



National Transportation Safety Board Aviation Accident Final Report

Location:	Marion, OH	Accident Number:	IAD05LA051
Date & Time:	04/02/2005, 1630 EST	Registration:	N3292S
Aircraft:	Cessna 182N	Aircraft Damage:	Substantial
Defining Event:		Injuries:	2 Minor, 2 None
Flight Conducted Under:	Part 91: General Aviation - Personal		

Analysis

Prior to departure, the pilot received a weather briefing, which included information about a low-pressure area that contained moisture, advisories for icing, and information about the freezing level that existed along his planned route of flight. While en route he was advised by air traffic control of pilot reports of icing, and other aircraft on the assigned radio frequency were reporting ice accretion. He requested lower altitudes and eventually elected to divert to an alternate airport where he performed an instrument approach. During the approach, he extended the flaps, and the airplane began descending at a rate that he could not arrest. The airplane impacted the ground short of the runway, in a wings level attitude and nosed over. The pilot stated that while in flight, he had observed ice adhering to the airframe and the windshield. When an airport employee arrived at the accident site, he estimated that the airplane's leading edges were covered with 1 to 1.5 inches of ice. The emergency procedures section of the owners manual revealed that, although flying into known icing conditions is prohibited, the pilot during an unexpected icing encounter, should plan a landing at the nearest airport, be prepared for a significantly higher stall speed, and to leave the wing flaps retracted.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's inadequate in-flight planning/decision which resulted in an encounter with icing conditions and the accretion of ice on the airframe. Also causal was the pilot's improper setting of the flaps in icing conditions in accordance with operating procedures which resulted in a stall/mush.

Findings

Occurrence #1: IN FLIGHT ENCOUNTER WITH WEATHER
Phase of Operation: CRUISE - NORMAL

Findings

1. PREFLIGHT BRIEFING SERVICE - OBTAINED - PILOT IN COMMAND
 2. (F) WEATHER EVALUATION - IMPROPER - PILOT IN COMMAND
 3. (F) FLIGHT INTO KNOWN ADVERSE WEATHER - INTENTIONAL - PILOT IN COMMAND
 4. (F) WEATHER CONDITION - ICING CONDITIONS
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Occurrence #2: LOSS OF CONTROL - IN FLIGHT
Phase of Operation: APPROACH

Findings

5. (C) FLAPS - IMPROPER
 6. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
 7. AIRSPEED - INADEQUATE
 8. STALL/MUSH
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Occurrence #3: IN FLIGHT COLLISION WITH TERRAIN/WATER
Phase of Operation: DESCENT - UNCONTROLLED

Findings

9. TERRAIN CONDITION - GROUND

Factual Information

On April 2, 2005, at 1630 eastern standard time, a Cessna 182N, N3292S, was substantially damaged when it impacted terrain during an instrument approach to the Marion Municipal Airport (MNN), Marion, Ohio, following an encounter with in-flight icing. The certificated private pilot and three passengers were not injured. Instrument meteorological conditions prevailed, and an instrument flight rules flight plan was filed for the flight which departed the Morgantown Municipal Airport (MGW), Morgantown, West Virginia, about 1430, destined for the Toledo Suburban Airport (DUH), Lambertville, Michigan. The personal flight was conducted under 14 CFR Part 91.

At approximately 1130 eastern standard time the pilot received a telephonic weather briefing from the Elkins Automated Flight Service Station. He was advised of a low-pressure area that was over the state of West Virginia, that was moving to the east, with moisture that stretched across the state of Ohio. He was also informed "advisories are out there for icing, occasional moderate rime or mixed icing in clouds." Additionally, he was told that the freezing level at Pittsburgh Pennsylvania was at 6,000 feet, and that "Cleveland is a little bit lower, because I've got minus 4 at 6,000 over Cleveland."

A review of air traffic control tapes revealed that between the hours of 1500 and 1543, after radio communications were first established, the approach controller at the Akron-Canton Terminal Radar Approach Control facility advised the pilot of reports of light clear icing at 4,000 feet. The pilot responded, "we had a little bit earlier, but it seems to have melted off." The approach controller queried another aircraft on the frequency as to whether they were accreting any ice. They replied that they were accreting very light rime ice while at 3,500 feet, and that the temperature was -4 degrees Celsius.

Later in the flight, the pilot was told to climb to 5,000 feet to avoid other air traffic. He subsequently advised the approach controller, "we're picking up a little ice here, we were ok at 4,000." The air traffic controller then coordinated a descent for the pilot to 4,100 feet, and after a second request, to 3,100 feet.

