National Transportation Safety Board
Aviation Accident Final Report

Location:	McCall, ID	**Accident Number:**	SEA08FA116A
Date & Time:	05/02/2008, 1950 MDT	**Registration:**	N75856
Aircraft:	CESSNA 172N	**Aircraft Damage:**	Destroyed
Defining Event:	Midair collision	**Injuries:**	2 Minor
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

The Cessna 172N and a Cessna 172 collided in flight over the approach end of the intended runway during day, visual meteorological conditions. The airplanes were destroyed during the collision and postcrash fire. The pilot of the 172N reported that he entered the airport traffic pattern from the northwest and positioned the airplane on the downwind leg of the traffic pattern for the landing runway. After transmitting position reports for each segment of the pattern on the common traffic radio frequency, the pilot turned the airplane onto final approach and proceeded to land. Approximately 30 feet above ground level, prior to touchdown, he maneuvered the airplane into a flare which was immediately followed by the collision. The pilot reported that he was not aware of the other airplane prior to and during the collision sequence. A witness on the ground reported that both airplanes appeared to be on final approach, one above the other. The witness lost sight of the airplanes and shortly thereafter observed a cloud of black smoke near the approach end of the runway. Recorded radar data revealed that the 172N's flight path descended towards the airport from the northwest and turned to adjoin the downwind leg for the landing runway. The airplane then turned onto a base leg for the landing runway, followed by a turn onto the final approach path for the runway. The flight path continued northbound and descended toward the runway. The radar data disclosed that the 172's flight path descended toward the runway from the south consistent with a straight-in approach. The data further indicated that when the 172N was turning onto final approach at 5,600 feet msl, the 172 was at 5,300 msl. The flight path continued northbound and descended toward the runway. Federal Aviation Regulations state that vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft. Postaccident examination disclosed no evidence of any preimpact mechanical anomalies with either airplane.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the pilot to maintain adequate visual lookout and clearance from another airplane while attempting to land on the same runway. Contributing to the accident was the non-standard pattern entry by the pilot of the other airplane.

Findings

Personnel issues	Lack of action - Pilot (Cause) Monitoring other aircraft - Pilot (Cause)
Environmental issues	Traffic pattern procedure - Decision related to condition (Factor)

Factual Information

HISTORY OF FLIGHT

On May 2, 2008, about 1950 mountain daylight time, a Cessna 172N, N75856, and a Cessna 172, N4008F, collided in-flight over the approach end of runway 34 at the McCall Municipal Airport (uncontrolled), McCall, Idaho. Both airplanes were destroyed during the collision sequence and postcrash fire that ensued. N75856's commercial pilot received serious injuries; the passenger sustained minor injuries. Of the four occupants aboard N4008F, the private pilot and two passengers were killed; the third passenger received serious injuries. N75856 was operated by Felts Field Aviation under the provisions of Title 14 Code of Federal Regulation (CFR) Part 91. The visual flight rules (VFR) personal cross-country flight originated from Felts Field Airport in Spokane, Washington, approximately 1 hour and 30 minutes prior to the accident. A VFR flight plan was in effect. N4008F was operated by the owner/pilot under the provisions of Title 14 CFR Part 91. The VFR personal cross-country flight originated from Caldwell Industrial Airport, Caldwell, Idaho, approximately 45 minutes prior to the accident and was returning to McCall where the airplane was based. No flight plan was filed. Day visual meteorological conditions prevailed at the time of the accident.

In a written statement, the pilot of N75856 (172N) reported that he entered the downwind leg of the traffic pattern for runway 34 from a 45-degree angle at 6,500 feet mean sea level (msl). He made a radio traffic call as he adjoined the downwind leg, and reduced engine power when the airplane was abeam the runway identifier numbers. He configured the airplane with 10 degrees of flaps prior to turning onto the base leg and again, transmitted his position over the radio. The pilot turned the airplane onto final approach and conveyed his intention to "land long" over the radio. He further stated that while the airplane was approximately 30 feet above the runway surface he maneuvered the airplane into a flare. Immediately thereafter the collision occurred. The pilot reported that he was not aware of his position relative to the other airplane prior to, and during the collision sequence.

During an interview with a Safety Board investigator, a witness on the ground reported that both airplanes appeared to be on final approach for runway 34, with one above the other; he lost sight of them prior to the collision. The witness added that shortly after loosing sight of the airplanes he observed a cloud of black smoke near the approach end of the runway.

The airplanes came to rest on the west shoulder of runway 34 about 1,737 feet north of the landing threshold. The airplanes sustained extensive fire and impact related damage.

RADAR INFORMATION

Recorded radar data was obtained from the Salt Lake City Air Route Traffic Control Center (ARTCC) using data from the Fossil, Oregon, air route surveillance radar (ARSR) and the Cascade/Boise, Idaho ARSR. Based on the information obtained from both facilities, two radar tracks were indentified and consistent with the anticipated flight paths of the accident airplanes.

