

Log 1999



National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: September 21, 1988

In reply refer to: A-88-113 and -114

Honorable T. Allan McArtor
Administrator
Federal Aviation Administration
Washington, D.C. 20591

At 0950 on July 12, 1987, a float-equipped Cessna 180A, N5027E, collided with water immediately after takeoff from Long Lake, New Brighton, Minnesota, while on a personal flight. Visual meteorological conditions prevailed at the time of the accident; no flight plan had been filed. The airplane was destroyed, and the pilot and four passengers were fatally injured. Only one of the five occupants suffered trauma; the others were not injured. Drowning was the official cause of death of all five airplane occupants.¹ Although the circumstances of the accident indicate that none of the occupants were able to escape from the airplane, the postaccident inspection revealed that no personal flotation devices (PFD) or any other flotation equipment was aboard the airplane. Consequently, had any of the occupants of the airplane been able to escape, their ability to survive in the lake would have been compromised.

As a result of this accident, the National Transportation Safety Board was prompted to examine its accident files to determine if there were other accidents where survivors could have been saved by using personal flotation devices. The Safety Board's records showed that between 1983 and 1986, 15 survivable accidents involved water contact. Thirteen of the 15 airplanes involved sank immediately and the other 2 remained afloat. Of the 30 occupants aboard these 15 airplanes, 10 were killed, 7 were seriously injured, 10 had minor injuries, and 12 had no injuries. Of the 10 that died, 8 were involved in crashes where other occupants survived. Also, of these 10 fatalities, 5 drowned. The Safety Board believes that personal flotation devices may have allowed some of those 10 persons to survive until they were either rescued or were able to make their way to shore.

Several examples from the Safety Board's investigations illustrate the point. In one accident,² witnesses saw the airplane crash and within several minutes saw two occupants climb onto the floating wreckage. The witnesses began building a log raft to rescue the occupants, but before they could complete it, the occupants had drifted

¹For more detailed information, read Field Accident Brief File No. 1700 (attached).

²For more detailed information, read Field Accident Brief File No. 2854 (attached).

out of sight in fog and rain. A search was made, but the occupants were never found and were presumed to have drowned. In a second Safety Board investigation,³ the airplane struck a sand bar while taxiing and turned over and sank after 1 1/2 hours. The pilot stated that he had everyone remove their chest and hip waders and that he tied the openings closed after the waders were filled with air. He and his three passengers attempted to swim to shore. Two individuals were lost and are presumed drowned. The waders were the only flotation devices available to them. The pilot stated there was no emergency flotation gear on board the airplane.

The exact number of amphibians and floatplanes in the United States is difficult to determine because some airplanes can be operated as floatplanes and then as land-based planes simply by removing the floats and adding wheels. Also, the Federal Aviation Administration does not cite a floatplane category when compiling and reporting statistics on aircraft type, operations, etc. However, the Seaplane Pilots Association estimates that between 7,500 and 8,500 floatplanes operate in the United States. The estimate breaks down to about 3,000 floatplanes in the State of Alaska; a total of 2,000 floatplanes in the States of Minnesota, Washington, and Oregon; and the remainder divided among other States.

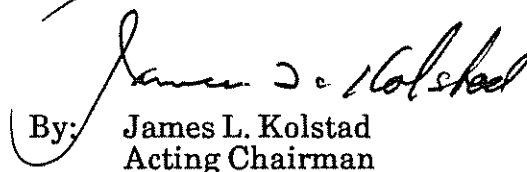
The Safety Board believes that amphibians and floatplanes inherently are exposed to a greater risk to water mishaps than are land-based aircraft. Consequently, pilots and passengers of these aircraft should be required to carry flotation equipment, and the pilot-in-command of such aircraft should be required to brief all passengers on the location and operation of the flotation equipment before each flight. Federal Aviation Regulations do not require flotation devices on aircraft that operate under 14 CFR Part 91 except on aircraft operated for hire and on large turbine-powered multiengine airplanes on extended overwater operations, that is, more than 50 miles from shore.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

Amend 14 CFR Part 91 to require that all aircraft operated on water be equipped with approved flotation gear readily available to each occupant. (Class II, Priority Action) (A-88-113)

Amend 14 CFR Part 91 to require that the pilot-in-command (PIC) brief all passengers on the location of flotation gear if the PIC intends to make a water takeoff or landing. (Class II, Priority Action) (A-88-114)

KOLSTAD, Acting Chairman, and BURNETT, LAUBER, NALL, and DICKINSON, Members, concurred in these recommendations.


By: James L. Kolstad
Acting Chairman

³For detailed information, read Field Accident Brief File No. 1633 (attached).

