NDB and GPS approach landing minima weather section listed 700 [feet ceiling]-1 [statute mile visibility] and 500-1 respectively. A clearance was not issued to the flight to perform an approach. The ADF's switch was found in the off position. The fuel selector's sump valve, spring, and screen were found coated with a brown colored media. Control continuity was established to all flight surfaces. Control continuity was established to the engine. A Garmin emap handheld GPS was found near the wreckage. A handheld radio, marked, JD-200, was found near the wreckage. A spray can, marked "HEET Starting Fluid", was found in the wreckage. The FAA CAMI report stated CHLORPHENIRAMINE and ACETAMINOPHEN were detected. The engine was test run and it produced full power. A radio shop witness said that the airplane's installed radio and GPS were inoperative.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the pilot not maintaining altitude/clearance from the trees during an approach on a dark, low overcast night, the pilot's improper use of an IFR procedure without clearance, and the pilot's

improper in-flight decision to attempt an IFR approach without clearance. Factors were the local weather being below published minimums, the trees, and the dark night.

## Findings

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Occurrence #1: IN FLIGHT COLLISION WITH OBJECT

Phase of Operation: APPROACH

### Findings

1. (F) OBJECT - TREE(S)
2. OPERATION WITH KNOWN DEFICIENCIES IN EQUIPMENT - CONTINUED - PILOT IN COMMAND
3. (F) WEATHER CONDITION - BELOW APPROACH/LANDING MINIMUMS
4. (C) IFR PROCEDURE - IMPROPER USE OF - PILOT IN COMMAND
5. (F) LIGHT CONDITION - DARK NIGHT
6. (C) ALTITUDE/CLEARANCE - NOT MAINTAINED - PILOT IN COMMAND
7. (C) IN-FLIGHT PLANNING/DECISION - IMPROPER - PILOT IN COMMAND

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

## Factual Information

### HISTORY OF FLIGHT

On September 1, 2000, at 2210 central daylight time, a Beech K35, N3076C, piloted by an instrument rated private pilot, was destroyed on impact with trees and terrain on approach to runway 32 at Manitowish Waters Airport (D25), near Manitowish Waters, Wisconsin. The personal flight was operating under 14 CFR Part 91. Instrument meteorological conditions prevailed at the time of the accident. An IFR to VFR conditions on top clearance was requested for the flight. The clearance was issued and was terminated. Of the five people on board, the pilot and one passenger were fatally injured, two passengers sustained serious injuries, and one passenger sustained minor injuries. The flight originated from Austin Straubel International Airport (GRB), near Green Bay, Wisconsin at 2035.

The Green Bay Air Traffic Control Tower's chronological summary of flight listed the following:

- [2028]- N3076C requested IFR clearance to VFR conditions on top northwest bound at 6500. N3076C was issued a clearance and told to maintain 3000.
- [2030]- N3076C read back the clearance and was issued taxi to runway 6.
- [2035]- N3076C called ready for takeoff and was cleared for takeoff to fly heading 360.
- [2037]- Tower controller asked N3076C his destination, replied Manitowish Waters. Controller issued clearance limit of Clintonville and was instructed to proceed on course.
- [2038]- N3076C was instructed to contact departure control.
- [2041]- N3076C was issued climb to 10,000 and he replied he just broke out at 3000 and would climb to 3500. N3076C was questioned if he was canceling his IFR and the reply is not readable.
- [2047]- Controller tried to terminate radar service but no reply.
- [2048]- N3076C acknowledged radar termination but continued to squawk 0106.

A witness stated:

At or near the time above [2210 to 2220] my wife [and] me were in our bedroom with the windows open. We heard a crash. She asked me if I heard it and I say yes. We heard no aircraft motor noise at any time. We are about 6-800 feet from the center line of the approach path. With the weather as it was one wouldn't expect an airplane. Cars hitting deer and other noises are heard quite often so we weren't [concerned]. I did look out at the road [and] woods and seen no fire so we discounted the noise of the crash.

He further said that the ceiling was low and overcast at the time of the crash.

A relative of the pilot called Green Bay Automated Flight Service Station and reported that the flight had not landed at D25.