A review of the data disclosed that a primary track (transponder code 1200), consistent with that anticipated for N75856, descended towards the airport from the northwest. The radar return then displayed a turn to the south consistent with adjoining onto the downwind leg for

runway 34. At 1949:20 the radar return was approximately midfield, southbound, at 5,800 feet mean sea level (msl). At 1949:58 the radar return tracked east, consistent with a base leg for runway 34, and at 1950:08 the radar return associated with the airplane turned north, consistent with a final approach leg for runway 34, at 5,600 feet msl. The radar return continued in a northbound descent toward the runway.

A review of the data disclosed that a primary track (transponder code 1200), consistent with that anticipated for N4008F, descended towards the airport from the south consistent with a straight-in approach for runway 34. At 1949:58 the radar return was at 5,400 feet msl and continued northbound, consistent with a final approach leg for runway 34. At 1950:08 the radar return was at 5,300 msl. The flight path continued northbound and descended toward the runway.

PILOT INFORMATION

Pilot of N75856

The pilot of N75856, age 30, held a commercial pilot certificate for single-engine land, multi-engine land and instrument airplanes. The pilot held a certified flight instructor certificate (CFI) for single-engine and multi-engine airplanes, and instrument (CFII). The most recent FAA first-class medical certificate was issued to the pilot on July 10, 2007, and contained the limitation that he wear corrective lenses.

The pilot reported that his total aeronautical experience consisted of 478 flight hours; 351 flight hours were accrued in the capacity of pilot- in-command (PIC) and 143 flight hours were obtained in the same make and model as the accident airplane. Approximately 49 hours were accrued during the previous 90 days. The pilot completed a flight review on October 15, 2007.

Pilot of N4008F

The pilot of N4008F, age 52, held a private pilot certificate for single-engine land airplanes. The most recent FAA third-class medical certificate was issued to the pilot on August 29, 2007, and contained the limitation that he must have glasses available for near vision.

No personal flight time records (log books) were located by the Safety Board for the pilot. On an insurance application dated January 28, 2008, the pilot indicated that his total aeronautical experience consisted of 808 flight hours, of which 386 were accrued in the same make and model as the accident airplane. On the application, the pilot indicated that he completed a flight review on February 18, 2008.

AIRCRAFT INFORMATION

N75856

The Cessna 172N was manufactured in 1977. The high-wing single-engine airplane was equipped with a Lycoming engine, model O-360. The airplane was predominately white with orange and brown accent stripes on each side. According to the pilot, the fuel tanks were filled full prior to the departure from Spokane.

N4008F

The Cessna 172 was manufactured in 1958. The high-wing, single-engine airplane was equipped with a Continental engine, model O-300. The airplane was white with a red and blue

stripe on the wing tips and a solid blue color undercarriage. According to family members of the pilot, the fuel tanks were filled full prior to the departure from Caldwell.

Neither airplane was equipped with collision avoidance equipment, nor is such equipment required by the Federal Aviation Administration (FAA).

Both airplanes were equipped with two-way radios. The preaccident frequency selection of the radios could not be determined due to thermal and impact related damage.

METEOROLOGICAL INFORMATION

The closest weather observation was recorded at McCall at the time of the accident. The following conditions were reported: winds from 180 degrees at 3 knots, visibility 10 miles, sky condition clear, temperature 41 degrees Fahrenheit, dew point 21 degrees Fahrenheit, altimeter setting 30.08 inches of mercury.

According to U.S. Naval Observatory data, sunset occurred at 2052, and the end of civil twilight was at 2124.

AIRPORT INFORMATION

McCall Municipal Airport is located in a valley at an elevation of 5,024 feet and is surrounded by rising mountainous terrain. The airport has a hard-surfaced asphalt runway, which constitutes runways 16 and 34 magnetic. Runway 34 is 6,108 feet long, 75 feet wide and is equipped with visual approach slope indicator (VASI).

The Airport/Facility Directory (AFD) contained the following entry in the "Airport Remarks" section for the McCall Airport: "RWY [runway] 16-34 straight in VFR landings prohibited..."

The terrain surrounding the airport was covered by snow, however, the asphalt runway was dry at the time of the accident.

The airport was not serviced by an air traffic control tower at the time of the accident. The common traffic advisory frequency (CTAF) for the airport is 122.8.

WRECKAGE AND IMPACT INFORMATION

The airplanes came to rest entangled on the west side of runway 34, about 1,737 feet north of the landing threshold. Both sustained extensive impact and fire related damage. The first identified wreckage debris was located on the runway (near the centerline) approximately 1,000 feet north of the landing threshold. The debris consisted of blue colored paint chips and small pieces of aircraft structure.