National Transportation Safety Board
Washington, D.C. 20594

Brief of Accident

File No. - 1700 1/7/12/87 NEW BRIGHTON, MN A/C Reg. No. N5027E Time (Lcl) - 0950 CDT

---Basic Information---

Type Operating Certificate-NONE (GENERAL AVIATION)

Type of Operation: -PERSONAL
Flight Conducted Under -14 CFR 91
Accident Occurred During -DESCENT

Aircraft Damage DESTROYED
Fire NONE
Crew 1
Pass 4
Fatal 1
Serious 0
Minor 0
Injuries Serious 0
Minor 0
Nonin 0

---Aircraft Information---

Make/Model - CESSNA 180
Landing Gear - FLOAT
Max Gross Wt - 2650
No. of Seats - 4

Eng Make/Model - CONTINENTAL O-470-K ELT Installed/Activated - YES/NO
Number Engines - 1 Stall Warning System - YES
Engine Type - RECIPROCATING-CARBURETOR
Rated Power - 235 HP

---Environment/Operations Information---

Weather Data
WX Briefing - NO RECORD OF BRIEFING
Method - N/A
Completeness - N/A
Basic Weather - VMC
Wind Dir/Speed - 240/009 KTS
Visibility - 8.0 SM
Lowest Sky/Clouds - 800 FT SCATTERED
Lowest Ceiling - 1300 FT BROKEN
Obstructions to Vision - NONE
Precipitation - NONE
Condition of Light - DAYLIGHT

Itinerary

Last Departure Point
SAME AS ACC/INC
Destination
LOCAL

Airport Proximity
UNK/NR

Airport Data

Runway Ident - N/A
Runway Lth/Wid - N/A
Runway Surface - N/A
Runway Status - N/A

---Personnel Information---

Pilot-In-Command
Certificate(s)/Ratings(s)
PRIVATE
SE LAND, SE SEA

Age - 73 Medical Certificate - VALID MEDICAL-NO WAIVERS/LIMIT
Biennial Flight Review Flight Time (Hours) Last 24 Hrs - UNK/NR
Current - YES Total - 2809 Last 30 Days - 7
Months Since - 2 Make/Model - UNK/NR Last 90 Days - UNK/NR
Aircraft Type - C-180 Instrument - UNK/NR Rotorcraft - UNK/NR
Multi-Eng - UNK/NR

Instrument Rating(s) - NONE

---Narrative---

WITNESSES OBSERVED THE FLOATPLANE START A CLIMBING LEFT TURN SHORTLY AFTER BECOMING AIRBORNE FROM A WATER TAKEOFF. THE AIRCRAFT'S RIGHT WING DROPPED AND THE AIRCRAFT DROVE INTO THE WATER WHERE IT STRUCK THE SURFACE RIGHT WING FIRST, FLIPPED INVERTED AND SANK. THE AIRCRAFT CAME TO REST SUBMERGED AND SUSPENDED UPSIDE DOWN FROM THE FLOATS WHICH REMAINED ON THE SURFACE. ALL FIVE OCCUPANTS DIED BY DROWNING IN THE AIRPLANE.

Brief of Accident (Continued)

File No. - 1700 7/12/87 NEW BRIGHTON, MN A/C Reg. No. N5027E Time (Lcl) - 0950 CDT

Occurrence #1 LOSS OF CONTROL - IN FLIGHT
Phase of Operation TAKEOFF - INITIAL CLIMB

- Findings(s)
- 1. AIRCRAFT PERFORMANCE, CLIMB CAPABILITY - EXCEEDED
 - 2. AIRSPEED(S) - NOT MAINTAINED - PILOT IN COMMAND
 - 3. OVER CONFIDENCE IN AIRCRAFT'S ABILITY - PILOT IN COMMAND
 - 4. STALL

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

- Findings(s)
- 5. TERRAIN CONDITION - WATER
 - 6. MISC EQPT/FURNISHINGS, LIFEVEST - NOT INSTALLED

-----Probable Cause-----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2

Factor(s) relating to this accident is/are finding(s) 3,6

Brief of Accident (Continued)

File No. - 2854

9/21/83

VALDEZ,AK

A/C Reg. No. N4559F

Time (Lcl) - 1115 ADT

Occurrence #1 IN FLIGHT COLLISION WITH TERRAIN
Phase of Operation APPROACH - VFR PATTERN - BASE TO FINAL

Findings(s)

1. WEATHER CONDITION - RAIN
2. WEATHER CONDITION - OBSCURATION
3. WEATHER CONDITION - FOG
4. TERRAIN CONDITION - WATER, GLASSY
5. ALTITUDE - MISJUDGED - PILOT IN COMMAND
6. FLARE - DELAYED - PILOT IN COMMAND
7. RECOVERY FROM BOUNCED LANDINGS - NOT POSSIBLE - PILOT IN COMMAND

-----Probable Cause-----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 5,6

Factor(s) relating to this accident is/are finding(s) 1,2,3,4

National Transportation Safety Board
Washington, D.C. 20594

Brief of Accident

File No. - 1633 I. 8/28/84 ILIAMNA BAY, AK A/C Reg. No. N2641Y Time (Lcl) - 0600 ADT