On September 2, 2000, at about 0723, a Vilas County Deputy was dispatched to locate an overdue airplane for the Green Bay Flight Service. The deputy's report stated:

Dispatch advised that the airplane was due to land at the Manitowish Waters Airport at 11:00 p. m., where they were not contacted of a confirmed landing. ... Upon my arrival at the main entrance of the airport (approximately 08:20), Vilas Dispatch advised that the Civil Air Patrol had found a believed to be survivor (Josiah) from the missing plane, wandering in a grass covered field area, just south of the paved runway to the airport. ... I was directed to the area where Civil Air Patrol (CAP) was attempting to receive a fixed telemetry signal from the planes emergency transmitter. We were joined a few minutes later by some members of the Manitowish Waters Fire Department, where we spread out and began a woods search in the area which CAP directed the search to begin in. The area of the search was conducted in a heavily wooded area, that was located South East of the main approach to the black-top runway. With-in a few minutes of the ground search, one of the Manitowish Waters Fire Department personnel, yelled out that he had located the plane crash site, and there was some survivors that were in need of medical assistance.

A passenger was seated in the right front seat and she was interviewed in a local hospital after the accident. She stated that she thought the pilot was performing an IFR approach and that it was a normal approach. She said that she saw the runway lights. She stated that she remembers hitting something and the pilot saying, "OH NO, OH NO." She said that the pilot was using the emap GPS. She was asked if anything was wrong with the engine and she stated, "No."

A rear seat passenger was interviewed. He stated that during the flight from GRB to D25, the airplane was flying above clouds. He said that he saw runway lights, heard a rumbling or growling sound, like "RRRRRahRRRRRahRRRRR." He and another rear seat passenger both stated that the pilot said, "It's not working, it's not working." He said that the sound occurred about 300 feet or about a minute prior to hitting.

The front passenger said that she was not aware of the pilot's conversation that the rear seat passengers heard.

#### PERSONNEL INFORMATION

The pilot was an instrument rated private pilot. He held a Second Class Medical Certificate. The application for that medical certificate was dated March 2, 2000. On that application, the pilot listed his total pilot time to date as 1,300 hours. The pilot's flight review was conducted on February 15, 2000.

#### AIRCRAFT INFORMATION

The airplane was a Beech K35, serial number D-5741. The airplane was found modified with Supplemental Type Certificate (STC) SA1698NM. STC SA1698NM listed the specifications for the installation of a Lycoming IO-540-K1A5 engine and Hartzell propeller. The airplane logbooks were reviewed. The last recorded annual inspection was dated November 15, 1999. The entry for that annual listed the airplane's total time as 5,009 hours and its tachometer time as 1,620 hours. The tachometer read 1,657.01 hours at the accident site. The airframe logbook entry prior to the annual was dated October 15, 1998. That entry stated, "NOTE!! 2 YR TRANSPONDER CHECK IS PAST DUE, SO TRANSPONDER IS NOT LEGAL TO USE EVEN FOR VFR. [Mechanics name and his certificate number]"

#### METEOROLOGICAL INFORMATION

At 2217, the Lakeland/Noble F. Lee Memorial Field, near Minocqua, Wisconsin, weather was: Wind 040 degrees at 3 knots; visibility 10 statute miles; sky condition overcast 400 feet; temperature 14 degrees C; dew point 14 degrees C; altimeter 30.12 inches of mercury.

#### AIDS TO NAVIGATION

Two approaches were published for D25. The approaches are NDB RWY 32 and GPS RWY 32. The NDB landing minima section for aircraft approach category A and B straight in approach to runway 32 listed a minimum decent altitude (MDA) of 2,300 feet Mean Sea Level (MSL) and one mile visibility. This approach listed a 700 feet ceiling and one mile as its weather minimum. The GPS landing minima section for aircraft approach category A and B straight in approach to runway 32 listed a MDA of 2,080 feet MSL and one mile visibility. This approach listed a 500 feet ceiling and one mile visibility as its weather minimums. A clearance was not issued to the flight to perform either of these approaches.

#### WRECKAGE AND IMPACT INFORMATION

The airplane was found in a wooded area approximately 1,475 feet south of runway 32's threshold. (See appended sketch.) The airplane came to rest at latitude 46 degrees 6.88 minutes N and longitude 89 degrees 52.59 minutes W. Trees were found uprooted and broken along a linear path that was about 280 feet long and its magnetic bearing was about 320 degrees. The trees along this path were about 60 feet tall. The airplane's resting heading was 162 degrees.