N75856:

The wreckage came to rest, upright, on the west side of the runway. Extensive thermal damage was noted to the cockpit, cockpit controls, instrumentation and cabin area. The engine assembly and associated cowling were located adjacent to the main wreckage; the two-bladed propeller (Sensenich) and spinner remained attached to the engine. Leading edge damage and chord wise scratches were noted on both propeller blades. A section of blade tip, measuring approximately 3-inches in length, was separated from one of the propeller blades.

The main landing gear (left and right) was located with the main wreckage and thermal type damage was noted. The nose landing gear was separated from the airframe and located approximately 75 feet south of the main wreckage. Investigators found blue paint transfer and

scuffing on the left lower sidewall of the nose wheel tire.

The wings were located amid the main wreckage. Thermal damage was noted to the inboard section, which extended the entire thickness. The right and left lift struts were intact and remained attached to their respective wing assembly. The right wing flap and aileron were attached to the wing structure and nominal damage was noted. Thermal damage was noted to the upper wing skin of the left wing. The outboard section, approximately mid span, of the wing was bent and rolled upward. The left wing flap and aileron were attached to the wing structure. The aileron was bent and deflected upward. Nominal damage was noted to the inboard section of the left flap. Extensive thermal damage was observed to the outboard section of the flap. Flight control cable continuity was established for all flight controls. According to a representative from Cessna, the flap actuator measurements indicated the flaps were extended approximately 5-degrees.

The tail assembly sustained thermal related damage. The empennage was separated from the tail and came to rest, inverted, within the main wreckage. The vertical stabilizer and associated rudder remained attached. The assembly was bent to the right, nearly parallel to the horizontal stabilizer. The right side horizontal stabilizer was attached to the assembly and the associated elevator and trim tab were intact. The left side horizontal stabilizer was attached to the assembly and the associated elevator remained affixed. Thermal damage was noted to the outboard end of the stabilizer.

N4008F:

The wreckage came to rest, inverted, on the west side of the runway. Extensive thermal damage was noted to the cockpit, cockpit controls, instrumentation and cabin area. The engine assembly and associated cowling were located adjacent to the main wreckage. The two-bladed propeller (McCauley) and spinner were intact and remained attached to the engine. Leading edge damage, aft bending and chord wise scratches were observed to one of the propeller blades. Chord wise scratches and leading edge damage was located on the other blade; the blade was bent forward and curled from mid span to the tip.

Thermal damage was noted to both left and right main landing gear and associated wheel assemblies. The nose landing gear and strut assembly remained attached to the airframe firewall.

The wings were located with the main wreckage. Thermal damage was observed to the inboard sections of the wings, extending through the entire section. Extensive thermal damage was noted to the top center wing carry-through (center section). Multiple parallel slash type gouges were noted to the top of the wing carry through. The slash marks varied in lengths between 8 and 17-inches. The slash marks were perpendicular to the longitudinal axis of the airplane and were dimensionally consistent with a propeller blade tip. Nominal damage was noted to the right aileron. The aileron remained attached to the wing structure. Extensive thermal damage was noted to the right flap. The left wing flap and aileron were attached to the wing structure. The outboard section of the left wing and associated aileron was bent and deflected upward. Thermal damage was observed on the inboard section of the flap.

The empennage was separated from the tailcone, approximately mid span, and came to rest with the main wreckage. Extensive aft crushing and tearing was noted to the vertical stabilizer. The rudder remained attached to the assembly. Both left and right horizontal stabilizers,

associated elevators and trim tab, were in place and remained attached to the empennage assembly. Aft crushing and bending was observed on the stabilizers.

Flight control cable continuity was established for all flight controls. The preimpact position of the wing flaps could not be determined.

Postaccident examination disclosed no evidence of any preimpact mechanical anomalies with either airplane.

MEDICAL AND PATHOLOGICAL INFORMATION

An autopsy was performed on the pilot of N4008F on May 5, 2008, as authorized by the Valley County Coroner. The postmortem report attributed the cause of death to thermal injuries and blunt force trauma.

The FAA's Civil Aerospace Medical Institute performed forensics toxicology testing on specimens from the pilot and no drugs of abuse were detected.

ADDITIONAL DATA/INFORMATION

FAA Advisory Circular (AC) 90-48C, titled Pilots' Role in Collision Avoidance, states, in part:

"The flight rules prescribed in Part 91 of the Federal Aviation Regulations (FAR) set forth the concept of 'See and Avoid.' This concept requires that vigilance shall be maintained at all times, by each person operating an aircraft, regardless of whether the operation is conducted under Instrument Flight Rules (IFR) or Visual Flight Rules (VFR).

