

ALERT BULLETIN

AB 2024:20/3-13
9/4/2024
2134745, 1453254

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

SUBJ: Cessna Citation X Pitch Trim Issues

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 following:

ASRS received a report from a Cessna Citation X Captain describing primary pitch trim issues in cruise flight. Reporter stated they first experienced a pitch trim runaway accompanied by CAS messages PRIM STAB TRIM FAIL, MACH TRIM OFF, FGC B FAIL, and YD FAIL LOWER A. The flight crew followed procedures and found that the Secondary Trim switch did not work, leading them to the Jammed Stabilizer procedure. The flight subsequently landed safely, and reporter stated the aircraft is grounded while maintenance personnel work to determine the cause of the anomaly.

Report 1453254 described a similar Citation X pitch trim issue. This report is also enclosed.

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 2134745

DATE / TIME

Date of Occurrence 202406
Local Time Of Day 1201 to 1800

PLACE

Locale ZZZ.ARTCC
State US

ENVIRONMENT

Flight Conditions VMC

AIRCRAFT / EQUIPMENT X

ATC / Advisory - Center ZZZ
Make Model Name Citation X (C750)
Operating Under FAR Part 135

COMPONENT 1

Aircraft Component Horizontal Stabilizer Trim

COMPONENT 2

Aircraft Component Mach Trim

COMPONENT 3

Aircraft Component Autoflight Yaw Damper

PERSON 1

Function - Flight Crew Captain
Function - Flight Crew Pilot Flying
ASRS Report Number 2134745

EVENTS

Anomaly Aircraft Equipment Problem - Critical
Anomaly Inflight Event / Encounter - Loss Of Aircraft Control
Anomaly Inflight Event / Encounter - Unstabilized Approach
Detector - Automation Aircraft Other Automation
Detector - Person Flight Crew
Result - General Maintenance Action
Result - Flight Crew Executed Go Around / Missed Approach
Result - Flight Crew FLC Complied w / Automation / Advisory
Result - Flight Crew Overcame Equipment Problem
Result - Flight Crew Regained Aircraft Control

NARRATIVE 1

On day 0, we were in flight at the cruise phase about to start our descent towards ZZZ airport when we experienced the pitch primary trim runaway, we got the following CAS messages: PRIM STAB TRIM FAIL, MACH TRIM OFF, FGC B FAIL, YD FAIL LOWER A, the autopilot instantly disconnected and I immediately reverted to fly the plane manually. Meanwhile, we began the descent.

The SECONDARY TRIM switch in the ON position did not work, which made it impossible for us to trim it, this situation led us to the following procedure JAMMED STABILIZER TRIM SYSTEM.

After some radar vectors in Visual Meteorological Conditions (VMC) we flew directly to join the traffic pattern base leg and then to final for a visual approach runway XX into ZZZ. Already on short final it was difficult for me to control the plane's pitching down to the runway due to the lack of elevator authority, so, we decided to Go-Around, I turned to the right to gain some more room due to the required greater airspeed and larger turning radius, since we were in a valley with limited space due to its topography, we carried out a left traffic pattern for runway XX where we landed without any other eventuality, the weather conditions were, visibility 10 SM, runway surface condition dry and wind calm.

CALLBACK 1

Reporter stated no further information available, aircraft is grounded while maintenance works to determine the issue.

SYNOPSIS

Cessna Citation X Captain reported a pitch trim failure and jammed stabilizer at cruise altitude.

ACN: 1453254

Time / Day

Date : 201706

Local Time Of Day : 1201-1800

Place

Locale Reference.Airport : ZZZ.Airport

State Reference : US

Altitude.MSL.Single Value : 10000

Environment

Flight Conditions : VMC

Light : Daylight

Aircraft

Reference : X

ATC / Advisory.TRACON : ZZZ

Aircraft Operator : Corporate

Make Model Name : Citation X (C750)

Crew Size.Number Of Crew : 2

Operating Under FAR Part : Part 91

Flight Plan : IFR

Mission : Passenger

Flight Phase : Climb

Airspace.Class E : ZZZ

Component

Aircraft Component : Horizontal Stabilizer Control

Aircraft Reference : X

Problem : Failed

Person : 1

Reference : 1

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : Captain

Function.Flight Crew : Pilot Not Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)

ASRS Report Number.Accession Number : 1453254

Person : 2

Reference : 2

Location Of Person.Aircraft : X

Location In Aircraft : Flight Deck

Reporter Organization : Corporate

Function.Flight Crew : First Officer

Function.Flight Crew : Pilot Flying

Qualification.Flight Crew : Air Transport Pilot (ATP)
ASRS Report Number.Accession Number : 1453546

Events

Anomaly.Aircraft Equipment Problem : Less Severe
Detector.Automation : Aircraft Other Automation
Detector.Person : Flight Crew
When Detected : In-flight
Result.General : Maintenance Action
Result.Flight Crew : Landed As Precaution
Result.Flight Crew : Returned To Departure Airport

Assessments

Contributing Factors / Situations : Aircraft
Primary Problem : Aircraft

Narrative: 1

While climbing out of 10,000 ft, we experience a primary stab trim fail. We advised ATC that we would continue the climb as we troubleshoot an issue, but FL280 would be the max for now. We complied with the checklist for Primary Stab Trim Fail and turned on Secondary trim. We entered a Present Position hold while we contacted maintenance and we all agreed that we would return and attempt a power cycle on the airplane, rather than continue to our destination in the event it did not reset on the ground. We advised ATC that we were returning. The checklist does not have further action items in the event that the secondary trim is functional. However, the checklist for complete trim failure talks about max flaps 2. We briefed that if we encountered any adverse trim while selecting flaps full, that we would immediately reselect flaps 2 and go around. We also advised that we wanted a runway into the wind with minimal crosswind. No adverse effects were noted and we landed without incident. Upon a power cycle of the aircraft, the message and primary stab trim system reset and functioned normally for the remainder of the flight.

Occasionally the primary stab trim can inadvertently be deactivated by touching a single trim controller. However, in this instance, no one was touching the flight controls and the autopilot was engaged in smooth air.

Narrative: 2

During climb out, while transitioning through 10,000 ft, the autopilot inadvertently disconnected along with an Amber Primary Trim failure caution message. We informed ATC and decided to enter a hold at FL230 to run checklist and consult our maintenance. We identified and ran the appropriate checklist but were unable to correct the situation. We exited the hold and returned to the departure airport, which was the nearest suitable airport, and landed using the secondary pitch trim system. After shutting the airplane down and restarting it from "Black" the pitch trim was regained and tested and functioned properly.

Synopsis

CE750 flight crew reported an autopilot disconnect and alert message for primary stabilizer trim failure during the climb. Secondary trim functioned normally, but the crew elected to return to the departure airport.