An on-scene investigation was conducted. The forward section fuselage was found deformed. This section was crushed upward and rearward. The cabin area was twisted towards the left. The cabin door was found detached from the fuselage. The upper and right fuselage sections were found wrinkled inward in the area aft of the baggage door. The engine was found detached from the fuselage. The engine remained attached to its control cables. The propeller remained attached to the engine. One blade was bent rearward and exhibited leading edge nicks and chordwise scratches on its back. The underside of the fuselage exhibited a dark oily media when wiped. The right stabilizer was found with about a five-inch semicircular deformation on its leading edge near where the leading edge was found resting on a tree of about the same diameter. The right ruddervator was found attached to its stabilizer. The left stabilizer and its ruddervator were found attached together. The left ruddervator's trim cables remained attached and the ruddervator was found resting on foliage near the empennage. The left wing and aileron, outboard of the landing gear was detached from its inboard section of wing. The left tip tank was detached from that outboard section. The left flap was found attached to the inboard wing section. The right wing's outboard section found attached and deformed rearward and upward. The right wing's flap and aileron were found attached. The right tip tank was found detached from its wing. Fuel was found in the left and right auxiliary tanks and in the right tip tank. The left tip tank, and the right and left main tanks were found compromised. Both main landing gear were found in the down and locked position. The nose landing gear was found separated and bent. The fuel selector was found in the right hand tank position. That fuel selector's sump valve, spring, and screen were found coated with a brown colored media. (See appended photographs.) The Automatic Direction Finder (ADF) was found with the frequency, 364 kilohertz, set. The ADF's switch was found in the off position. The altimeter setting was found at 30.11 inches of mercury. The airplane's storm scope was set to the 25-mile range. The storm scope's switch was found in the off position. Control continuity was established to all flight surfaces. Control continuity was established to the

engine. The throttle, propeller, and mixture were found in their full forward position. A thumb compression was found at all six cylinders. The left magneto was found to produce ignition sparks.

A Garmin emap handheld GPS was found near the wreckage. A handheld radio, marked, JD-200, was found near the wreckage.

Instrument approach charts were found in the wreckage. The recovered charts were reviewed and their covers were found with expired dates.

A spray can, marked "HEET Starting Fluid", was found in the wreckage.

#### MEDICAL AND PATHOLOGICAL INFORMATION

The Milwaukee County Medical Examiner performed an autopsy on the pilot on September 3, 2000.

The FAA Civil Aeromedical Institute prepared a Final Forensic Toxicology Accident Report. The report stated:

	0.651 (ug/ml, ug/g) CHLORPHENIRAMINE detected in Liver	
	CHLORPHENIRAMINE detected in Urine	CHLORPHENIRAMINE NOT detected
in Blood	PSEUDOPHEDRINE present in Liver	PSEUDOPHEDRINE present in Blood
	PSEUDOPHEDRINE detected in Urine	PHENYLPROPANOLAMINE present in Blood
	PHENYLPROPANOLAMINE present in Liver	PHENYLPROPANOLAMINE detected
in Urine	DEXTRORPHAN detected in Urine	NORDEXTRORPHAN detected in Urine
	DEXTRORPHAN NOT detected in Blood	DEXTRORPHAN NOT detected
in Blood	19.301 (ug/ml, ug/g) ACETAMINOPHEN detected in Urine	

#### TESTS AND RESEARCH

The airplane's engine was sent to Textron Lycoming for a test run. The engine driven fuel pump, number two and five intake pipes, right magneto condenser cover, and both ignition harnesses were found damaged. The engine driven fuel pump produced suction and pressure to the touch when the unit was rotated by hand. Slave units were installed for the damaged parts. A starter and ring gear support assembly, front plug for the crankshaft, oil drain plug, vacuum pump pad cover plate and propeller governor pad cover plate were installed for the run. The engine was test run. The engine produced full rated power. The engine was accelerated with throttle slams four times from idle to full throttle. The engine reached full power within two seconds on all four of the throttle accelerations. The engine was found to be able maintain an idle at 627 RPM. (See appended photographs and Lycoming engine test run report.)

#### ADDITIONAL INFORMATION

The parties to the investigation included the FAA, Raytheon Aircraft Company, and Textron Lycoming.

The aircraft wreckage was released to a representative of the insurance company.

A D25 airport commissioner wrote a letter to the pilot. The letter stated, "We would also like a copy of your aircraft [airworthiness] certificate since you have been observed spraying a [starting] fluid into your aircraft and this presents a safety problem at the airport."