Pilots should also keep in mind their responsibility for continuously maintaining a vigilant lookout regardless of the type of aircraft being flown. Remember that most MAC [mid-air collision] accidents and NMAC [near mid-air collisions] occur during good VFR weather conditions and during the hours of daylight."

The AC further states, with respect to airport traffic patterns, pilots should:

"When entering a known traffic pattern at a non tower airport, keep a sharp lookout for other aircraft in the traffic pattern. Enter the pattern in level flight and allow plenty of spacing to avoid overtaking or cutting any aircraft out of the pattern."

"When approaching an unfamiliar airport fly over or circle the airport at least 500 feet above the traffic pattern altitude (usually at 2,000 feet or more above the surface) to observe the airport layout, any local traffic in the area, and the wind and traffic direction indicators. Never descend into the traffic pattern from directly above the airport."

It further states that pilots must "be particularly alert before turning to the base leg, final approach course, and during the final approach to landing. At non tower airports, avoid entering the traffic pattern on the base leg or from a straight-in approach to the landing runway."

History of Flight

Approach-VFR pattern final	Midair collision (Defining event)

Pilot Information

Certificate:	Flight Instructor; Commercial	**Age:**	30, Male
Airplane Rating(s):	Multi-engine Land; Single-engine Land	**Seat Occupied:**	Left
Other Aircraft Rating(s):	None	**Restraint Used:**	Seatbelt, Shoulder harness
Instrument Rating(s):	Airplane	**Second Pilot Present:**	No
Instructor Rating(s):	Airplane Multi-engine; Airplane Single-engine	**Toxicology Performed:**	No
Medical Certification:	Class 1 With Waivers/Limitations	**Last Medical Exam:**	07/10/2007
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	07/10/2007
Flight Time:	478 hours (Total, all aircraft), 413 hours (Total, this make and model), 351 hours (Pilot In Command, all aircraft), 49 hours (Last 90 days, all aircraft), 25 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	CESSNA	**Registration:**	N75856
Model/Series:	172N	**Aircraft Category:**	Airplane
Year of Manufacture:		**Amateur Built:**	No
Airworthiness Certificate:	Normal	**Serial Number:**	17268003
Landing Gear Type:	Tricycle	**Seats:**	4
Date/Type of Last Inspection:	04/18/2008, Annual	**Certified Max Gross Wt.:**	2550 lbs
Time Since Last Inspection:		**Engines:**	1 Reciprocating
Airframe Total Time:	4402 Hours	**Engine Manufacturer:**	LYCOMING
ELT:	Installed, activated, did not aid in locating accident	**Engine Model/Series:**	O-360 SERIES
Registered Owner:	FELTS FIELD AVIATION INC	**Rated Power:**	180 hp
Operator:	Felts Field Aviation	**Air Carrier Operating Certificate:**	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	KMYL, 5024 ft msl	**Observation Time:**	1950 MDT
Distance from Accident Site:		**Condition of Light:**	Day
Direction from Accident Site:		**Conditions at Accident Site:**	Visual Conditions
Lowest Cloud Condition:	Clear	**Temperature/Dew Point:**	5°C / -6°C
Lowest Ceiling:	None	**Visibility**	10 Miles
Wind Speed/Gusts, Direction:	3 knots, 180°	**Visibility (RVR):**	
Altimeter Setting:	30.08 inches Hg	**Visibility (RVV):**	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	SPOKANE, WA (SFF)	**Type of Flight Plan Filed:**	VFR
Destination:	McCall, ID (MYL)	**Type of Clearance:**	None
Departure Time:	1620 PDT	**Type of Airspace:**	Class G

Airport Information

Airport:	McCall Municipal Airport (KMYL)	**Runway Surface Type:**	Asphalt
Airport Elevation:	5024 ft	**Runway Surface Condition:**	Dry
Runway Used:	34	**IFR Approach:**	None
Runway Length/Width:	6108 ft / 75 ft	**VFR Approach/Landing:**	Traffic Pattern

Wreckage and Impact Information

Crew Injuries:	1 Minor	**Aircraft Damage:**	Destroyed
Passenger Injuries:	1 Minor	**Aircraft Fire:**	On-Ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-Ground
Total Injuries:	2 Minor		

Administrative Information

Investigator In Charge (IIC):	Dennis J Hogenson	**Adopted Date:**	04/15/2009
Additional Participating Persons:	Douglas Dymock; FAA FSDO; Boise, ID Max Green; NTSB; Washington, DC Seth Buttner; Cessna Aircraft; Wichita, KS Patsy D Rabdau; McCall Police; McCall, ID Sandy Rowlett; NTSB; Washington, DC		
Publish Date:	04/16/2009		
Investigation Docket:	NTSB accident and incident dockets 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 pubinq@ntsb.gov, or at 800-877-6799. Dockets released after this date are available at http://dms.ntsb.gov/pubdms/.		

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