About 40 nautical miles south of the Mansfield Lahm Regional Airport (MFD), Mansfield, Ohio, the pilot elected to divert to MFD. He was told by the approach controller that approximately 3 to 5 inches of snow had accumulated on the runway. The pilot then asked the approach controller for another airport to divert to and was directed to MNN for the GPS Runway 24 approach.

According to the pilot, while on the approach for runway 24, he extended the flaps at approximately 100 feet above ground level, and the airplane began descending at a rate that he could not arrest. The airplane impacted the ground about 250 feet short of the runway in a wings level attitude. During the impact, the nose wheel dug into the ground, and the airplane nosed over, coming to rest inverted, about 100 feet from the approach end of the runway.

During a telephone interview, the pilot stated that during the flight, he observed conglomerate ice adhering to the airframe, the windshield was covered at least 50 percent with ice, and the autopilot kept trimming "nose up."

The director of aviation for MNN stated during a telephone interview, that at the time of the accident, very wet, large snowflakes were falling at the airport. When he arrived at the accident site, about 5 to 6 minutes after it had occurred, he estimated that the airplane's leading edges

were covered with 1 to 1.5 inches of ice.

A review of the emergency procedures section of the owners manual revealed that, "although flying into known icing conditions is prohibited," the pilot during an unexpected icing encounter, should "plan a landing at the nearest airport," "be prepared for significantly higher stall speed," and to "leave wing flaps retracted."

A weather observation taken at MNN, about 7 minutes after the accident, recorded the winds as 340 degrees at 21 knots, gusting to 29 knots, 4 statute miles visibility in unknown precipitation and mist, overcast clouds at 700 feet, temperature 36 degrees Fahrenheit, dew point 34 degrees Fahrenheit, and an altimeter setting of 29.61 inches of mercury.

Pilot Information

Certificate:	Private	Age:	59, Male
Airplane Rating(s):	Single-engine Land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	Seatbelt
Instrument Rating(s):	Airplane	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 3 Valid Medical--w/ waivers/lim.	Last Medical Exam:	10/01/2003
Occupational Pilot:		Last Flight Review or Equivalent:	03/01/2004
Flight Time:	611 hours (Total, all aircraft), 315 hours (Total, this make and model), 595 hours (Pilot In Command, all aircraft), 4 hours (Last 90 days, all aircraft), 2 hours (Last 30 days, all aircraft), 2 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Cessna	Registration:	N3292S
Model/Series:	182N	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	18260635
Landing Gear Type:	Tricycle	Seats:	4
Date/Type of Last Inspection:	03/01/2005, Annual	Certified Max Gross Wt.:	2950 lbs
Time Since Last Inspection:	13 Hours	Engines:	1 Reciprocating
Airframe Total Time:	4980 Hours	Engine Manufacturer:	Continental
ELT:	Installed, not activated	Engine Model/Series:	O-470/TS
Registered Owner:	Sky Lane Aero Club Inc.	Rated Power:	240 hp
Operator:	Sky Lane Aero Club Inc.	Air Carrier Operating Certificate:	None

Meteorological Information and Flight Plan

Observation Facility, Elevation:	MNN, 993 ft msl	Observation Time:	1637 EST
Distance from Accident Site:	0 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:		Conditions at Accident Site:	Instrument Conditions
Lowest Cloud Condition:		Temperature/Dew Point:	2°C / 1°C
Lowest Ceiling:	Overcast / 700 ft agl	Visibility	4 Miles
Wind Speed/Gusts, Direction:	21 knots/ 29 knots, 340°	Visibility (RVR):	
Altimeter Setting:	29.61 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	In the Vicinity - Blowing - Unknown Precipitation; In the Vicinity - Mist		
Departure Point:	Morgantown, WV (MGW)	Type of Flight Plan Filed:	IFR
Destination:	Lambertville, MI (DUH)	Type of Clearance:	IFR
Departure Time:	1430 EST	Type of Airspace:	Class G

Airport Information

Airport:	Marion Municipal Airport (MNN)	Runway Surface Type:	Asphalt
Airport Elevation:	993 ft	Runway Surface Condition:	Wet
Runway Used:	25	IFR Approach:	Global Positioning System
Runway Length/Width:	5000 ft / 100 ft	VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	1 Minor	Aircraft Damage:	Substantial
Passenger Injuries:	1 Minor, 2 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	2 Minor, 2 None		

Administrative Information

Investigator In Charge (IIC):	Todd G Gunther	Adopted Date:	09/13/2005
Additional Participating Persons:	Stephen C Bowman; FAA FSDO-07; Columbus, OH		
Publish Date:			
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.nts.gov/pubdms/ .		

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