

11/3/2023

FOR YOUR INFORMATION

2023-186/3-12

2018510

To: Textron Aviation (Cessna), FAA (AFS-100)

Info: FAA (AVP-1, AVP-200, AFS-260, AFS-800, AFS-200, AIR-360, AIR-780, MKC-AEG, ANM-100), AMFA, AOPA, ASAP, ATSG, GAMA, IAM, IBT, ICASS, NBAA, NTSB, PAMA, TWU

From: Becky L. Hooey, Director
NASA Aviation Safety Reporting System

Re: Cessna 501 Cabin Door Seal Issue

We recently received ASRS reports describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the enclosed deidentified report.

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Dr. Becky Hooey at (408) 541-2854 or email at becky.l.hooey@nasa.gov.



Aviation Safety Reporting System
P.O. Box 189 | Moffett Field, CA | 94035-0189



ACN 2018510

DATE / TIME

Date of Occurrence 202307
Local Time Of Day 0001 to 0600

PLACE

Locale ZZZ.Airport
State US
Altitude - MSL 36000

ENVIRONMENT

Flight Conditions Mixed
Weather Thunderstorm

AIRCRAFT / EQUIPMENT X

ATC / Advisory - Center ZZZ
Make Model Name Citation I/SP (C501)
Operating Under FAR Part 135

COMPONENT 1

Aircraft Component Exterior Pax/Crew Door

COMPONENT 2

Aircraft Component Pressurization System

PERSON 1

Function - Flight Crew Captain
Function - Flight Crew Instructor
Function - Flight Crew Pilot Flying
ASRS Report Number 2018510

EVENTS

Anomaly Aircraft Equipment Problem - Critical
Anomaly Deviation - Altitude - Excursion From Assigned Altitude
Detector - Person Flight Crew
Result - General Flight Cancelled / Delayed
Result - General Maintenance Action
Result - Flight Crew Diverted
Result - Flight Crew Landed in Emergency Condition

NARRATIVE 1

My crew and I repositioned our airplane to ZZZ1 to execute a routine flight which was scheduled to depart from ZZZ1 to ZZZ2 at XA15. The flight leg to ZZZ1 was uneventful and normal.

We performed our regular preflight inspections and received our IFR clearance and fuel load for the flight while our passengers showed at XA30. After providing a thorough safety briefing, I secured the cabin doors and we departed at XB01. The takeoff and climb were normal and we reached our cruise altitude of 36000 ft.

At Approximately XB47, while in cruise we heard a sudden pop sound in cabin and an immediate rise in cabin altitude. The corrective action required of us to perform was to execute an emergency descent to a safe

altitude to where everyone can breathe normally without the need of a pressurized cabin as per our safety training. Hence, we donned our masks, ran our checklists, notified ATC and Passengers and executed an emergency descent in less than 3 minutes down to 10,000 ft.

No injuries were reported on board and I as PIC (pilot in command) made an executive decision to divert to ZZZ which was a familiar airport and within 20 miles from where we were. The flight was intended for a specific mission however as PIC, safety of my crew and passengers at the time was my primary concern.

Later on the ground we realized water in the bleed lines pressurizing the door seal was the culprit and it had iced up at high altitudes causing this occurrence. Maintenance was able to clear up water and also implemented regular safety checks to ensure that this doesn't happen ever again.

SYNOPSIS

C501 Captain reported a loss of cabin pressure and cabin door seal failure when water in door pressurization bleed lines froze necessitating a rapid descent from cruise altitude.