---Basic Information---
 Type Operating Certificate-NONE (GENERAL AVIATION) Aircraft Damaged DESTROYED Fatal 0 Serious 0 Minor 0 None 1
 Type of Operation -BUSINESS Crew Pass 0 0
 Flight Conducted Under -14 CFR 91
 Accident Occurred During -TAXI

---Aircraft Information---
 Make/Model - CESSNA 180
 Landing Gear - FLOAT
 Max Gross Wt - 2550
 No. of Seats - 4
 Eng Make/Model - CONTINENTAL O-470-L
 Number Engines - 1
 Engine Type - RFCIFROCATING-CARBURETOR
 Rated Power - 230 HP
 ELT Installed/Activated - YES/NO
 Stall Warning System - YES

---Environment/Operations Information---
 Weather Data
 WX Briefing - NO RECORD OF BRIEFING
 Method - N/A
 Completeness - N/A
 Basic Weather - VMC
 Wind Dir/Speed - CALM
 Visibility - 1.000 SM
 Lowest Sky/Clouds - CLEAR
 Lowest Ceiling - 2000 FT BROKEN
 Obstructions to Vision - NONE
 Precipitation - NONE
 Condition of Light - DAWN
 Itinerary
 Last Departure Point
 SAME AS ACC/INC
 Destination
 PEDRO BAY, AK
 ATC/Airspace
 Type of Flight Plan - NONE
 Type of Clearance - NONE
 Type Appch/Lnds - NONE
 Airport Proximity
 OFF AIRPORT/STRIP
 Airport Data
 Runway Ident - N/A
 Runway Lth/Wid - N/A
 Runway Surface - N/A
 Runway Status - N/A

---Personnel Information---
 Pilot-In-Command
 Certificate(s)/Rating(s)
 PRIVATE
 SE LAND, SE SEA
 Medical Certificate - VALID MEDICAL-WAIVERS/LIMIT
 Flight Time (Hours)
 Total - 3050
 Make/Model - 300
 Instrument - UNK/NR
 Multi-Eng - UNK/NR
 Last 24 Hrs - 4
 Last 30 Days - UNK/NR
 Last 90 Days - 120
 Rotorcraft - UNK/NR

Instrument Rating(s) - NONE
 ---Narrative---
 THE ACFT STRUCK A GRAVEL BAR WHILE TAXIING. THE ACFT WAS NOT FREED FROM THE GRAVEL BAR UNTIL THE NEXT MORNING DUE TO A RECEDING TIDE ON THE PREVIOUS NIGHT, APPROX 3 HOURS LATER AS THE PILOT TAXIED AROUND AWAITING DAYLIGHT FOR TAKEOFF, THE ACFT ROLLED OVER IN THE WATER AND EVENTUALLY SANK. PRIOR TO THE DISAPPEARANCE OF THE ACFT, THE PILOT NOTICED TWO 1 INCH DENTS IN THE SURGERGED FLOAT WITH BUBBLES COMING OUT OF THEM. THE PILOT ALSO STATED THAT THE FLOATS ROUTINELY LEAKED AND NEEDED TO BE PUMPED OUT DAILY, HOWEVER HE INDICATED THAT THIS WAS NOT ACCOMPLISHED BETWEEN THE TIME THE ACFT STRUCK THE GRAVEL BAR AND THE TIME IT SANK. THERE WERE NO APPROVED PERSONAL FLOATATION DEVICES ABOARD THE ACFT. THE FOUR INDIVIDUALS ABOARD THE PLANE USED INFLATED HIP WADERS DURING AN ATTEMPT TO SWIM FOR SHORE. TWO INDIVIDUALS WERE LOST AND PRESUMED DROWNED IN THIS ATTEMPT. WATER TEMPERATURE WAS APPROX 45 DEGREES F.

Brief of Accident (Continued)

File No. - 1633 8/29/84 ILIANNA BAY, AK A/C Reg. No. N2641Y Time (LST) - 0500 ADT

Occurrence #1 DRAGGED WING, ROTOR, FOD, OR FLOAT
Phase of Operation TAXI - TO TAKEOFF

Findings(s)

1. LANDING GEAR,FLOAT ASSEMBLY - CRACKED
2. JUDGEMENT - POOR - PILOT IN COMMAND
3. IMPROPER USE OF PROCEDURE,PRESSURE - PILOT IN COMMAND
4. LANDING GEAR,FLOAT ASSEMBLY - LEAK

Occurrence #2 MISCELLANEOUS/OTHER
Phase of Operation TAXI - TO TAKEOFF

Findings(s)

5. LANDING GEAR,FLOAT ASSEMBLY - LEAK
6. MAINTENANCE,SERVICE OF AIRCRAFT - IMPROPER - PILOT IN COMMAND
7. AIRCRAFT PREFLIGHT - POOR - PILOT IN COMMAND
8. PASSENGER BRIEFING - NOT PERFORMED - PILOT IN COMMAND
9. EQUIPMENT, OTHER - INADEQUATE - PILOT IN COMMAND

-----Probable Cause-----

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are findings(s) 2+4

Factor(s) relating to this accident is/are findings(s) 3