A witness, who worked at a Fixed Base Operator (FBO) that repairs avionics, stated:

I talked with [the pilot] the day before his accident. [The pilot] came into [our] shop with his airplane and wanted a COM-11A & GPS-100AVD fixed. I told him the COM-11A was not repairable, and the GPS-100AVD needed to be sent to the factory for repair. I did get in his airplane to test his GPS and verify it was inop. [The pilot] left the COM-11A with me but took his GPS-100AVD. I tried to sell him another GPS, but he declined. To my knowledge [the pilot] left our shop without a working Com or a working Nav, unless you count his handheld, which he seemed very proud of! ... My personal experience with [the pilot] is he fixed things only when absolutely necessary."

The airplane's manual was reviewed. Excerpts from its Section IV, Normal Procedures, stated:

PREFLIGHT INSPECTION ... 7. LEFT LANDING GEAR: ... d. Fuel Selector Valve Sump and Auxiliary Fuel Cell Interconnect Line - DRAIN; Cover - SECURE

Excerpts from its Section VIII, Handling, [Service] & [Maintenance], SERVICING, stated:

FUEL DRAINS On the standard fuel system open the three snap-type fuel drains daily to purge any water from the system. Each fuel cell drain is located on the bottom of the wing just outboard of the fuselage. The system low spot drain is at the bottom of the fuel selector valve. The drain is accessible through a door in the fuselage adjacent to the wing. When optional auxiliary fuel system is installed, also open the snap-type fuel drains on the auxiliary tanks, and drain on the auxiliary cell interconnect line at the selector valve.

FUEL STRAINERS ... The strainer at the bottom of the fuel selector valve should also be removed and cleaned with solvent every 100 hours.

A FBO at the Greater Rockford Airport (RFD) stated:

The owner did not perform preflight inspections before departure. Two or three months ago one of our line service technicians reported that one of the fuel caps on the aircraft was held on or at least covered with duct tape.

The mechanic, who performed the airplane's last annual inspection, stated:

At the last annual 11-15-99, he had called me at least a month before and said he had a bad oil leak and that his fuel pump was inop. (later I found out from someone that [the pilot] had been spraying either in the engine to start since he couldn't prime it with the fuel pump inop.) During the annual we removed the fuel pump, sent it out for overhaul, and reinstalled. The oil [leak] was corrected by overhauling both oil coolers and replacing all valve cover gaskets. Previously at the 1998 annual the right aux. and main and left main fuel tanks had water and both main tank fuel drains would not open.

We installed new main drain valves and cleaned all fuel screens at that time. When he picked up the plane I asked him if he had been draining the fuel sumps? His reply was yes! I then told him that both main drains were [corroded] shut and I had to replace them. His reply was oh yeh I forgot to tell you about that. I then gave him the lecture about how important it was to drain the tanks, especially since the airplane sets outside all the time. At the 1999 annual I again drained at least a 1/2 to 1 pint of water from the fuel tanks, cleaned all the fuel screens, and again gave the lecture on draining sumps. Sometime in June or July 2000 [the pilot] called me and asked if I had a fuel cap that he had lost one on the right side. I told him since he was already tied down at Rockford to just check with Raytheon so he could get a cap right away. Then the first part of August 2000 he

called me at home one night and said he was in Wisconsin and that the engine seemed to not develop full power, so he aborted the takeoff. The way he described the problem I assumed the fuel injectors were plugging up. He then told me since it was dark, he would stay the night and see what it ran like in the morning. I never heard from him, so I thought he got someone there to look at it. On August 24 he called and said the starter had failed and he had to prop it the last couple of trips. On the 25th when he flew over to Freeport from Rockford I found out that he never had the rough engine problem from the first part of August looked at, and that it was still running rough, also the fuel cap had never been replaced, but the opening was covered with duct tape. August 28th I installed a new magna flite light weight starter, a new fuel cap on the right aux tank, cleaned the fuel injectors, and injector servo screen. Also drained all sumps (the only one with water was the right aux And it was clear water.) and drained sump screen, about a 1/2 a fuel tester full of clear water came from this sump. Start up and test run ok. Rechecked all sumps after shut down. When [the pilot] called and wanted me to fly his airplane to Rockford and pick him up, I advised him I would not fly it because he never had the transponder [check] completed like I had told him to due. He swore he had [an avionics repair FBO at RFD] complete the inspection and that he had stickers with the sign off, and that he just never put it in the log book. So I flew the plane to Rockford, picked him up and he flew me back to Freeport. Everything operated normal on that trip.

The witness from the avionics repair FBO at RFD stated, "In searching our files, I find no record of our shop having performed a VFR or IFR biannual certification from 1996 through [October 31, 2001]."

Excerpts, from <http://www.cami.jccbi.gov/aam-600/610/600For-DRU.html>, stated:

**Acetaminophen:** Acetaminophen is a common over the counter analgesic/antipyretic (Tylenol). It is available in many oral dosage forms and in combination with various decongestants and/or antihistamines. ...

**Chlorpheniramine:** Is a common over the counter antihistamine used in the treatment of the common cold and hay fever. ... Warnings - may impair mental and/or physical ability required for the performance of potentially hazardous tasks (e.g., driving, operating heavy machinery). ...

**Dextromethorphan:** A cough suppressant, commonly used in over the counter preparations. ...

**Dextrorphan:** A metabolite of dextromethorphan, with a lesser cough suppressant (antitussive) activity. ...

**Nordextrorphan:** A metabolite of dextromethorphan, which is used as an antitussive in the treatment of the common cold. ...

**Phenylpropanolamine:** Is a metabolite of ephedrine and a common over the counter decongestant used in the treatment of the common cold and hay fever. ...

**Pseudoephedrine:** Is a common over the counter decongestant used in the treatment of the common cold and hay fever. ...

The Garmin web site, <http://www.garmin.com/products/emap/>, was reviewed. The emap gps description did not list an aviation database.

Runway 32 was observed. The runway did not have a Vertical Approach Slope Indicator(VASI). The Airport/Facility Directory was reviewed and it was listed as not having a VASI.

### Pilot Information

<b>Certificate:</b>	Private	<b>Age:</b>	36, Male
<b>Airplane Rating(s):</b>	Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	None	<b>Restraint Used:</b>	Seatbelt
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	No
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	Yes
<b>Medical Certification:</b>	Class 2 Valid Medical--no waivers/lim.	<b>Last FAA Medical Exam:</b>	03/02/2000
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	1300 hours (Total, all aircraft)		

### Aircraft and Owner/Operator Information

<b>Aircraft Make:</b>	Beech	<b>Registration:</b>	N3076C
<b>Model/Series:</b>	K35 K35	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>		<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Normal	<b>Serial Number:</b>	D-5741
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	4
<b>Date/Type of Last Inspection:</b>	11/15/1999, Annual	<b>Certified Max Gross Wt.:</b>	3150 lbs
<b>Time Since Last Inspection:</b>	37 Hours	<b>Engines:</b>	1 Reciprocating
<b>Airframe Total Time:</b>	5046 Hours	<b>Engine Manufacturer:</b>	Lycoming
<b>ELT:</b>	Installed, activated, did not aid in locating accident	<b>Engine Model/Series:</b>	IO-540-K1A5
<b>Registered Owner:</b>	KEVIN M. PENNIMAN	<b>Rated Power:</b>	300 hp
<b>Operator:</b>	KEVIN M. PENNIMAN	<b>Operating Certificate(s) Held:</b>	None

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument Conditions	Condition of Light:	Night/Dark
Observation Facility, Elevation:	ARV, 1630 ft msl	Distance from Accident Site:	13 Nautical Miles
Observation Time:	2217 CDT	Direction from Accident Site:	153°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	10 Miles
Lowest Ceiling:	Overcast / 400 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	3 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	40°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	57° C / 57° C
Precipitation and Obscuration:			
Departure Point:	GREEN BAY, WI (GRB)	Type of Flight Plan Filed:	None
Destination:	(D25)	Type of Clearance:	None
Departure Time:	2035 CDT	Type of Airspace:	Class G

## Airport Information

Airport:	MANITOWISH WATERS AIRPORT (D25)	Runway Surface Type:	Asphalt
Airport Elevation:	1610 ft	Runway Surface Condition:	Wet
Runway Used:	32	IFR Approach:	
Runway Length/Width:	3500 ft / 60 ft	VFR Approach/Landing:	

## Wreckage and Impact Information

Crew Injuries:	1 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal, 2 Serious, 1 Minor	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Fatal, 2 Serious, 1 Minor	Latitude, Longitude:	

## Administrative Information

Investigator In Charge (IIC):	EDWARD F MALINOWSKI	Report Date:	01/02/2002
Additional Participating Persons:	STEPHEN H RIDING; MILWAUKEE, WI ROBERT L RAMEY; WICHITA, KS GREGORY ERIKSON; WAYNE, IL		
Publish Date:			
Investigation Docket:	NTSB accident and incident docket serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at <a href="mailto:pubinq@ntsb.gov">pubinq@ntsb.gov</a> , or at 800-877-6799. Dockets released after this date are available at <a href="http://dms.nts.gov/pubdms/">http://dms.nts.gov/pubdms/</a> .		

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).